

Attracting Investment to REDD+: Capitalizing on Co-benefits?

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LIST OF ABBREVIATIONS

BBOP	Business and Biodiversity Offsets Program
CAR	Climate Action Reserve
CCB(S)	Climate, Community, and Biodiversity (Standard)
CCBA	Climate, Community, and Biodiversity Alliance
COP	Conference of the Parties (to the UNFCCC)
CSR	Corporate Social Responsibility
EP	Equator Principles
GIIN	Global Impact Investing Network
IFC	The International Finance Corporation
IFC PS6	The International Finance Corporation's Performance Standard 6
IRIS	Impact Reporting and Investment Standard
IRR	Internal Rate of Return
MRV	Measurement, Reporting, and Verification
MtCO₂e	Metric tons of carbon dioxide equivalent
NGO	Non-governmental organization
OTC	Over The Counter
REDD+	Reducing Emissions from Deforestation and forest Degradation
TIMM	Total Impact Measurement and Management
TNC	The Nature Conservancy
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard
VER	Verified Emissions Reduction
WEF	World Economic Forum
WOCAN	Women Organizing for Change in Agricultural and Natural Resource Management

EXECUTIVE SUMMARY

At its inception in 2007, the United Nations-sponsored Reducing Emissions from Deforestation and Forest Degradation (REDD+) mechanism had one primary goal: to mitigate carbon dioxide emissions from the global forest sector, which currently account for approximately 10% of global carbon emissions (IPCC, 2013).

REDD+ has undergone various modifications to its scope and approach in the succeeding nine years, but little has yet come from subsequent UN climate negotiations in the way of creating an obligatory financing mechanism that would require participation from actors in developed countries. Today, dozens of preliminary REDD+ projects are operational across the world, but these projects receive strictly voluntary funding from a suite of public and private actors, including national governments and companies engaged in social responsibility practices. Despite some successes in this voluntary realm and promises of REDD+ advancement at recent negotiations, it has become clear that without assured funding – and pending an international financing mechanism for REDD+ – projects face an increasingly difficult environment for attaining capital resources. Scaling up the mechanism will be virtually impossible without addressing the imbalance between supply and demand for REDD+ credits in the voluntary stage.

Code REDD, a San Francisco-based non-governmental organization whose mission is to support and scale the REDD+ mechanism, is attempting to discover whether untapped opportunities exist for sustaining REDD+ before the commencement of an international financing scheme, specifically by capitalizing on the *co-benefits* of REDD+ projects: the social and environmental outcomes that inherently accompany responsibly designed carbon offset projects. These co-benefits can include biodiversity benefits, freshwater provision, community economic development, and women's empowerment. This question of the potential for co-benefit quantification and sale as a means to sustain REDD+ in the voluntary phase was the foundation of the research we undertook here. We aimed to determine how REDD+ stakeholders envisioned the role of co-benefits within the financing of REDD+, and if further efforts to quantify and sell them could bear meaningful results for the future of the mechanism.

Splitting the REDD+ community into two distinct categories – **practitioners** (those who design, implement, and monitor REDD+ projects) and **investors** (both those who purchase REDD+ credits and those who invest in REDD+ projects) – we held more than twenty interviews to determine the answer to the above question. We found that, though co-benefits were considered an important – even indispensable – part of REDD+ success, few practitioners or investors were interested in their further quantification or expected that voluntary REDD+ could be sustained based on such action. That said, many current and potential investors offered insight into how the business case for REDD+ could be better articulated in order to attract more investment. Also, in speaking with practitioners, we identified ways that the mechanism could be better integrated with other contemporary environmental efforts, including biodiversity offsetting and water funds, offering what we believe could represent partial solutions to the REDD+ demand shortfall.

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1. INTRODUCTION

“If a post-Kyoto climate agreement fails to act on avoiding tropical deforestation, the achievement of overall climate change goals will become virtually impossible. The lives and livelihoods of millions of people will be put at risk, and the eventual economic cost of combating climate change will be far higher than it needs to be.”

HIS EXCELLENCY BHARRAT JAGDEO

President of Guyana

November, 2008¹

The purpose of this master’s project is to investigate and understand the potential for augmenting private investment into the Reducing Emissions from Deforestation and forest Degradation (REDD+) mechanism, a comprehensive program conceived by the United Nations in 2007 to address the intersection of climate change, deforestation, and forest degradation. REDD+ operates by distributing payments from organizations that emit carbon to forest nations in the world’s tropical regions, so that those nations may use that capital to preserve or enhance standing forests, thereby mitigating one of the largest sources of carbon emissions on the planet: those related to the clearing of tropical forest.

Because participation in REDD+ carbon offsets is currently a voluntary process, enacted by a myriad of private and public actors, members of the REDD+ community have questioned whether interest – and thereby, investment – in REDD+ can be increased by underscoring its vast potential for the supply of *co-benefits*. Co-benefits are the benefits other than carbon sequestration that inherently come along with many programs designed to protect standing forests, such as biodiversity, freshwater provision, and community economic development. This notion of enhanced investor interest due to carbon’s co-benefits is the foundation of this study.

In less than a decade, REDD+ and its predecessors (RED, REDD) have generated a large body of discussion and scholarly work, much of which we are unable to discuss within the scope of this report. Here, the question that guides our research is: does more stringent quantification of REDD+ co-benefits have the potential to increase private-sector funding for projects?

We synthesize interviews with REDD+ practitioners – those who design, implement, and monitor REDD+ projects on the ground – and with current and potential REDD+ investors and offset purchasers, with results from a survey we administered in early 2014, in order to reach our conclusions.

Though REDD+ is a multi-tiered mechanism with efforts occurring at international, national, sub-national, and project levels, we have focused our research on the project level. We hope that our findings are of service to the greater REDD+ community, and particularly to those who are working to find ways to scale the mechanism before the potential existence of a binding

international agreement that includes forest carbon offsets as an important component in controlling anthropogenic climate change.

This study was commissioned by Code REDD, a San Francisco-based non-governmental organization that seeks to identify and match REDD+ projects with corporate organizations based on shared interests. Code REDD's work exemplifies the alignment between private actors and project designers that will be necessary to the success of REDD+ in the pre-compliance market period.

2. BACKGROUND

2.1. *The REDD+ Mechanism*

REDD+ is a mechanism, first proposed by the United Nations in 2007 that seeks to provide financing from developed countries to developing countries across the world's tropical regions, in exchange for verified avoidance of forest-based emissions. Though it was created as a strategy to offset global greenhouse gas emissions, the mechanism promises numerous tangential benefits as well. In conserving tropical forests, REDD+ not only aims to guarantee the persistence of some of the world's most important carbon sinks, but in so doing also provides many other important ecological and social benefits, called *co-benefits* in REDD+ parlance. Though REDD+ is primarily an effort to control mankind's contribution to climate change, it has proven to be an opportunity to stanch the rapid loss of biodiversity in the world's tropical countries, sustain provision of key ecosystem services, and to provide other social and economic benefits for local communities.

Paramount to understanding REDD+ projects is the knowledge that the mechanism itself remains nascent; several years after its conception at the United Nations Framework Convention on Climate Change in Bali in 2007, the slow progress in negotiating a new international agreement on climate change has resulted in little central management of project design or function, beyond the requirement that projects enhance carbon sequestration through either avoided deforestation or degradation. REDD+ is still considered by the United Nations to be in the first of three planned phases: (1) capacity building; (2) national strategy building; and (3) finally fully measured, reported, and verified, results-based REDD+ projects. Therefore, the architecture for each REDD+ project around the world varies, with few strict qualifications that serve as hallmarks of the mechanism. Some commonalities between all REDD+ projects are that they:

1. Rely on voluntary funding from actors in developed countries, which can be national governments, corporations, nongovernmental organizations, or individuals.
2. Generate quantified, sellable carbon credits by protecting carbon stocks in the world's tropical forested regions.
3. Have prevention of carbon dioxide emissions as their primary purpose.

One fact defines the status quo of today's voluntary carbon market: supply of forest carbon credits far outstrips demand (Conservation International, 2013). The number of unclaimed credits generated by current REDD+ projects does not lend itself to the idea that the voluntary mechanism can be scaled up based on carbon offsets alone. However, recent scholarly work and private-sector interest has suggested a potential response to this disparity: the incorporation of new revenue streams based around the more rigorous quantification and monetization of other economic and social benefits that are prone to occur within forest carbon credit programs (Lanius et al. 2013). These benefits – including biodiversity conservation, provision of fresh water, local community economic development, and empowerment of women – have historically been considered tangential to, and subordinate to, carbon sequestration. Indeed, the REDD+ mechanism was envisioned as a climate change solution focused on preventing release of carbon dioxide to the atmosphere, not as a solution to multiple social, economic, and ecological problems. However, REDD+ project developers have a keen interest in attracting investors and buyers to their projects, and must therefore determine whether opportunities exist to quantify and sell co-benefits.

BOX 1: What are Co-Benefits?

Preventing deforestation and forest degradation can have many benefits besides avoided carbon dioxide emissions. These benefits can be environmental (e.g. protecting biodiversity and water quality), social (e.g. empowering women by including them in project administration), and economic (e.g. providing sustainable sources of revenue to communities that rely on forests for their livelihood). These various non-carbon benefits are referred to as co-benefits.

Incorporating co-benefits into REDD+ has been one of the objectives of the mechanism since its inception (UN-REDD, 2010). Early concern that incentives for carbon sequestration could lead to management practices that ignore or impair the provision of co-benefits led to the development of *safeguards*, which are requirements of projects that ensure they do not adversely affect co-benefits.

At the 16th Conference of Parties in Cancun in 2010, the UNFCCC produced a list of seven safeguards for REDD+ projects (see Appendix A), the fifth of which requires that projects “enhance other [non-carbon] social and environmental benefits.” (UNFCCC, 2010). There are many ways REDD+ projects can demonstrate that they meet the safeguards, particularly by incorporating the Climate, Community, and Biodiversity Standards (CCB), which were designed, in part, to ensure safeguards are met (CCBA, 2103).

The potential impetus for developing more highly quantified metrics to measure co-benefits within REDD+ projects stems from the idea that there may exist untapped opportunities for REDD+ investment, and perhaps even ones that have very little to do with those normally devoted to forest carbon (see Box 2). The potential for detrimental side effects of carbon projects has been largely controlled by the use of safeguards such as those of the Climate, Community, and Biodiversity Alliance (CCBA), but those safeguards stop short of creating indices that can effectively compare the provision of co-benefits between projects, thus falling short of allowing apples-to-apples comparisons of co-benefits within of projects that could – in theory – compete for investment from parties interested more in co-benefits than carbon itself.

BOX 2: Kasigau Corridor REDD+ Case Study



Figure 1: Location of Kasigau Corridor Project. (Source: The Carbon Neutral Company 2014)

Today, Kenya only has about 2% of its original forest cover left, as a result of deforestation, charcoal burning, commercial agriculture and agro-forestry (The Carbon Neutral Company 2014). This is a serious issue in that clearing forests not only removes wildlife habitat and extinguishes resources, but also emits large amounts of carbon dioxide into the atmosphere, thus contributing to climate change. Wildlife Works, which has been operating in Kenya since 1997, developed the Kasigau Corridor REDD+ Project (REDD+ Talks 2013), a 30-year project with the aim of avoiding deforestation and degradation of forests in the area to reduce carbon emissions (The Carbon Neutral Company 2014).

The Kasigau Corridor is located in the Taita Taveta District, Kenya, between the Tsavo East and Tsavo West National Parks (Forest Carbon Portal; The Carbon Neutral Company

2014). Refer to Figure 1 for a visual of this area. The project area protects 200,000 hectares of forestland, a natural carbon sink, and has already seen emissions reductions of over 2.5 million metric tons at the end of 2010 (The Carbon Neutral Company 2014). Kasigau Corridor is expected to avoid approximately 30,000,000 tons of carbon emissions over its lifetime (Code REDD).

The project, focusing on the trading of carbon offsets on the voluntary market, was the first project to be issued credits under the Verified Carbon Standard (VCS) while meeting the Climate, Community, and Biodiversity (CCB) standards, and obtained CCB Gold status in 2011 (Code REDD; The Carbon Neutral Company 2014). A significant amount of startup funding came from BNP Paribas where they pledged to buy VERs over a 5-year period (Code REDD).

This endeavor has created both social co-benefits (i.e. economic development) and environmental co-benefits (i.e. biodiversity protection, improving soil quality, and increasing water availability) (Wildlife Works 2013). In relation to social co-benefits, the Kasigau project has been successful in providing the local communities with alternative sources of income. These sources include the revenue from selling carbon credits, and the creation of "conservation rangers, factory workers, horticulturalists, seamstresses, foresters, carpenters, construction workers, mechanics, and administrative personnel." (Wildlife Works). Importantly, all proceeds are shared with a community trust, which is then dispersed to the people. This community has decided that a significant portion of the money (40%) should go to education, benefitting approximately 1,800 children. The rest of the money has gone to community projects such as building water catchment areas for the dry season (REDD+ Talks 2013). One of the first ways Wildlife Works created jobs was by establishing a small eco factory where all garments are organic and fair trade certified. PUMA has decided to collaborate with this factory and has asked them to produce for their new sustainability line (REDD+ Talks 2013).

Some environmental co-benefits arise from the fact that Kasigau is located in a global biodiversity hotspot and therefore it holds significant species diversity (The Carbon Neutral Company 2014; Code REDD). The project has worked to protect several IUCN Red List species such as the Grevy's zebra, the cheetah, the lion, and elephants (Code REDD).

Kasigau is often held up as an example of a successful REDD+ project. Pascal Kizaka, Chief, Kasigau Community: "You conserve the tree and you are paid for that. That is the best concept I think that has come from this part of the world. So the only thing is to let it stand, keep on standing, and plant more trees, which will bring more money for your prosperity. That concept has really inspired the people." (REDD+ Talks 2013, 2:27-3:02).

2.2. The State of the REDD+ Mechanism

As a nascent mechanism, REDD+ continues to establish itself as a contender for scarce financial resources of a limited number of potential buyers and investors. At the current stage of the mechanism's development, REDD+ is still considered the investment option of a "niche" group of investors, according to Iain Henderson of the United Nations Environment Program (UNEP). Uncertainty regarding the materialization of an international compliance market for carbon, and volatile price signals for carbon, combine to hinder vigorous investment from firms that seek to maximize profitability. "One of the problems we currently have is that REDD+ isn't really commercially viable at scale due to the lack of a clear price signal, so many of the big financial institutions we speak to can't afford to work on it because the business case is opaque," says Henderson. Thus, firms that prioritize social responsibility dominate today's investment environment for REDD+. As another practitioner notes, "we're still down in that greener end of the investment community – one that expects not quite as big of an internal rate of return but much more certainty about positive social and environmental outcomes."

Investment concerns naturally play a great role in the single largest weakness of today's REDD+ mechanism: oversupply of carbon credits. Anxiety on the part of interviewees regarding the surplus was echoed from REDD+ literature as the largest threat to the expansion of the mechanism; correcting the imbalance between supply and demand of the credits will be vital to its continued existence. Project developers are concerned about the feasibility of their projects given this current disparity. According to Tom Evans of Wildlife Conservation Society, the current number of credits generated by REDD+ projects is roughly five times the demand for them, threatening to suspend the development of additional projects and endangering the longevity of current projects. "You see a huge oversupply coming, so the projects are struggling to survive," affirms an employee of an investment fund financing REDD+ projects.

Given the unequivocal demand shortfall for REDD+ projects, many of the interviewees suggested that REDD+'s promise in the near future lay in its recognition of the comprehensive benefits that come along with responsibly designed carbon offset projects. When projects are developed using a suite of safeguards such as the CCB Standards, described in detail in Section 4.1, this recognition distinguishes REDD+ from competing offset design schemes that focus solely on abatement of greenhouse gases, and some REDD+ practitioners insist that these benefits are in fact the primary interest – rather than carbon sequestration – of certain investors and buyers. "We've had potential buyers turn around in the middle of negotiations and say, rather than buying REDD credits with co-benefits, can we buy co-benefit credits with some carbon attached... so clearly it's a factor in the market," says Tom Evans of Wildlife Conservation Society. Another practitioner offers a more pragmatic view of the role of co-benefits, underscoring their potential to compensate for the sluggish demand for carbon credits in the current pre-compliance market scenario. "We're trying to find a way to get money into a market where it hasn't been as forthcoming as we'd all hoped," he says, suggesting that "having less of a focus on carbon revenue, [and] ensuring diversified revenue streams" will perhaps prove necessary in sustaining the mechanism.

Some interviewees suggested that safeguards are a de facto requirement of REDD+ projects if they wish to gain access to private development funds; one interviewee involved in CCB says, "the use of the CCB standards has become something of an entry-level standard, which is something that we've seen as the market's developed, where it's become a necessity to demonstrate those co-

benefits in any project.” This condition logically supports the potential for even greater funding given better-documented gains in co-benefit provisioning. If investors demand that projects demonstrate no net loss, might they also be interested in capitalizing those same co-benefits into distinct units that can be purchased or sold in a manner similar to carbon?

3. MATERIALS AND METHODS

3.1. Research Questions

The major question of our Master's Project is: "How do we measure and leverage REDD+ co-benefits to increase private-sector funding and support public-private partnerships?"

This question was divided into four parts for the purposes of our project:

1. What is the value of additional REDD+ metrics? What about the challenges?
2. Which co-benefits can be monetized?
3. What are the challenges associated with investment demand?
4. What are the opportunities for expanding investment demand?

3.2. Research Design

Subjects

We answered the questions above by gathering information through surveys and interviews, then performing quantitative analysis on the survey results and qualitative analysis on the interview results.

Our population of interest was organizations that currently participate or could potentially participate in the REDD+ program; either as project developers, project financiers, offset credit purchasers, researchers, or policymakers.

We divided that population into two general communities:

1. The Investment Community consists of organizations that finance projects or purchase credits resulting from projects. It also includes individuals within organizations that could perform those roles, but currently do not.
2. The Practitioner Community consists of organizations that develop and implement projects, perform research in support of the REDD+ mechanism, or perform policy work around the REDD+ mechanism, either for national governments or international organizations.

Instruments

We approached each community with a separate instrument, which fed into our two primary analyses and informed our final recommendations.

1. The Investment Community Survey evaluated investors' priorities for and expectations of REDD+. As we developed the survey, we held a series of *exploratory interviews* with key members of the community. These interviews helped to identify survey questions and the context in which they were to be answered. After developing a draft of the survey, we refined it through a *focus group* recruited from knowledgeable academics. We distributed the final *survey* through contacts gleaned from our client and faculty advisors, and through networks maintained by outside organizations (e.g. environmental NGOs and industry associations). Finally, for survey respondents who indicated a willingness to further discuss REDD+, follow up interviews were conducted to gather more detailed information.
2. The Practitioner Community Interviews identified and evaluated opportunities to integrate

co-benefits into the REDD+ measurement framework. We interviewed individuals identified by our client and faculty advisors, and expanded our pool of subjects beyond that using the “Snowball Method,” where we asked each interviewee to suggest additional interviewees.

3.3. Analyses

The results from our two instruments fed into two analyses.

1. The Survey Analysis explored the demand for quantifiable co-benefits from the investment community, based primarily on responses to the Investment Community Survey. The analysis divided the investment community into subgroups to compare how expectations and priorities vary between organizations already involved in REDD+ and not yet involved.

The heart of this analysis was an Friedman’s Test and several Wilcoxon rank-sum tests on responses to a series of survey questions in which subjects rate the importance of various co-benefits on Likert Scales (e.g. “How important is biodiversity preservation, on a scale of “Not at all important” to “Extremely important?”).

We chose to test for differences among benefits using a Friedman’s Test because it examines differences in distributions of ordinal variables without assuming those distributions are independently drawn (an assumption our data would not meet, as participants rated each benefit, one after the other, so the benefits’ distributions were all drawn from the same group of respondents).

2. The Interview Analysis brought together the perspectives of all of the interviewees on several key questions identified during the interviews:
 - a. What are the challenges associated with investment demand?
 - b. What are the opportunities for expanding investment demand?
 - c. What is the value of additional REDD+ metrics? What about the challenges?
 - d. Which co-benefits are the most important to be measured for the purpose of attracting potential investors?

All interview, focus group, and survey protocols were approved by the Duke University Institutional Review Board, protocol B0996.

3.4. Limitations

While our research provided us with useful data on which we could build our recommendations, there were several limitations in our study that are important to discuss.

A significant limitation of our study was the lack of survey responses (22 total) we received for our investor survey during the few months it was published on Qualtrics. Despite reaching out to a variety of organizations to help distribute the survey on our behalf, we were still not able to garner more responses. We expect that survey fatigue among sustainability managers played a part in the low response rate.

Another limitation to our study comes from interviewee selection. A significant portion of our interviewees were individuals who were involved in, or supportive of REDD+ and CCB. This may have biased some of our findings. To avoid this limitation in future studies, we recommend interviewing a larger sample of individuals not only from the REDD+ community, but other carbon markets as well (including registries, standards associations, governments, and international institutions). Furthermore, it would be useful to interview more individuals involved on the investor side of the community.

Results

Results from our analyses follow. We first explore questions 1 and 2:

- What is the value of additional REDD+ metrics? What about the challenges?
- Which co-benefits can be monetized?

And then discuss questions 3 and 4 from the perspective of corporate investors, followed by that of impact investors:

- What are the challenges associated with investment demand?
- What are the opportunities for expanding investment demand?

4. VALUE AND CHALLENGE OF ADDITIONAL METRICS

The measurement, reporting, and verification (MRV) framework for REDD+ projects is quite complex. Projects must follow a carbon protocol (most often VCS) to estimate the quantity of carbon dioxide emissions they prevent, and therefore how many credits they can sell. In order to produce defensible estimates of carbon benefits, demonstrate additionality, and account for risks of leakage and reversals, protocols involve lengthy and complicated measurement and modeling exercises.

Though there are often standards and metrics in place within projects to monitor co-benefits and demonstrate that safeguards are being met, those efforts do not generally produce estimates in the form of quantified units of benefit that can be readily sold to potential purchasers. In order to incorporate revenue for co-benefits into projects, then, there may be need to develop or implement additional metrics that result in more robust quantitative estimates of co-benefit provision.

Through research and interviews, we explored the challenges to adding co-benefit metrics to the REDD+ MRV framework, and evaluated what value that effort would create.

4.1. Relevant Standards

There are many standards that are applicable, or potentially applicable, to REDD+ projects. Their carbon benefits are measured through carbon protocols, their co-benefits can be demonstrated or measured through standards that specifically focus on non-carbon benefits, and interest in REDD+ projects could be driven by project financing standards in the financial sector.

The primary purpose of REDD+ projects is the prevention of carbon dioxide emissions, not the provision of co-benefits. The foundation of any project's MRV framework, then, is its carbon protocol, or the process by which the project measures its carbon benefits. REDD+ projects typically use the Verified Carbon Standard (VCS), though there is some use of the Climate Action Reserve (CAR), as well (Peters-Stanley et al, 2013).

In addition to the carbon protocols, several standards have been developed for use in REDD+ or other land-use projects that are oriented toward co-benefits,¹ and are used to demonstrate that carbon projects meet safeguards, quantify the level of co-benefit provision, or both. One of those, the Climate, Community, and Biodiversity (CCB) Standard, has received significant uptake in REDD+ projects (Peters-Stanley et al, 2013) and plays a significant role in this report's findings.

Climate, Community, and Biodiversity (CCB) Standard

The CCB standard consists of a series of project design, administration, and monitoring requirements to demonstrate positive provision of environmental and social co-benefits within different types of carbon offsets, including REDD, afforestation, and sustainable agriculture. The standard includes requirements for project design, administration, and monitoring, with the goal of demonstrating that projects meet the Cancun Safeguards (see Appendix A) and ensure positive provision of social and environmental co-benefits.

¹ Not all of the standards discussed here were developed for carbon projects. In those cases, the non-carbon benefit in question would be the primary benefit, and carbon would be a co-benefit.

The CCB criteria fall into three general categories:

- Climate– Providing real and additional avoided carbon dioxide emissions, accounting for risk of leakage and permanence, and contributing to adaptation efforts. This section is waived if projects use VCS to measure their carbon impact.
- Community – Building local skills, increase participation, inclusion of minority and underrepresented groups, ensuring workers’ rights and safety, equal employment opportunity, clear land rights, identify and monitor positive and negative community impacts.
- Biodiversity – Using appropriate methodologies to estimate change in biodiversity, demonstrate no high conservation values will be negatively affected, show that no known invasive species will be introduced, and guarantee no GMOs will be used.

Within each category, there are qualitative thresholds that, if met, confer “Gold” status upon projects. For example, if a project area includes habitat for globally threatened species on the IUCN Red List, it can achieve Biodiversity Gold Level certification.

The CCB standard does not issue credits on its own, but instead is most often used to “tag” the offsets of other standards to denote social and environmental co-benefits in addition to emissions reductions. CCB is the most popular standard to quantify co-benefits, and is most often used along with VCS.

REDD credits that have been certified for the CCBA are generally regarded to be premium quality REDD offsets, though evidence of a price premium, so far, is unclear: in 2013, VCS credits sold for \$0.20 higher on average if they came from a CCB project, but that difference was not statistically significant (Peters-Stanley et al, 2013).

As of November 2013, a total of 78 projects had completed the CCB validation process, roughly one third of which were REDD+ projects (CCB, 2013).

4.2. The Value of Additional REDD+ Metrics

Despite many practitioners’ statements related to the importance of co-benefit integration into the REDD+ mechanism, the complexity of their measurement and quantification could prove a great challenge for uncertain practical reward. Regarding the hypothesis that enhanced private investment might be generated by more explicit gains in project-level co-benefits, little in our interviews with practitioners suggested a promising atmosphere for the development of more stringent co-benefit measurement protocols. One recurrent opinion in the interviews was that safeguards such as CCB were sufficient, because additional metrics to quantify REDD+ project co-benefits entailed risks of both limited functional comparability between projects, and increased confusion on the investor and buyer side. The inability to “compare apples to apples” with something as regionally dependent as biodiversity, for example, stymies the creation of a marketable “unit” of biodiversity.

The question of whether more rigorous co-benefit quantification should occur must naturally consider the effectiveness of existing protocols for co-benefit measurement, which attempt to

ensure that offset projects refrain from damaging non-carbon aspects of the areas in which they take place. The most common way co-benefits are considered today is through safeguards such as the CCBA Standards, with which our interviewees generally seemed content. “I haven’t thought there would be a need to really develop very detailed metrics,” says an investor, of greater co-benefit quantification for the purpose of attracting investment. Said investor acknowledges of the CCBA Standards protocol: “it’s quite satisfactory to buyers, and it’s being tightened up, so I think it’s probably going to stay at the forefront.” One prominent project developer agrees that the CCBA Standards are well-suited for his purposes. “We think VCS and CCB is more than adequate, and we touch upon basically every issue we need to touch upon using those standards.” Standards fatigue, too, was a concern voiced by the developer and others; overwhelming investors and buyers with new sets of improved measurement protocols – rather than illustrating more concrete co-benefit gains – was a potentially negative outcome of the proliferation of new standards for co-benefit measurement.

Related to the concern that co-benefits measurement is best achieved by flexible protocols such as CCBA is the sentiment enunciated by some interviewees that co-benefits must remain secondary to carbon, and that their advanced quantification may serve to confuse the purpose of the mechanism rather than to advance it. Natasha Calderwood of Conservation International espouses this notion, stating that “the REDD+ mechanism obviously has climate and carbon at the forefront, so the value of a credit is based on one ton either reduced or sequestered, and then you may have all these co-benefits packaged around it. There may be a way to put a price on the biodiversity impact or the water impact associated with that, but I think it’s probably important to remember that if we’re talking about REDD+ as a climate mitigation mechanism, the focus should be placed on the carbon element first and foremost.” Iain Henderson states his similar position more bluntly: “one of the challenges with REDD+ is that we’re in danger of trying to hang too much around the donkey’s neck, and there is a risk that the donkey might collapse. In fact, the first Nobel Prize for Economics was awarded to a man whose now famous Tinbergen rule essentially says, ‘One policy goal, one mechanism.’” Henderson continues that the complexity of additional co-benefit quantification could forestall the timely creation of projects due to the complexity inherent in advanced metrics for co-benefits. “REDD+ is a time bound problem, and there is a danger that we let perfection be the enemy of the good. There are scenarios when we should consider getting components of REDD+ 80% right and delivered, rather than getting something absolutely perfect just as the last tree falls over. ‘Done’ can often be better than ‘perfect.’”

Another concern regarding more advanced co-benefit measurement is the challenge of establishing baseline conditions for co-benefits and attaching meaningful quantitative values to them. This is true both for social co-benefits, which can be exceedingly difficult to capture in numerical terms, and environmental ones, which may be easier to quantify but, as mentioned earlier, present unique biological characteristics that make discrimination between projects unclear. Jeannette Gurung, Executive Director of Women Organizing for Change in Agriculture and Natural Resource Management (WOCAN) and an author of a new standard (W+) that aspires to quantify carbon projects based on their effects on local women, has encountered difficulty in this arena. “We have selected to use the carbon project architecture in order to produce a rigorous standard for women’s empowerment,” says Gurung. “However we recognize the difficulties in finding the middle ground, to devise a system that adequately measures social impact and attribution in a way that is not overly time-consuming, costly and complicated for project developers.”

The tradeoff between cost and accuracy, as mentioned above by Gurung, is of great relevance to project developers when determining which standards their projects should employ. Certainly, precise monitoring of the greatest number of benefits is desirable for the purpose of attracting voluntary investment to REDD+ projects, but such a practice would likely entail prohibitive costs. This condition requires project developers to be selective about the level of exhaustiveness involved in their measurement protocols. According to Brian Murray, Research Professor and Director for Economic Analysis at Duke University's Nicholas Institute, "you have a constant tug back and forth between something that has real rigor and teeth to it, but is yet practicable and implementable. That is the constant tradeoff."

5. TECHNICAL CHALLENGES TO INCORPORATING CO-BENEFITS

Incorporating payments for multiple benefits into REDD+ projects comes with significant technical challenges, particularly demonstrating *additionality*, and can be done in different ways, including *bundling* and *stacking*.

5.1. *Additionality*

In order for emissions reductions from REDD+ projects to be used as carbon offsets, they need to be *additional*. That is, a REDD+ project that sells emissions reductions to an organization using those reductions to offset their own emissions must show that it is providing reductions *in addition to* those that would be provided in the absence of the project. If the reductions would have occurred anyways (i.e. the forest being protected wouldn't have been degraded or converted in the absence of the project) then the resulting credits are not additional, and are simply allowing the credit purchaser to emit more by claiming the reductions as offsets. In that case, the effect of the offset purchase was to increase net carbon emissions by allowing the purchaser to emit more than they would have if they hadn't made the purchase.

Ensuring additionality has long been a focus of carbon offset projects, and the protocols used to measure the reductions from carbon offset projects – and determine the number of credits those projects can sell – employ various methods to demonstrate additionality. In REDD+ projects, this typically consists of a modeling exercise where deforestation in the project area is forecast using historic deforestation rates and data on identified drivers of deforestation, including land values of intact versus converted forestland, and expansion of road networks, to develop a baseline land use scenario. The amount of carbon storage in the forest in the baseline is compared to a scenario where the forest is preserved by the REDD+ project to determine the number of credits that the project produces.

Additionality is not as fundamental a challenge in voluntary transactions as it is in offset purchases made as part of a mandatory emissions reduction program, since the causal link between purchasing offsets and subsequent emissions by offset purchasers is not as strong when purchasers are not complying with an emissions cap. But it is still important in voluntary transactions, because funding non-additional projects is not cost-effective (Cooley and Olander, 2011).

Adding a revenue stream to a REDD+ project based on provision of a co-benefit introduces additional challenges to demonstrating additionality. For example, if an organization is willing to help fund a REDD+ project because of the biodiversity benefits it provides, then the carbon benefits may no longer be additional. If the funding from the biodiversity purchaser is enough to implement the project, then carbon revenue has no additional effect: the forest will be protected, and emissions from deforestation will be prevented, whether the project sells carbon credits or not.

5.2. *Bundling and Stacking*

The two general ways to incorporate payments for multiple benefits into a single project are *bundling* and *stacking*. Each comes with benefits and challenges.

Bundling is when multiple benefits from a project are provided in exchange for a single payment (Ingram, 2012). For example, a carbon offset purchaser may be interested in credits from a REDD+

project that achieved Biodiversity Gold Level under the CCB standards because the gold certification demonstrates that the project protects habitat for a threatened or endangered species. In that case, the purchaser is paying for a bundle that includes both biodiversity and carbon benefits, not just carbon.

Stacking is when there are separate revenue streams from multiple purchasers for multiple benefits that come from the same parcel of land (Cooley and Olander, 2011). For example, a REDD+ project could sell carbon credits to a carbon offset purchaser while also receiving funding from a biodiversity offset purchaser for the project's biodiversity benefits. In this case, there are discrete revenue streams for the different benefits, though they are funding the same set of management practices on the same piece of land.

There are pros and cons to the two approaches. Compared to stacking, bundling simplifies accounting and administration, since there is a single transaction for each credit, and the benefits that contribute to its value are not disaggregated. It also provides an opportunity to compensate sellers for provision of benefits that cannot be sold alone, since they are attached to other benefits for whom there are buyers (e.g. sellers can be compensated for biodiversity preservation by selling carbon, even if there are no opportunities to sell biodiversity benefits).

Bundling's two main drawbacks are that it does not provide ways to satisfy demand from buyers who are only interested in one benefit or the other, since they have to pay for all of the benefits bundled into the credit, and that it doesn't allow sellers to diversify their revenue stream and sell credits into multiple markets, which they may want to do if markets are uncertain or volatile (Ingram, 2012).

Stacking, if designed correctly, can improve outcomes in several ways. Revenue from multiple sources can fund projects that would not be feasible with payments for only one benefit, but still provide a variety of benefits. It can also result in higher-quality projects that are managed to maximize the value of the variety of ecosystem services the project provides, or are larger than what is feasible when only one revenue source is available.

Stacking can also take full advantage of the demand for multiple benefits (to the extent that demand exists), as potential buyers have the opportunity to purchase only the benefits they are interested in. And diversifying revenue streams across benefits can insulate sellers from volatility in individual markets.

However, stacking comes with a host of challenges. Primary among them is additionality. If the carbon benefits from a parcel of land are sold in the form of credits, then selling the biodiversity benefits as well effectively double-counts the outcome of the management practices on that parcel, and introduces non-additionality risk into both transactions (Cooley and Olander, 2011). There are at least two ways to avoid that problem.

The first way is to prevent any geographic overlap between areas compensated for one benefit and areas compensated for another benefit by linking benefits produced from each parcel, and only allowing one benefit or the other to be sold. The Willamette partnership takes this approach in projects that provide multiple benefits. When one type of credit is sold, the credits of the other type

coming from the same geographic area are disqualified (Cooley and Olander, 2011). Since the project can only sell one benefit or the other (or any others, if there are more than two), then this may not be properly considered stacking. It would not provide some of the benefits of full stacking that come from the higher total revenue a project can receive, but it would diversify sellers' revenue streams and give them some flexibility weathering changes in individual markets.

The second way, which could theoretically preserve all of the benefits of full stacking, would be to perform a joint additionality assessment at the beginning of a project. Such an assessment for two benefits would not only model scenarios with and without the project, but also scenarios with the project incorporating payments for only one benefit, only the other, or both. The additional impact for each benefit in a stacking context would then be the difference in benefit provision between a project incorporating payments for both benefits and a project incorporating only the other benefit. This approach is explored in more detail in Section 6.2.

6. WHICH CO-BENEFITS CAN BE MONETIZED?

Interviewees indicated strong resistance to adding complexity to the REDD+ MRV framework through more rigorous co-benefit quantification, and suggested that the benefit of any additional complexity would be generally limited, as markets or other finance mechanisms to provide payment for those benefits generally aren't in place.

We focused on identifying specific opportunities to integrate REDD+ projects into programs or mechanisms that have already been set up to provide payments for non-carbon benefits. Rather than proposing general changes to the REDD+ MRV framework, we identify cases in which the MRV framework in relevant projects can be changed in order to take advantage of the opportunities those programs present.

6.1. Biodiversity Offsetting

Our client, among others, has already pointed out that REDD+ projects can provide ready-made opportunities to serve as biodiversity offsets (Lanius et al., 2013).

Though biodiversity offsetting has primarily been used in North America, opportunities for its use in developing nations are increasing (Madsen et al., 2011). Two sources of demand for biodiversity offsets are relevant here.

Sources of Demand

First, several dozen countries have laws protecting biodiversity, many of which utilize no-net-loss requirements that could incorporate biodiversity offsetting into compliance regimes (Madsen et al, 2011).

Second, financial sector standards that attach requirements for no-net-loss to project financing have recently been developed and begun to be implemented in projects (Lanius et al, 2013 and BBOP, 2013). The two relevant standards are the International Finance Corporation's Performance Standard 6 (IFC PS6) and the Equator Principles (EP).

IFC's revised PS6 came into effect in the beginning of 2012. It is one of eight performance standards that IFC requires of projects that it finances. Among other things, it requires that those projects result in no net loss to biodiversity. If a project is impacting biodiversity, the developer may fund a biodiversity offset project to offset those impacts (after following the mitigation hierarchy).

The Equator Principles are a set of standards adopted by private banks that incorporate the IFC performance standards. So the same requirements that PS6 places on projects receiving IFC financing also apply to projects receiving financing from any of the 79 banks that have adopted the Equator Principles.

To help translate that demand into projects, a broad group of organizations developed the Business and Biodiversity Offsets Programme (BBOP) Standard for Biodiversity Offsets. BBOP has series of requirements (10 principles, 17 criteria, 40 indicators) to demonstrate that an offset provides

real and additional benefits, and has been recognized by the IFC as a best practice in implementing PS6-compliant offset projects (IFC, 2012).

REDD+ Projects as Offsets

Our client has already thoroughly explored the argument for REDD+ projects as biodiversity offsets (Lanius et al, 2013), so we will only summarize some relevant points here:

- REDD+ projects, in order to prevent carbon dioxide emissions, protect the habitat included in their project areas, thereby providing biodiversity benefits;
- They implement MRV frameworks that often already include biodiversity monitoring (if they meet CCB standards) or can be adapted to do so;
- They include robust governance and stakeholder engagement frameworks, which are required of any effective biodiversity offset project; and
- There are many opportunities to achieve additional biodiversity outcomes by funding or purchasing credits from existing REDD+ projects that have not sold their credits, or to incorporate biodiversity offsetting into new REDD+ projects.

REDD+ Projects, BBOP, and CCB

As our client has also noted, REDD+ projects, particularly those meeting CCB standards, already incorporate designs and practices that satisfy much of the BBOP standard.

We would go even further. Based on our comparison of the BBOP standard to CCB's biodiversity requirements, we conclude that a REDD+ project meeting the latest CCB standard effectively satisfies all of BBOP's Principles other than Principles 1 through 3, which are specific to the use of biodiversity outcomes as offsets (e.g. demonstrating that the purchaser has followed the mitigation hierarchy before resorting to funding an offset project).

As Appendix B shows, there are requirements in CCB that correspond to almost all of the requirements in BBOP other than Principles 1, 2, and 3. In order to bring an existing CCB project up to BBOP standards, one would only have to:

- Demonstrate compliance with BBOP principles 1, 2, and 3, which are specific to offset transactions;
- Demonstrate that the habitat within the project is comparable to the habitat being impaired (the BBOP 4.2.2 requirement for "like-for-like"); and
- Clarify that the project meets BBOP principles 8 and 10, for use of Adaptive Management and Sound Science, respectively, which are not specifically mentioned in CCB, but effectively required.

Given the significant overlap between the BBOP standard and CCB's biodiversity requirements, there may be opportunities to better integrate REDD+ projects into biodiversity offsetting regimes and simplify broader MRV frameworks by reconciling BBOP and CCB.

The two standards could be reconciled, if not merged, by aligning language in their overlapping criteria and indicators in the next round of revisions. While that would entail a heavy lift within their respective governance frameworks, it should be noted that there is also significant overlap in

their leadership and membership. Of the five organizations that make up the CCBA,² one of them is a current Secretariat member of BBOP (the Wildlife Conservation Society), one of them was the Secretariat in the prior phase of BBOP (Conservation International), and two others are on the BBOP advisory board (the Nature Conservancy and Rainforest Alliance).³

If reconciling the standards is not feasible, then they could recognize one another, so if a project already has CCB in place and needs to apply BBOP, the overlapping requirements would be waived (or vice versa).⁴

Doing so would greatly simplify the challenge that would face any biodiversity offset purchaser who wished to comply with PS6 or the Equator Principles using a REDD+ project, and go a long way toward realizing the potential benefits, both to REDD+ outcomes and biodiversity outcomes, of integrating the two mechanisms.

6.2. Water Funds

A second opportunity to provide revenue to REDD+ projects on the basis of a co-benefit is through incorporation into Water Funds.

The Water Fund model is used all over the world, but has found particular success in Latin America, where The Nature Conservancy (TNC) has helped to establish many funds (Benner et al, 2012). Through the Latin America Water Funds Partnership, TNC and other organizations plan to build 32 funds by 2016.⁵

Though the details of how water funds operate vary, they share the same general model: a group of water users in a watershed and other donors pay into a centrally managed fund, which then disperses payments to landowners throughout the watershed to implement management practices that improve water quality downstream.

In order for that model to work, there needs to be a concentration of water users to finance the fund, and to enjoy the benefits of the water quality. So water funds are established where there are large enough cities to make the financing work, not in particularly rural areas. That means that the overlap between areas appropriate for water funds and those appropriate for REDD+ (i.e. rural places where there are large areas of intact forest) are probably limited. That said, The Nature Conservancy did indicate in interviews that there are some existing and planned water funds that include potential REDD+ areas.⁶

² <http://www.climate-standards.org/about-ccba/>

³ http://bbop.forest-trends.org/pages/about_bbop

⁴ CCB already incorporates VCS this way; if a project uses VCS as its carbon protocol, the Climate requirements in CCB are considered satisfied.

⁵ <http://www.nature.org/ourinitiatives/regions/latinamerica/latin-american-water-funds-partnership.xml>

⁶ As we discuss in the recommendations below, a project to identify potential REDD+ project sites within water funds would be a good opportunity for a follow-up Client-based Master's Project for Code REDD, the Nature Conservancy, or (ideally) both.

When there are REDD-appropriate areas within a water fund, there may be opportunities to monetize the watershed benefits provided by the REDD+ project, and achieve improved outcomes for both the REDD+ project and the water fund by integrating the two.

Through conversations with the Nature Conservancy, we identified two general models for REDD+ and Water Fund integration:

First, a REDD+ project can be established and financed by the water fund participants, who then use the revenue from the carbon sales to capitalize the water fund, which is often a hurdle to setting up a fund, or to supplement an established fund's resources, or to supplement an existing water fund's activities.

TNC is testing out this approach in the Sao Paulo watershed, where they have a afforestation project (validated under CCB) in the midst of the Sao Paulo water fund (Ambiental PV, 2011). They retain the credits, and devote the revenue to water fund activities. They have started small, but are very interested in scaling up the approach.

In this approach, the carbon project serves to capitalize the water fund. So if one of these projects were to work, it would be REDD+ helping water funds, not the other way around, so it doesn't necessarily serve our project's goal. More importantly, in the current climate, where REDD+ credits are largely unsold, water funds may be unwilling to risk limited funds on a carbon project with uncertain returns instead of directly funding upstream management.

Second, A REDD+ project could be established within a Water Fund area, and stack or bundle Carbon payments from credit purchasers with Water payments from the water fund. Satisfying additionality in this case would be difficult, but there are options:

Horizontal Stacking

The project could follow an approach, like the Willamete Partnership, that effectively implements horizontal stacking (Cooley and Olander, 2011). Whenever the project receives water funding, it ties that funding to specific areas within the project that are providing the water benefits, and disqualifies the carbon credits associated with those areas. Likewise, whenever it sells carbon credits, it disqualifies the areas to which those credits correspond from receiving water fund payments. Measuring the water benefits would be done with the water fund, using the models the water fund uses to evaluate other opportunities.

While this does not capture the full benefits of stacking for the REDD+ project, since it cannot receive full funding for both the water and carbon benefits simultaneously, it does diversify the revenue streams for the project, which gives it more options to receive revenue at any point, and better ability to weather fluctuations or shocks in the carbon market.

Bundling

The project could bundle the water and carbon benefits into the carbon credits, and sell credits to the water fund as proxies for water benefits. This would not pose any additionality concern, as the credits sold to the water fund would be eliminated and not sold to anyone else.

This approach would also not capture the full potential benefits of stacking, because carbon and water purchasers would not have the option to purchase only the benefits they are interested in, so there would not be an outlet for the full demand for the two benefits (Ingram, 2012). But the REDD+ project could enjoy higher credit prices (since the credits reflect multiple benefits) and would receive the same benefits from diversification as in the horizontal stacking approach.

Stacking

The project could fully stack the revenue streams from both carbon and water by selling the water benefits and carbon benefits from the same areas in discrete streams to separate purchasers. This approach is the most difficult to reconcile with requirements for additionality, since the areas and management practices tied to the two benefit streams completely overlap. If payment for one of the benefits, say carbon, is sufficient to protect the area in which the carbon benefits are produced, then the water benefits would not be additional, and vice-versa.

To satisfy additionality, a stacked REDD+ project could implement a joint additionality assessment for both carbon and water at the beginning of the project. Instead of the usual approach to demonstrate REDD+ carbon additionality, where the project developer models land-use changes in the project area in the absence of the project, then in the presence of the project, and only claims credit for the difference between the two, the developer would model four different scenarios:

- i. Land-use and carbon stocks in the watershed without any project;
- ii. Land-use and carbon stocks in the watershed if only the water fund is paying for conservation (e.g. only stream buffers are protected), considering the capital available to the water fund and the per-dollar benefits of forest conservation compared to other water quality management options;
- iii. Land use and carbon stocks in the watershed if only carbon payments are funding forest conservation, not water fund payments; and
- iv. Land use and carbon stocks if both carbon payments and water payments are funding forest conservation through stacking.

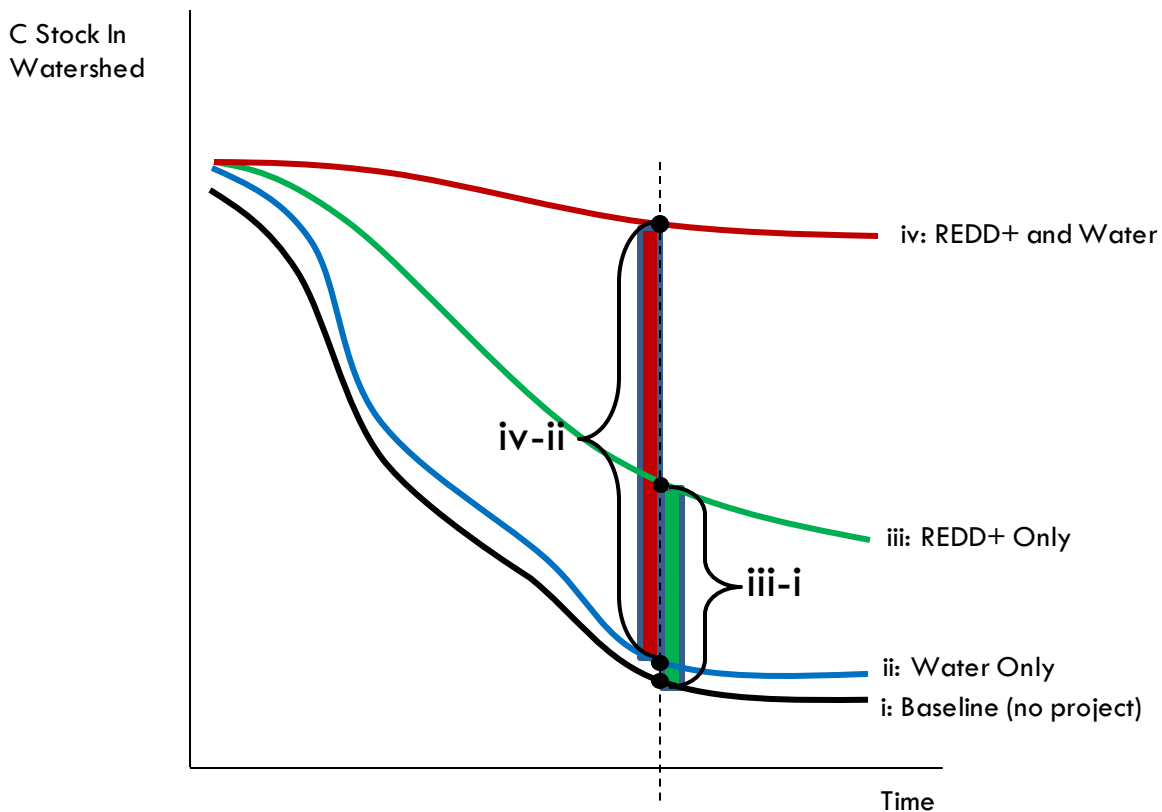


Figure 2: Hypothetical carbon stocks under scenarios in a joint additionality assessment.

The allowable number of carbon credits if the REDD+ project is stacked with water payments, then, would be the difference in carbon stocks between scenarios iv and ii (the red and blue lines in Figure 2). That difference would cover the additional benefit from carbon payments, assuming water payments are going to fund some forest conservation either way.

If the difference between scenarios iv and ii (additional carbon benefits, if stacked on top of water fund payments) is greater than the difference between scenarios iii and i (additional carbon benefits if there are no water fund payments), then that means there are gains to integrating the two mechanisms: the carbon impacts of a REDD+ project that incorporates water fund payments are greater than the combined impacts of a REDD+ project and water fund-financed conservation operating independently.

Where could those gains come from? There are several possibilities:

- The two mechanisms can share the burden of establishing monitoring regimes, stakeholder engagement efforts, and enforcement capacity, eliminating redundant fixed costs;
- The REDD+ project could take on greater risk, expanding to cover a larger area, due to lower fixed costs (above) or guaranteed revenue from water payments; and
- There may be increasing returns to scale for water benefits. The water fund may be willing to contribute more per unit area if the size of the project reaches the scale where landscape-

level forest cover contributes additional benefits beyond those achieved by smaller areas (i.e. buffers).

Either way, if carefully balanced to satisfy additionality, stacking water and carbon payments in a REDD+ project within a water fund could improve outcomes for both the REDD+ project, which could be larger from water payments, and more stable in the presence of a volatile or weak carbon market, and for the water fund, which would have the opportunity to achieve large-scale forest conservation within its watershed while only bearing a portion of the cost.

6.3. Recommendations

There are discrete steps Code REDD can take immediately to act upon these opportunities.

Biodiversity Offsetting

As we discuss above, the biodiversity requirements within CCB are already quite similar to the BBOP Standard. For criterion-by-criterion comparison, see Appendix B.

Since BBOP has already been recognized by IFC as a best practice in meeting its biodiversity standard, reconciling BBOP and CCB could make a large number of REDD+ projects available to potential biodiversity offset purchasers receiving financing from IFC or Equator Principles banks.

Code REDD could approach the organizations housing the two standards and propose a process whereby the two standards reconcile requirements in their next round of revisions, or formally recognize one another as equivalent for some or all of their sections. In particular, if BBOP recognized that CCB projects meet all of its principles other than the first three (which are specific to offset transactions), then the effort required to use existing CCB projects⁷ as BBOP-compliant biodiversity offsets would be substantially reduced.

Water Funds

The approaches described above to integrating REDD+ projects into Water Funds could be improved through additional consultation with practitioners from both mechanisms, and through application to specific potential projects. Code REDD could facilitate that effort through a follow-up client-centered master's project with future Nicholas School students.

In such a project, Code REDD's students, perhaps in partnership with The Nature Conservancy, would work with practitioners to develop a more robust approach than those described above, identify potential REDD+ project sites within current or future water funds through GIS analysis, and evaluate the feasibility of applying the approach to one or more of the identified sites.

In addition to identifying potential pilot projects, the study could produce a workable approach to integrating REDD+ projects into Water Funds in a way that improves outcomes for both mechanisms.

⁷ Assuming those projects are in locations and ecosystems that are comparable to those impacted by potential offset purchasers.

7. CORPORATE INVESTMENT INTO REDD+

The demand side of REDD+ is influenced largely by two factors. The first is compliance regimes that create obligations or incentives for entities to purchase carbon credits. These regulatory drivers typically consist of a mandated cap on emissions for specific industries and sectors, with covered entities given the option of offsetting a portion of their emissions with purchased offsets. These cap-driven purchases are known as the compliance market for carbon credits. The second influence, and one of the focuses of this report, is companies voluntarily purchasing credits in order to meet their own sustainability goals. Currently, it is this latter, voluntary influence that is purchasing the bulk of the forest offsets as compliance markets are still in varying stages of development (Peters-Stanley et al., 2013).

These voluntarily purchases are driven by larger Corporate Social Responsibility (CSR) strategies, which have their own drivers, including i) the creation of brand value (e.g., price premiums, employee recruitment), ii) risk mitigation (e.g., resilient supply chains, less dependence on fossil fuels), and iii) pre-compliance (e.g., purchasing early credits as a hedge against potential future regulatory compliance regimes). Understanding the CSR landscape and drivers of offset investments is critical to better positioning REDD+ for the voluntary market.

7.1. Landscape for REDD+ Demand from Corporate Investors

Many corporations have developed CSR programs, and some of the more robust programs have entered into the voluntary carbon market to offset their carbon emissions. For companies with multiple objectives such as offsetting carbon emissions while conserving biodiversity and forest habitat, REDD+ projects can present cost-effective opportunities to achieve objectives.⁸ These offsets, particularly those that have standards attached such as CCB, are typically more costly to produce and may fetch a higher price on the market. Some suggest that companies are willing to pay more for these premium credits (Olsen and Bishop, 2009), though there was not a statistically significant difference between the average price of credits from REDD+ projects that had achieved CCB and those that had not in 2012 (Peters-Stanley and Yin, 2013).

Whether companies choose to purchase offsets is mainly determined by their work. Many of voluntary offsets (both REDD+ and non-REDD+ offsets) that are bought by the private sector are done so through primary motivations of CSR and to demonstrate industry climate leadership (Table 1; Peters-Stanley and Yin, 2013). Consumer-facing businesses are likely to choose the offset motivations of ethics and reputation and/or provide offset options to their customers. Some businesses are seeking to promote supply chain resilience through offset purchases, while others will purchase offsets based on the standard, the community impact and/or project location. There

⁸ “Voluntary commitments from private sector companies are also increasing; for example, the Consumer Goods Forum, which represents more than US\$2 trillion in annual revenues, announced a commitment to ‘zero net deforestation’ systems by 2020. Soy and meat companies have also agreed to a moratorium on the purchase of products from land where forest conversion has taken place after a certain date (Nepstad et al., 2013; Walker et al., 2013). These examples reflect a growing engagement of the private sector, often supported by civil society action, in social and environmental issues. This is, in part, driven by the perceived reputational risks of being associated with poor environmental or social practices....These private sector focused initiatives, however, have often developed in parallel with REDD+ activities and more collaboration could be beneficial (Nepstad et al., 2013).” (Watson et al. 2013, p. 15).

is also the chance that many companies are buying offsets before the emergence of an anticipated compliance market, for example in California, in an effort to hedge or lower their compliance costs (Peters-Stanley and Yin, 2013). Finally, Peters-Stanley and Yin state that investors will invest in projects that are viewed unique – as “understood by number of available standards, project locations, offset suppliers, and project size” (2013), and these projects are ones to see more sustained offset demand.

Motivation	Ranking by % Share
CSR	34%
Demonstrating climate leadership	26%
Pre-compliance	19%
PR/ branding	10%
Climate-driven mission/philanthropy	9%

Table 1: Offset end users’ top offsetting motivations, 2012⁹. (Source: Peters-Stanley and Yin 2013, p. 51)

There are a wide variety of corporations currently involved with REDD+. For example, both Volcom and PUMA, subsidiary brands of Kering, decided early on to partner with Wildlife Works, a REDD+ project developer, on a large REDD+ project in the Kasigau Corridor in Kenya. As stated in Box 2: the Kasigau case study, PUMA used Kasigau’s sustainable clothing factory to create a line of t-shirts (Peters-Stanley and Yin 2013). This program illustrates the growing interest of investors to support projects that have a compelling story and relationship to their business model (Peters-Stanley and Yin 2013, p. 52). Other companies involved with REDD+ include The Walt Disney Company and Microsoft. As part of its carbon neutral scheme, Microsoft has been purchasing offsets from projects in Brazil, Kenya (Kasigau Corridor) and Cambodia to offset employee electricity use and air travel. The Walt Disney Company has also purchased offsets from projects in the Peruvian Amazon to counterbalance cruise and resort emissions (Dewan).

Looking at large-scale sector involvement, the energy, agriculture/forestry, transportation, food and beverage, and tourism sectors are actively involved in forest offsets. “These top buyer sectors depend on place-specific resources and forest based ecosystem services (e.g., clean water) for their operations or products, thus some invested in forestry offsets out of recognition that their business models depend on healthy natural infrastructure.” (Peters-Stanley *et al.* 2013, p. ix). Figure 3 below illustrates the market share by buyer sector, buyer type, and buyer motivation for all forest offsets. However, while demand for some forestry offsets grew, the volume of transactions of REDD+ credits fell by 8% to 6.8 MtCO_{2e} in 2012. Regardless, due to an increase in demand for VCS+CCBS offsets in the market, the volume of credits from REDD projects that are or aim to be verified by these standards more than doubled (Peters-Stanley and Yin, 2013).

⁹ Note on Table: Based on 42 MtCO_{2e} associated with an offset end user motivation (as stated in Forest Trend’s Ecosystem Marketplace, State of the Voluntary Carbon Markets).

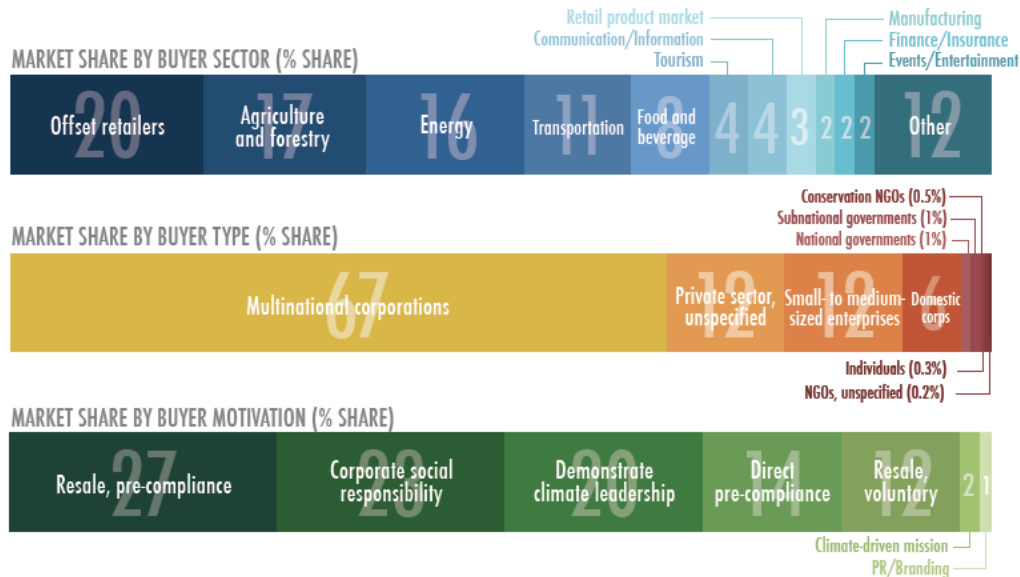


Figure 3: Market share by buyer sector, type, and motivation¹⁰. (Source: Peters-Stanley et al., 2013).

7.2. Challenges to Growth

The main overarching issue is the lack of demand for REDD+ credits, limiting new project development and making it more difficult to sustain existing projects. For this reason, the REDD+ community is focusing on how to engage with the private sector to help increase the demand for offsets. If demand is not increased, there limited ability to financially support projects (Peters-Stanley and Yin, 2013). While it is imperative to attract the private sector to REDD+, there are currently several challenges to the growth of corporate involvement, and therefore demand, in REDD+.

First, there seems to be a general lack of communication at all levels of the system.

1. Many corporations not aware of REDD+: project developers, NGO's and governments have not effectively educated the private sector on what REDD+ is and how it can be valuable to their company.
2. Disconnect between business and investors: McGill *et al.* found that senior executives often lament that shareholders are not interested in broader measures of performance. The shareholders' response is that they want management to better articulate the value they are creating through these activities so as to give the investors more confidence in the long-term (2013).
3. Disconnect between suppliers and buyers: Offset suppliers say it is hard to find a buyer, and while there are registries that list projects validated under various standards, there is no formal exchange where buyers can be easily identified and selected. This results in very long time wait times and lags in the system (Peters-Stanley and Yin 2013).

¹⁰ Note on Figure: Based on 2013 buyer types as described by survey respondents (as stated in Forest Trends' Ecosystem Marketplace, State of the Forest Carbon Markets).

A second challenge to the growth of corporate investment demand is that the business case and incentives to invest in REDD+ are not well-defined. Some of this is due to policy uncertainty. Companies will not want to make pre-compliance investments in REDD+ without certainty that they will be accepted by a compliance market, or even if the compliance market will be in existence (Bernard et al., 2012). “Private investors need to have a reasonable expectation for a risk-adjusted return on investment.” (Bernard et al., 2012). Furthermore, companies want to ensure that they invest in projects with the least amount of risk, both in the short-and-long-term. This is problematic with REDD+ projects because secure long-term financing is rarely available (Lanius et al., 2013).

This ill-defined business case relates to the third barrier, which is market competition for other voluntary carbon offsets and how REDD+ suppliers are competing with many other offset options, as seen in Figure 4 (Peters-Stanley and Yin, 2013). For example, REDD+ offsets are more expensive than renewable energy offsets, though prices did decrease to \$7.8/tCO₂e in 2012 (Peters-Stanley et al., 2013). Therefore, why would a company purchase REDD+ if they have a cheaper option? As a result of this competition between the many carbon offsets on the market, some offsets have tried to differentiate themselves to attract buyers through different price points, trying to attract specific sectors, or through the addition of co-benefits via standards such as CCB or Gold Standard. Such a large market may also be an underlying reason why there is not enough corporate interest/knowledge in REDD+ offsets. Moreover, because some actors may have already invested in other forest conservation or restoration measures, they can no longer qualify for REDD+ financing due to additionality (Olsen and Bishop, 2009). As a result, they may subsequently turn to other carbon offsets.

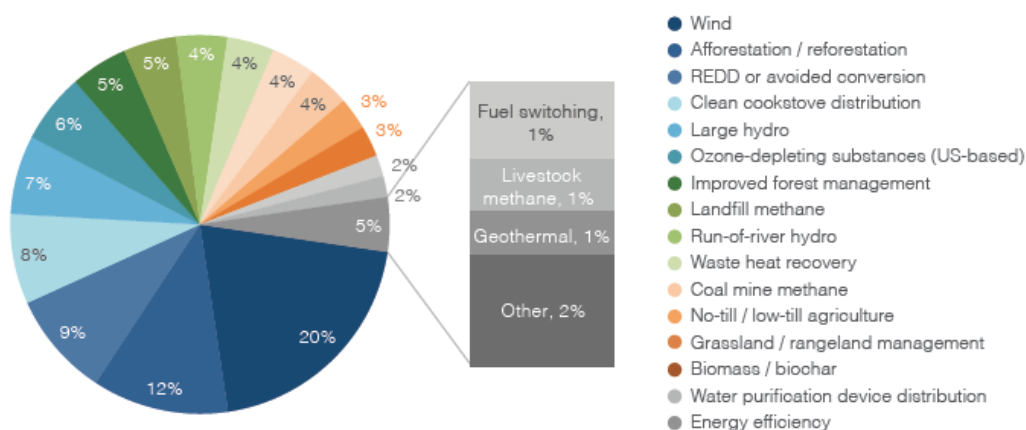


Figure 4: Market share by type of offset, OTC 2012¹¹. (Source: Peters-Stanley and Yin 2013).

7.3. Importance of Measurements and Standards within Corporate Investing

Measurements and standards are extremely important for corporate investing as it allows companies to mitigate risk, improve CSR reporting, increase transparency and allow for a way to benchmark against competitors. Stakeholders are pressuring companies to be more accountable in all areas of the business, including the company’s own performance and that of their supply chain (BSR Staff 2003). Measuring performance and being able to track which standards a company is

¹¹ Note on Figure: Percentages and totals may not sum perfectly due to rounding (as stated in Forest Trends’ Ecosystem Marketplace, State of the Voluntary Carbon Markets).

adhering to (via third-party verification) allows corporations to illustrate their actions to stakeholders and reduce the risk of negative backlash. Subsequently, these measures can improve company brand image, increase sales, foster customer loyalty, increase quality and productivity, reduce regulatory oversight, and increase access to capital that may have not otherwise been available. In sum, measurements and standards increase transparency and help to paint a picture of a company's CSR performance (BSR Staff, 2003). An example of a recently created measurement framework to help companies put a value on their activities and to see the overall impact is the Total Impact Measurement and Management (TIMM) framework by PwC (McGill et al., 2013).

And in relation to REDD+: "... associated environmental and social outcomes through standards such as the Climate, Community and Biodiversity Alliance, or the Voluntary Carbon Standard, can also provide a powerful corporate social responsibility incentive to invest in REDD+. This illustrates how environmental and social safeguards can enable private and even public sector engagement in REDD+ by reducing reputational and operational risk, through clarifying legal requirements to be followed and establishing social and environmental requirements in what is a new area of business for many investors (Sukhdev et al., 2010)." (Watson et al., 2013, referencing Sukhdev et al, 2010).

7.4. Business Case Misalignment

Companies supporting REDD+ in the voluntary market have a variety of motivations for integrating forestry offsets into the sustainability programs, as discussed previously. However, current investors in REDD+ are a self-selected group of the most environmentally aware and conscientious corporate citizens, and their preferences may not reflect those of the broader investor population. These investors place significant emphasis on the outcomes of REDD+ such as local economic development and climate change mitigation, and are willing to trade off some additional cost or lessened return on investment to achieve these outcomes. However, many of the interviewees view this investor segment as a niche market, and expansion of the investor base may result in a shift towards different value prioritization, one where the case for REDD+ needs to be articulated in a commercially viable manner. Traditionally, proponents of REDD+ have emphasized the social and environmental benefits generated by projects, with some attention to the positive public relations benefits of demonstrating climate leadership. However, mainstream investors place greater weight on the returns and commercial viability of projects. REDD+'s lack of quantified commercial benefits is detrimental when compared to other potential sustainability projects that have clear efficiency gains or rapid payback rates. CSR activities are constrained by limited resources (e.g., budget, manpower), and optimizing an organization's sustainability strategy given these constraints may lead to a preference for projects with more hard commercial data backing them. On the impact investing side, fund managers are primarily interested in understanding whether or not REDD+ investments are creating a return before committing significant capital.

This need is recognized by a number of organizations driving REDD+ awareness amongst corporations, including Code REDD, whose message is increasingly focused on the business case benefits of REDD+ beyond brand value and market recognition. These benefits can include improved supply chain security and increased stakeholder engagement in high growth regions. However, a common theme across interviewees is that conveying this business case is problematic

given the complexity of the message and lack of empirical studies quantifying the value of REDD+ to commercial entities. There may very well be a positive impact, but at this point there is not enough detail on supply chain security and resilience for businesses to properly evaluate from a risk-return perspective. Kevin Anton, former Chief Sustainability Officer at Alcoa, said of REDD+ and sustainability projects:

"You need to be able to draw a line of site from the very specific project you're doing to your company. It's really hard to craft what the benefits of participating a REDD+ program are. Do they get a financial return for investing in it? Not really. It feels good, but sustainability for sustainability's sake doesn't quite work. There really needs to be a strong business tie, and I think that's what people are struggling with a bit."

Even given a strong commercial rationale for investing in REDD+, many companies face a problem with a lack of REDD+ recognition in their end markets. Marketing of environmental issues in general do not result in a significant increase in willingness to pay on the part of consumers, but REDD+ in particular is a difficult message for the public to absorb. Even well educated people in Europe and the United States are typically unaware of the REDD+ mechanism, according to some of our interviewees. This lack of recognition limits a company's ability to price goods and service at a premium or pass on higher costs. Companies that are enthusiastic proponents of REDD+ acknowledge the difficulties associated with consumer messaging. As Martyn Bowen of Puma states, "words like deforestation and degradation don't mean a great deal to our consumer. It's much more effective to say, 'buy a tee and plant a tree.' Now that would horrify the people involved in REDD, but you have to talk to the consumer in a way the consumer responds, rather than in the way a scientist who's done REDD+ will respond." However, Bowen believes that there is a potential for REDD+ and companies like Wildlife Works to become a valuable brand within the next 10 years, driven by increasing awareness of climate change and the problems of deforestation.

8. IMPACT INVESTORS AND REDD+

The World Economic Forum (WEF) estimates that there is a need for \$700 billion in incremental investments per year in order to limit the global average temperature increase to 2° C or less. These investments need to be in climate change critical sectors like clean energy, infrastructure, energy efficiency, agriculture, and forestry. Of this financing gap, approximately \$116 - \$139 billion will come from public investments, while the remaining \$558 - \$581 billion can potentially be sourced from the private sector. Within forestry, it is estimated that there needs to be an addition \$2 trillion in cumulative investments between 2010 and 2030, or approximately \$104 billion per year, in order to reach a low-carbon scenario (WEF, 2013).

	Business-as-usual scenario		2C scenario investment needs		Incremental investment required	
	Cumulative 2010 - 2050	Annual	Cumulative 2010 - 2050	Annual	Cumulative 2010 - 2050	Annual
Forestry	\$ 1,280	\$ 64	\$ 2,080	\$ 104	\$ 800	\$ 40

Table 2: Low Carbon Funding Gap. (Source: WEF, 2013)

To address the \$40 billion gap in Table 2, impact investors have the potential to catalyze and scale up investments in forestry. Impact investing is a relatively new, rapidly developing industry that fills the gap between traditional profit maximizing investments and philanthropy. While there is no consensus yet on the definition of impact investing, at its core, impact investing seeks to create positive impact beyond financial returns. The impact investing industry moves beyond socially responsible investing, which is generally limited to encouraging best social and environmental practices, into a paradigm that actively directs capital towards businesses, ideas, and projects that directly address today’s most pressing problems. Microfinance, food and agriculture, community development, and clean energy investment are all examples of impact investing (Monitor, 2009).

8.1. Impact Investing and REDD+

A number of impact investing firms have been created for the purpose of climate change mitigation through the protection of at-risk tropical forests. For example, Permian Global seeks the “production and sale of high-quality verified carbon credits, generated through large-scale conservation and recovery of natural forest” (Permian, 2014), while Althelia Climate Fund is a pilot fund to demonstrate “emerging confidence that financing a transition towards sustainable land use can deliver competitive financial returns alongside positive environmental and social impacts” (Peters-Stanley et al., 2013). While climate change mitigation is the key mission, these REDD+ based funds also highly value co-benefits: Althelia prioritizes investments that demonstrate benefits in terms of poverty alleviation, alternative livelihoods, and conservation of threatened species; Permian recognizes the importance of local development goals as well forest functions like water supply, and the prevention of soil erosion, fires, and pollution.

It is important to note that some REDD+ impact investing strategies rely on the sale of verified carbon credits to help meet financial return targets. This strategy relies on carbon credit demand

from users who are looking to offset their own emissions, either voluntarily or through a compliance regime. Barring significant demand from offset purchasers, this strategy may potentially be supplemented with REDD+’s co-benefits. For example, many impact investors utilize microfinance to spur local economic development. To the extent a REDD+ project can create a framework for providing alternative livelihoods that do not require forest degradation, microfinance may be a mechanism to provide the capital for new or expanding businesses. Education and water security, similarly, can be co-benefits of REDD+ projects that many non-carbon focused impact investors place significant emphasis upon.

8.2. Impact Investing Landscape

Impact investing encompasses a wide variety of actors and institutions, ranging from family offices of high net worth individuals and private investment funds to cooperatives and government programs. High net worth individuals and other asset owners generally work with intermediaries like private foundations, funds, and financial institutions to find and develop opportunities to invest in. On the demand-side, business and social enterprise receive funds based on their social and environmental goals and proposed solutions. In addition, there are service providers that create vital industry support infrastructure like standards such as the Impact Reporting and Investment Standards (IRIS), and networks (Rockefeller 2012).

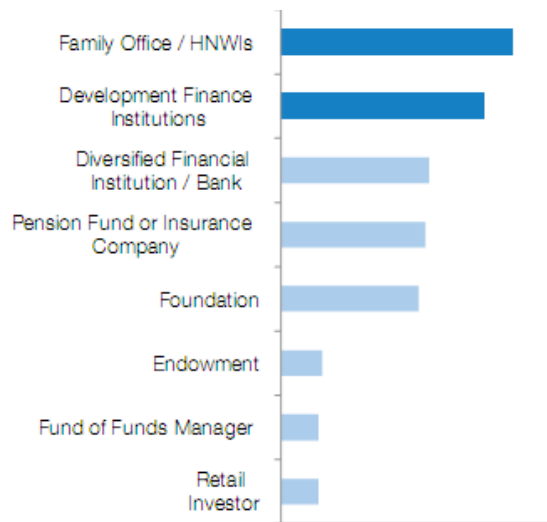


Figure 5: Source of funds for fund managers. (Source: WEF 2013)

A pointed question for impacting investing is what the relationship between social / environmental goals and financial returns looks like. Many conventional investors, those whose only goal is to maximize financial returns, believe that pursuing a secondary goal like forest protection requires some sacrifice on the part of the primary goal. Because of this belief in trade-off between financial returns and other goals, many frameworks categorize impact investors into three groups: financial returns-focused investors that seek to maximize financial returns with a floor on social and environmental goals; impact-oriented investors that seek to maximize social and environmental goals with a minimum hurdle for financial returns; and blended investors that attempt to balance the two interests. Figure 6 below illustrates the wide range of targeted internal rate of return (IRR) for impact investment funds.

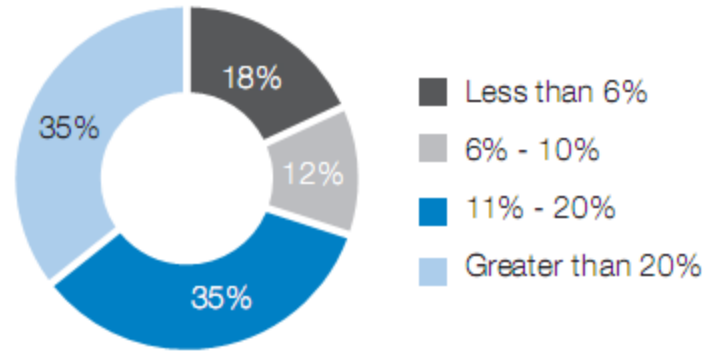


Figure 6: Targeted net internal rate of return of impact investment funds. (Source: WEF 2013)

That said, 60% of impact investors do not believe it is necessary to trade-off financial returns for impact (Saltuk, 2011). Currently there is not a long enough track record or large enough sample size in impact investing to analyze the relationship quantitatively. A study on the returns socially responsible investing and green investing found that little to no evidence of substantial sub-optimal performance relative to traditional funds. There were no performance differences between green and traditional funds, and marginal performance differences between socially responsible investing and traditional funds (Mallett and Michelson, 2010).

8.3. Challenges to Growth

Impact investors report that a lack of track record of successful investments, a shortage of quality investment opportunities, and inadequate measurement practices are the top three challenges to industry growth (Saltuk, 2011). These latter two issues, the shortage of investment opportunities and inadequate measurement practices, speak to the difficulty of placing and managing capital. Industry participants have focused primarily on supply side (e.g., capital raising), without enough attention to capacity building, readying demand, and ultimately increasing the number of investment-ready opportunities. As a result, there is an insufficient lineup of products for larger investors, and investments tend to be small with high transaction costs. In addition, a lack of clear exit opportunities may deter investment (Rockefeller, 2012).

To help address many of the challenges presented above, GIIN has developed the Impact Reporting and Investment Standards (IRIS), a set of standardized metrics that can be used to measure the social, environmental, and financial performance of companies funded by impact investments. IRIS is a public good that seeks to address the fragmented nature of impact measurement approaches and lack of comparability between investments (Bouri, 2011). IRIS does not recommend which performance standards should be used for give type of investment, but rather provides a free universal set of performance indicators that can satisfy the needs of a wide variety of actors in the investment community. In addition, IRIS gathers voluntary anonymous data from users in order to gather evidence on the performance of the impact investing industry (Bouri, 2011). REDD+ metrics can be incorporated into IRIS, and should impact investors choose to report their data, a more clear impact investing case for REDD+ can be made over time.

9. SURVEY FINDINGS

We distributed a survey to members of the investment community to gauge investors' preferences and expectations for the REDD+ mechanism generally, and for REDD+ co-benefits in particular. Among other questions, respondents were asked to rate the importance of four co-benefits – biodiversity preservation, watershed services, empowerment of women, and local economic development – on a five point scale from “not important at all” to “extremely important”. The responses to that question are displayed in Figure 7.

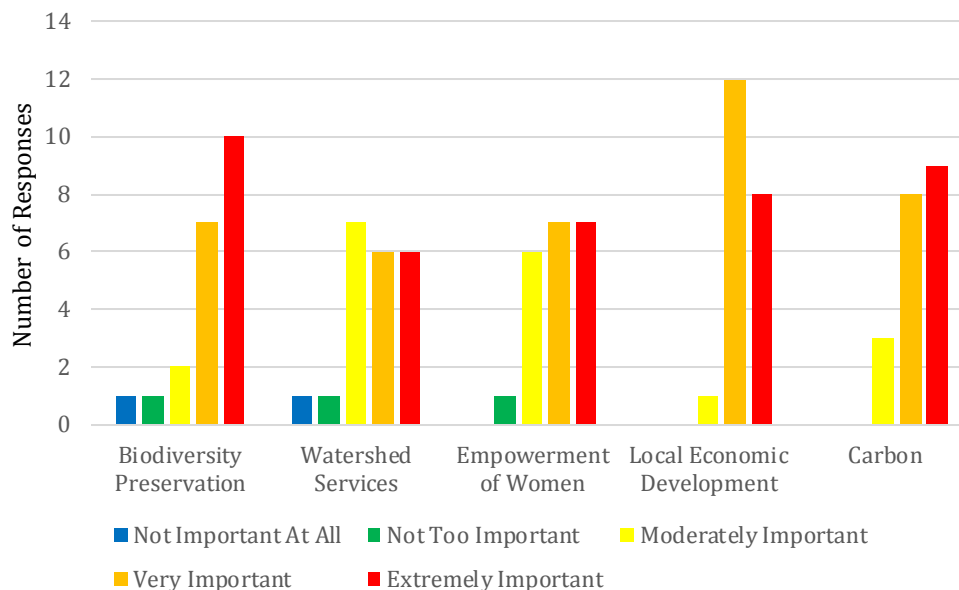


Figure 7: Survey respondents' ratings of the importance of co-benefits from REDD+ projects, as well as avoided carbon emissions.

The goal was to test for differences in investors' preferences among co-benefits, and for differences between investor sub-groups (i.e., those already involved in REDD+ and those not already involved in REDD+) to see if there are particular co-benefits of greatest interest to investors. For the full survey text, see Appendix C.

The results of the survey were inconclusive. Despite broad distribution, the survey received only 22 usable responses. We found no statistically significant difference in the distribution of responses among the co-benefits (Friedman's Test; $p = 0.88$) or between ratings of each co-benefit from investors who are already involved and those who are not (Wilcoxon Rank-Sum Tests; p -values for biodiversity preservation, watershed services, empowerment of women, and local economic development were 0.35, 1.00, 0.19, and 0.58, respectively).

10. RECOMMENDATIONS FOR EXPANDING INVESTOR DEMAND

Given the findings from interviewees and the literature review, there are some recommendations for the REDD community to help expand investor demand from both corporate as well as impact investors.

10.1 Increased Research in Business Case Rationale for REDD+

Feedback from our survey and interviews indicated that there was a moderate level of skepticism surrounding the business case for investing in REDD+. A challenge with voluntary offsets is that they have no direct positive financial impact on a company, i.e., there is no measurable return on investment. This contrasts with energy efficiency investments, which can have a payback period of fewer than 2 years. So for a corporation interested in mitigating its carbon footprint, carbon offsets have significant competition in terms of direct cash flows. That said, there are secondary impacts of investing in carbon offsets that, if proven, can potentially increase demand. Being able to market oneself as a carbon neutral company, for example, may lead to the creation of brand value. It can also lead to more robust employee recruitment, retention, and morale. And because it is impossible to become carbon neutral through energy efficiency and process improvements alone, carbon offsets can be the bridge for companies looking to achieve complete neutrality. However, at this point the creation of brand value and positive employee impacts of being carbon neutral are still anecdotal and speculative, and significantly more research should be conducted in order to evaluate this aspect of the business case. Key questions regarding intangible value of REDD+ include:

- What impact does being carbon neutral have on employee recruitment, retention, and morale?
- Does being viewed as an environmentally responsible company foster customer loyalty, brand recognition, or other intangible values?
- Does investing in REDD+ provide any additional intangible benefits over other offset types? For instance, companies that source products that are associated with deforestation (e.g., palm oil) may be able to reduce their reputational risk by investing in REDD+.

Much of the economic growth in the next 50 years is expected to come from regions where REDD+ is most active, particularly Asia, Africa, and Latin America. In addition, many economic studies have shown that lower income groups typically spend a greater portion of every marginal dollar received, resulting in greater economic activity throughout the entire economy. By investing in REDD+ projects that have strong local economic development components, companies are contributing to future economic growth and creating new consumer markets. Moreover, by developing projects in these rapidly growing countries, organizations may gain additional benefits in terms of market access and other intangibles. Additional research questions on market creation and access include:

- What is the marginal economic impact of the REDD+'s local economic development components?
- What benefits if any, are gained by investing in REDD+ in terms of future market access (e.g., creation of goodwill, accumulation of institutional knowledge of the region, positive relations with policymakers, etc.).

In addition to increasing research into the business case, it is important to foster knowledge sharing among key decision makers between potential investor organizations. This is done to some extent through events like REDD+ Talks that allow corporate leaders and experts to come together and promote the REDD+ mechanism, although it is unclear whether corporations that are not involved in REDD+ participate. In order to expand the network of organizations involved, we recommend the proponents of various offset types (e.g., REDD+, cookstoves, renewable energy) jointly partner with a group like The Global Association of Corporate Sustainability Officers (GACSO) in order to educate decision makers on the benefits of investing in carbon offsets and being carbon neutral in general. The format of an event need not be high profile and public, but rather should encourage sincere discussion on the challenges and benefits of offsetting. Such a conference can increase awareness of REDD+ and lend credence to its business case.

10.2. Geographic Expansion of the Investor Universe

Another potential future avenue of growth for the voluntary carbon markets is a shift from U.S. and Europe-based investors to multinational and Asian corporations. Thus far, the REDD+ investment community has consisted primarily of American and European companies, which makes sense given that the mechanism was originally conceived with the developed-developing world dichotomy as its framework. However, as mentioned before, future economic growth will increasingly come from developing countries, and as corporations in these areas become larger and better capitalized, they may start investing more in CSR activities. In addition, multinationals and companies with large Asian, Latin American, or African markets may have even greater incentive for a REDD+ component, given that they would be investing in their core markets. As a result, it is important to research how to target the private sector in these different regions. Moreover, with cap-and-trade markets being developed in countries like China and South Korea, there is an opportunity for offsets to access new compliance markets, as well. Potential questions to examine include:

- What are the current and projected levels of CSR investment of companies based outside of US and European markets?
- How might the closer proximity to REDD+'s project areas increase the intangible value generated from REDD+ investments?

Box 3 below states several other reasons why REDD+ can attract private investment. It would be useful to build upon this list, compiled by Janson-Smith & Marsh, 2012, with further research in the future.

BOX 3: REDD+ Features that Attract Private Companies

Companies with a CSR orientation will find REDD+ more amenable to their goals than other kinds of offsets, such as substituting energy sources. For instance, REDD+:

- Is typically one of the lower-cost mitigation options.
- Helps prevent deforestation, a crucial and highly visible driver of climate change.
- Has the potential to satisfy several CSR goals simultaneously, such as poverty alleviation, sustainable development, biodiversity protection, and water conservation.
- Conveys a concrete narrative to potential clients, conveying a sense of the companies' rootedness in a particular project within a very specific place.
- Provides potential clients with an ongoing narrative about community development and species protection.
- Helps build trust among the firm, local stakeholders and governments, and helps develop the firm's reputation as both socially responsible and responsive to these stakeholders. This can help reduce transaction costs in those countries where the firm's operations are located.

REDD+ also has much to offer companies with compliance-based motivations, such as:

- Greater protection against regulatory risks (e.g., by purchasing carbon credits several years in advance).
- Potential for lower compliance costs than other abatement options (e.g., a tax or emissions permit).
- Assistance in long-term business planning by mitigating price uncertainty.
- An effective way of diversifying investment in mitigation and compliance options, as well as a scalable source of low-cost offsets.

Sourced directly from: Bernard *et al.* 2012 who sourced it from Janson-Smith & Marsh, 2012

10.3. Improving the Cost Competitiveness of REDD+

Outside the purview of expanding investor demand, but still highly relevant to the future growth of the voluntary REDD+ market, is the need for more appropriate financing mechanisms for REDD+ projects. Currently, many forest enterprises are small and medium enterprises (SMEs) that are too large for local financing but not of sufficient scale to merit direct international investments. One potential solution to this scale issue is to allow for the aggregation of smaller REDD+ projects in order to spread the fixed costs and reduce per ton transaction cost. Another approach that could increase the appeal of REDD+ to investors is increased use of forest bonds, where the revenue generated from the forest (e.g., carbon offset sales, agroforestry), is used to pay the returns on bonds issued by a specialized vehicle (e.g., green fund set up by banks or NGOs). In particular, convertible forest bonds may be the most appropriate structure, given the long project development time, relatively late timing, and potentially uncertain magnitude of the benefits; they would allow the forest revenues from REDD+ programs to pay the returns on the bonds while the option to convert into equity would provide significant upside, should compliance markets come online. The benefits of using convertible bonds are twofold:

1. Because of the equity upside, the annual interest on the bonds themselves are lower than would otherwise be the case. The bonds could even include a payment-in-kind (PIK) component, meaning that the interest owed on the security is not paid in cash but rather

accrues over the life of the loan, further reducing the need for cash outlays early on.

2. There is a high degree of uncertainty as to the future of carbon offsets vis-à-vis compliance markets. Convertible forest bonds would allow investors to price according to the likelihood of compliance marketing coming online and accepting REDD+ offsets.

Taken together, developing protocols for the aggregation of REDD+ projects in conjunction with innovative financing structures would make REDD+ more cost competitive with other offset options.

11. CONCLUSIONS

11.1. *Summary of Findings*

This study aimed to make conclusions about the feasibility of new metrics that could serve to spur additional voluntary investment in the REDD+ mechanism, specifically via the quantification and subsequent sale of co-benefit credits. Our discussions with both REDD+ practitioners and current and potential REDD+ investors and credit buyers yielded a clear message that these additional metrics would be both difficult to create and ultimately of little practical significance. The value of said metrics is questionable principally due to proliferation of standards, quantification challenges, challenge of meaningful co-benefit quantification and comparison, thin markets for co-benefits, and already complex MRV systems. Some interviewees related that social co-benefits are the most attractive to investors, as they are the most compelling part of the story told about projects, both to credit purchasers and consumers, but the connection between social benefits and project funding remains unclear.

Our research also rendered important information regarding how REDD+ is viewed within the business community, with important implications for how investment can potentially be scaled up. Investor priorities on financial return and commercial viability have not been sufficiently addressed by the REDD+ mechanism. Expanding investor demand will require greater understanding of business concerns, particularly around how investors prioritize offset investments. Furthermore, the structure of the REDD+ mechanism – with a reliance on scientific data and multi-tiered political coordination – is relatively complicated and not easily expressed to the investment community or general public. Clearer articulation and marketing of the REDD+ business case will be vital to the ability of projects to successfully attract voluntary financing. This is especially true when REDD+ is considered against competing social and environmental projects that have clearer returns and/or more narrowly focused objectives.

11.2. *Summary of Recommendations*

Despite the lack of promising demand signals for co-benefit quantification and sale, we concluded that certain opportunities exist for voluntary REDD+ that warrant further investigation. Additionally, a number of opportunities exist to both improve the business case for REDD+ and develop more appropriate financing mechanisms:

1. Biodiversity Offsetting: Reconciling the requirements within the BBOP Standards and CCB Standards could remove barriers to REDD+ projects serving as biodiversity offsets.
2. Water Funds: Follow-up research can identify potential REDD+ project sites within Water Funds and refine approaches to incorporate payments for watershed services into REDD+ projects.
3. Business Case Research: Further research into the business case for REDD+ investment, particularly around the intangible values created by carbon neutrality and supply chain resilience, could help potential investors understand the commercial viability of REDD+ relative to other climate mitigation strategies.
4. Geographic Expansion of the Investor Universe: Targeting outreach efforts toward companies with nascent CSR initiatives in emerging markets can expand the scope of private investment beyond the European and American companies that have driven private REDD+ investment to date.

5. Improving the Cost-Competitiveness of REDD+: The use of innovative financing mechanisms and project aggregation could make REDD+ projects more appealing to investors and better able to compete with other mitigation options.

We hope that our findings are of service to the greater REDD+ community, and particularly to those who are working to find ways to scale the mechanism before the potential existence of a binding international agreement that includes forest carbon offsets as an important component in controlling anthropogenic climate change.

REFERENCES

- Ambiental PV. (2011). *Restoring the Cantareira water supply system: Carbon, community, and biodiversity initiative*. CDM Program Activity Design Document (version 01). AmbientaIPV Ltda. Retrieved from https://s3.amazonaws.com/CCBA/Projects/Watershed_Restoration_in_the_Cantareira_Water_System%3ACarbon%2C_Community_and_Biodiversity_Initiative/PDD+CPA+Cantareira+Cachoeira_08May11.pdf
- Bain & Company, Inc. (2012). *A world awash in money: Capital trends through 2020*. Boston, MA. Retrieved from http://www.bain.com/Images/BAIN_REPORT_A_world_awash_in_money.pdf
- Bernard, F., McFatrige, S., and Minang, P. A. (2012). *The private sector in the REDD+ supply chain: Trends, challenges and opportunities*. The International Institute for Sustainable Development. Retrieved from http://www.iisd.org/sites/default/files/pdf/2012/redd_private_sector_report.pdf
- Bouri, A. (2011). *How standards emerge: The role of investor leadership in realizing the potential of IRIS*. innovations / Special Edition for SOCAP11. Retrieved from http://www.thegiin.org/binary-data/RESOURCE/download_file/000/000/288-1.pdf
- Goldman-Benner, R. L., Benitez, S., Boucher, T., Calvache, A., Daily, G., Kareiva, P., Kroeger, T., and Ramos, A. (2012). Water funds and payments for ecosystem services: Practice learns from theory and theory can learn from practice. *Oryx*, 46(1), 55-63. Retrieved from <http://ncp-dev.stanford.edu/~dataportal/pubs/Goldman-Benner%20et%20al%202012%20Water%20Funds%20ORYX.pdf>
- BSR Staff. (2003). *Overview of corporate social responsibility*. Business for Social Responsibility. Retrieved from <http://www.bcn.ufl.edu/ckibert/Poland/MiscMaterials/CSR-Overview-bsr.htm>
- Business and Biodiversity Offsets Programme (BBOP). (2012). *Standard on biodiversity offsets*. BBOP, Washington, DC. Retrieved from <http://bbop.forest-trends.org/guidelines/Standard.pdf>
- Business and Biodiversity Offsets Programme (BBOP). (2013). *To no net loss and beyond: An overview of the Business and Biodiversity Offsets Programme*. BBOP, Washington, DC. Retrieved from: http://www.forest-trends.org/documents/files/doc_3319.pdf
- The Climate, Community & Biodiversity Alliance (CCBA). (2013). *Climate, community & biodiversity standards Third Edition*. CCBA, Arlington, VA, USA. Retrieved from https://s3.amazonaws.com/CCBA/Third_Edition/CCB_Standards_Third_Edition_December_2013.pdf

- Code REDD. (N.A.). *Wildlife Works carbon / Kasigau Corridor, Kenya*. Retrieved March 4, 2014, from <http://www.coderedd.org/redd-project-devs/wildlife-works-carbon-kasigau-corridor/>
- Cooley, D. and Olander, L. (2011). *Stacking ecosystem services payments: Risks and solutions*. Nicholas Institute for Environmental Policy Solutions, Working Paper NI WP, 11-04. Retrieved from <http://nicholasinstitute.duke.edu/sites/default/files/publications/stacking-ecosystem-services-payments-paper.pdf>
- Conservation International. (2013). *REDD+ market: Sending out an SOS*. Retrieved from: http://www.conservation.org/global/carbon_fund/Documents/REDD+Market-SOS.pdf
- Dewan, A. (N.A.). *Microsoft, Disney invest millions in forest carbon market*. Forests Climate Change. Site run by the Center for International Forestry Research (CIFOR). Retrieved from <http://www.forestclimatechange.org/forests-climate-change-mitigation/microsoft-disney-invest-millions-forest-carbon-market/>
- Freireich, J., and Fulton, K. (2009). *Investing for social & environmental impact: A design for catalyzing an emerging industry*. Monitor Institute, San Francisco, CA. Retrieved from http://monitorinstitute.com/downloads/what-we-think/impact-investing/Impact_Investing.pdf
- Forest Carbon Portal: Tracking Terrestrial Carbon. (N.A.). *Kasigau corridor REDD project*. Forest Trends: Ecosystem Marketplace, Washington, DC. Retrieved from <http://www.forestcarbonportal.com/project/kasigau-corridor-redd-project>
- Ingram, Jane Carter. (2012). Bundling and stacking for maximizing social, ecological, and economic benefits. Paper presented at the Translinks Partnerships Bundling and Stacking Workshop.
- Intergovernmental Panel on Climate Change (IPCC). (2013). Summary for Policymakers. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. Retrieved from http://www.climatechange2013.org/images/report/WG1AR5_SPM_FINAL.pdf
- International Finance Corporation (IFC). (2012). *Guidance note 6: Biodiversity conservation and sustainable management of living natural resources*. ICF, World Bank Group. Retrieved from http://www.ifc.org/wps/wcm/connect/a359a380498007e9a1b7f3336b93d75f/Updated_GN6-2012.pdf?MOD=AJPERES
- Lanius, D. R., Kiss, E., and Willem den Besten, J. (2013). *Aligning biodiversity compensation*

- and REDD+ : A primer on integrating private sector conservation financing schemes in the tropics and sub-tropics*. IUCN NL, Amsterdam. <http://www.coderedd.org/wp-content/uploads/2013/11/Code-REDD-IUCN-Aligning-Biodiv.pdf>
- Madsen, B., Carroll, N., Kandy, D., and Bennet, G. (2011). *2011 Update: State of biodiversity markets*. Forest Trends: Ecosystem Marketplace, Washington, DC. Retrieved from: http://www.ecosystemmarketplace.com/reports/2011_update_sbdm
- Mallett, J. E. and Michelson, S., (2010). Green investing: Is it different from socially responsible investing. *International Journal of Business*, 15(4): 395-409. Retrieved from <http://www.craig.csufresno.edu/IJB/Volumes/Volume%2015/V154-3.pdf>
- Janson-Smith, T. & Marsh, H. (2013). *A corporate primer on reducing emissions from deforestation and forest degradation (REDD)*. Conservation International, Arlington VA, USA. Retrieved from <http://theredddesk.org/sites/default/files/resources/pdf/%5Bsite-date-yyyy%5D/REDD%20Corporate%20Primer.pdf>
- McGill, A., Kerr, J., Retana, J., Ambler, M., Graham, M., Howlett, N., Pratley, R., and Beagent, T. (2013). *Measuring and managing total impact: A new language for business decisions*. PwC. Retrieved from <http://www.pwc.com/gx/en/sustainability/publications/total-impact-measurement-management/assets/pwc-timm-report.pdf>
- Miltenberg, B. (2013) *How much the most reputable companies spend on CSR*. PR News, Access Intelligence, LLC. <http://www.prnewsonline.com/water-cooler/2013/01/31/how-much-the-most-reputable-companies-spend-on-csr/>
- Nepstad, D.C., Boyd, W., Stickler, C.M., Bezerra, T. and Azevedo, A.A. (2013). Responding to climate change and the global land crisis: REDD+, market transformation and low-emissions rural development. *Philosophical Transactions of the Royal Society B*, 368(1619). Retrieved from <http://rstb.royalsocietypublishing.org/content/368/1619/20120167.full>
- O'Donohoe, N., Leijonhufvud, C., and Saltuk, Y. (2010). *Impact investments: An emerging asset class*. J.P. Morgan, New York, NY. Retrieved from <http://www.rockefellerfoundation.org/uploads/files/2b053b2b-8feb-46ea-adbd-f89068d59785-impact.pdf>
- Olsen, N. and Bishop, J. (2009). *The financial costs of REDD: Evidence from Brazil and Indonesia*. IUCN, Gland, Switzerland. Retrieved from <http://www.forstwirtschaft.com/sites/default/files/userfiles/1file/2009-047.pdf>
- Parker, C., Mitchell, A., Trivedi, M., Mardas, N., and Sosis, K. (2009). *The Little REDD+ Book*. Oxford, UK, Global Canopy Programme.

- Permian Global. (2013). *Our focus*. Permian Global Advisors LLP. Retrieved from <http://permianglobal.com/en/what-we-do/our-focus>
- Peters-Stanley, M. and Yin, D. (2013). *Maneuvering the mosaic: State of the voluntary carbon markets 2013*. Ecosystem Marketplace, Washington, DC. Retrieved from http://www.forest-trends.org/documents/files/doc_3898.pdf
- Peters-Stanley, M., Gonzalez, G. and Yin, D. (2013). *Covering new ground: State of the forest carbon markets 2013*. Ecosystem Marketplace, Washington, DC. <http://www.forest-trends.org/documents/files/SOFCM-full-report.pdf>
- REDD+ Talks. (2013). *When a tree stands: The story of the Wildlife Works Kasigau Corridor REDD+ project*. REDD+ Talks. Available on YouTube. Retrieved from <http://www.youtube.com/watch?v=9gdbuH3kTKo>
- Saltuk, Y. (2011). *Insight into the impact investment market*. J.P. Morgan, New York, NY. Retrieved from http://www.thegiin.org/cgi-bin/iowa/download?row=334&field=gated_download_1;
- Sukhdev, P., Prabhu, R., Kumar, P., Bassi, A., Patwa-Shah, W., Enters, T., Labbate, G. and Greenwalt, J. (2010). *REDD+ and a green economy: Opportunities for a mutually supportive relationship*. UN-REDD programme policy brief. UN-REDD, Geneva, Switzerland. Retrieved from http://www.greengrowthknowledge.org/sites/default/files/UNEP_Policy_Brief_en.pdf
- The Carbon Neutral Company. (2014). *Kasigau Corridor REDD+ Forestry*. The Carbon Neutral Company Limited. Retrieved from <http://www.carbonneutral.com/carbon-offsets/kasigau-corridor-redd-forestry/>.
- Thorpe, D. (2013). *Why CSR? The benefits of corporate social responsibility will move you to act*. Forbes. Retrieved from <http://www.forbes.com/sites/devinthorpe/2013/05/18/why-csr-the-benefits-of-corporate-social-responsibility-will-move-you-to-act/>.
- UNFCCC. (2010). *Decision 1/CP.16 appendix 1*. United Nations. Retrieved from <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf#page=2>
- UN-REDD Programme. (2010). *UN-REDD programme strategy 2011-2015*. UN-REDD Programme. Retrieved from: www.un-redd.org/AboutUN-REDDProgramme/tabid/102613/Default.aspx
- Walker, N., Patel, S., Davies, F., Milledge, S. and Hulse, J. (2013). *Demand-side interventions to reduce deforestation and forest degradation*. International Institute for Environment and Development (IIED), London, UK. Retrieved from <http://pubs.iied.org/13567IIED.html>
- Watson, C., Brickell, E., McFarland, W., and McNeely, J. (2013). *Integrating REDD+ into a green economy transition: Opportunities and challenges*. ODI and IUCN: 34. Retrieved

from <http://www.odi.org.uk/publications/7501-redd-green-economy-transition-forest-land-use-growth>

Wildlife Works. (2013). *Kasigau corridor REDD+ project: Wildlife Works carbon, Kenya*. Retrieved from <https://www.forestcarbonpartnership.org/sites/fcp/files/2013/The%20Kasigau%20Corridor%20REDD%2B%20Project%20-%20WB%20FCPF,%20Hawassa,%20Ethiopia.pdf>

Wildlife Works. (N.A.) *Kasigau Corridor REDD+ Project*. Retrieved from <http://www.reddtalks.com/wp-content/uploads/sites/4/2013/08/WildlifeWorks-Kasigau-Project.pdf>.

World Economic Forum (2013). *From the margins to the mainstream: Assessment of the impact investment sector and opportunities to engage mainstream investors*. Geneva, Switzerland. Retrieved from http://www3.weforum.org/docs/WEF_II_FromMarginsMainstream_Report_2013.pdf

World Economic Forum (2013). *The green investment report: The ways and means to unlock private finance for green growth*. Geneva, Switzerland. ISBN-13: 92-95044-65-7. Retrieved from http://www3.weforum.org/docs/WEF_GreenInvestment_Report_2013.pdf

APPENDICES

Appendix A: REDD+ Safeguards

REDD+ Safeguards Agreed to by the UNFCCC in Cancun in 2010
COP16, Decision 1, Appendix 1:

- a) Actions complement or are consistent with the objectives of national forest programmes and relevant international conventions and agreements;
- b) Transparent and effective national forest governance structures, taking into account national legislation and sovereignty;
- c) Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples;
- d) The full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities, in [REDD+ activities];
- e) Actions are consistent with the conservation of natural forests and biological diversity, ensuring that [REDD+ activities] are not used for the conversion of natural forests, but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits;
- f) Actions to address the risks of reversals;
- g) Actions to reduce displacement of emissions.

1 **Appendix B: Detailed Comparison of BBOP and CCB**

2

3 **Table 3:** Comparison of Business and Biodiversity Offset Programme (BBOP) Standards and Climate, Community, and Biodiversity
 4 (CCB) Standards, excluding BBOP principles 1, 2, and 3, which are specific to offset transactions.

BBOP Criterion		Equivalent CCB Criteria/ Indicators	
4-1	No Net Loss (NNL)/net gain goal stated & outcomes required to meet goal clearly described; effects quantified relative to pre-project and without-offset conditions	B2.2	Demonstrate that project’s net impacts are positive, compared with conditions under without-project scenario
4-2	Calculation of loss and gain demonstrates how NNL or net gain achieved through offset transaction; demonstrates equivalence of biodiversity values between offset project and development project requiring offsets (“like-for-like”)	N/A	No equivalent requirement
4-3	Address sources of uncertainty and risk of failure	B2.3	Describe measures needed and taken to mitigate negative impacts on biodiversity
		G1.10, 11, 12	Identify risks to benefits and measures needed & taken to mitigate risks; describe measures needed and taken to maintain benefits beyond project lifetime; demonstrate that financial mechanisms provide adequate funding to achieve benefits
5-1	Conservation outcomes are additional, i.e. impact measured as difference between outcomes with and without offset	B2.2	Demonstrate that project’s net impacts are positive, compared with conditions under without-project scenario
5-2	Avoid leakage: identify potential leakage; include provisions to address leakage risk	B3.1, 2, 3	Identify potential impacts on biodiversity outside project zone; describe measures needed and taken to mitigate impacts; demonstrate net effect of project is still positive if unmitigated impacts remain.
6-1	Consultation and participation of relevant stakeholders integrated into design and implementation of project	G3.4, 5, 6	Describe how communities and stakeholders have influenced design & implementation through effective consultation; describe measures needed and taken to enable effective participation of communities
6-2	System for handling grievances has been accepted and implemented by all relevant parties	G3.8	Demonstrate that clear grievance redress procedure formalized to address disputes with communities and stakeholders
7-1		CM2.3	Demonstrate net positive impacts for communities

	Rights, responsibilities, risks, rewards identified; mechanisms included to share amongst stakeholders; respect rights of indigenous peoples	G5	Recognize, respect, and support rights to lands, territories and resources, including statutory and customary rights of indigenous peoples
8-1	Mechanisms in place to ensure outcomes from offset outlive duration of the project requiring the offset	N/A	No equivalent requirement
8-2	Adaptive management integrated into management plan	Note	No equivalent requirement in Biodiversity section, only in stakeholder engagement context (below)
		G3.4	Develop and implement plan to continue communication and consultation with communities and stakeholders and facilitate adaptive management
9-1	Ensure that clear, up to date, accessible information provided to stakeholders and public on design, implementation and outcomes to date	Note	Project design document, validation audit report, verification audit report published on CCB website
		B4.3	Make biodiversity monitoring plan and monitoring results publicly available online and distribute to communities and stakeholders
10-1	Scientific information and, where applicable, traditional knowledge, used in design and implementation	Note	CCB does not use the terms “scientific information” or “traditional knowledge,” but has similar requirements
		B2.1	Use appropriate methodologies [e.g. those described in the Social and Biodiversity Impact Assessment Manual (Richards and Panfil, 2011) ¹²]
		G3.4	Describe how communities and stakeholders have influenced design & implementation through effective consultation, particularly with view to respecting local customs, values, and institutions.

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¹² https://s3.amazonaws.com/CCBA/SBIA_Manual/SBIA_Part_1.pdf

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Appendix C: Investor Community Survey Text

Introduction

We ask that you complete this survey as part of our Master’s project at Duke University’s Nicholas School of the Environment: Attracting Investment to REDD+: Improved Measurement Frameworks for Co-Benefits. The purpose of this survey is to gauge investor interest in and priorities for the Reducing Emissions from Deforestation and forest Degradation (REDD+) mechanism, described in further detail below. The results will help suggest ways to align the REDD+ mechanism with private-sector expectations and preferences, and we hope organizations like yours will benefit from this analysis. If you provide an email address at the end of the survey, it will enable us to contact you with any follow up questions we may have. Your contact information will not be used for any other purpose. You can cancel your survey at any time by closing the browser window. You may elect at any time to have your email address removed from our data by emailing us at ashley.hartman@duke.edu. Thank you for taking the time to help us today. We greatly appreciate your participation!

Q1 What is your organization’s level of involvement with REDD+ (Reducing Emissions from Deforestation and Forest Degradation)?

- Not aware of REDD+ (1)
- Aware but not involved (2)
- Involved (3)
- I don’t know (4)

If Aware but not involved or Not aware of REDD+ Is Selected, Then Skip To Section 2

If I don’t know Is Selected, display:

If there is someone else in your organization whom you believe would be a more appropriate respondent, please send him or her this link. [End Survey]

Section 1: Involved Organizations

Q2A REDD+ is a carbon offset mechanism that prevents the release of greenhouse gases by maintaining and improving forests at risk of deforestation and degradation. Companies and organizations provide upfront funding for REDD+ projects, which generate third-party verified emissions reductions (offset credits) that can then be sold to companies that want to reduce their greenhouse gas footprint. In this way, corporations, institutions, and individuals can address their

1 unavoidable greenhouse gas emissions by paying to preserve forests and support the communities
2 that depend upon them.

3

4 Q3A In what way is your organization involved with REDD+? (select all that apply)

5 Initial funding of REDD+ project(s) (1)

6 Purchase of carbon credits to offset its own emissions (2)

7 Other (please describe): (3) _____

8 Purchase of carbon credits for resale in voluntary market (4)

9 Purchase of carbon credits for resale in compliance market(s) (5)

10 None of the above (7)

11

12 Q4A How long has your organization been aware of or investing in REDD+ projects?

13 0-2 years (1)

14 2-4 years (2)

15 4-6 years (3)

16 More than 6 years (4)

17

18 Q5A Please select the factors that drove your decision to become involved in REDD+. [select all
19 that apply]

20 Mitigating carbon footprint (1)

21 Conservation (2)

22 Market recognition/ brand value (3)

23 Stakeholder input (4)

24 Return on investment (5)

25 Other (please describe): (6) _____

26

27 Q6A Thus far, how would you rate your organization's experience with REDD+?

28 Excellent (1)

29 Good (2)

30 Satisfactory (3)

31 Below Expectations (4)

32 Poor (5)

33 I don't know (6)

34

1 Q7A Do you expect your organization to expand, maintain, or reduce its REDD+ activities?

- 2 Expand (1)
- 3 Maintain (2)
- 4 Reduce (3)
- 5 I don't know (4)

6

7 Q8A What standards and methodologies are used in your REDD+ projects/offsets? [select all that
8 apply]

- 9 Verified Carbon Standard (VCS) (1)
- 10 American Carbon Registry (ACR) (2)
- 11 Climate Action Reserve (CAR) (3)
- 12 Climate, Community and Biodiversity (CCB) (4)
- 13 Social Carbon (5)
- 14 Women's Carbon Standard (6)
- 15 Unknown (7)
- 16 Other (please describe): (8) _____
- 17 None (9)

18

19 Q9A What other standards, metrics, or criteria does your organization currently use to evaluate
20 social and environmental investments? (select all that apply)

- 21 Forest Stewardship Council (1)
- 22 Programme for the Endorsement of Forest Certification (2)
- 23 Marine Stewardship Council (3)
- 24 ISO 14001 (4)
- 25 Impact Reporting and Investment Standards (5)
- 26 Other (please describe): (6) _____
- 27 None (7)

28

29 Q10A In addition to preventing the release of greenhouse gases, REDD+ projects can generate a
30 number of other benefits for local communities and the environment. Examples of these benefits
31 include: Biodiversity preservation: Forests threatened by deforestation are often in areas of high
32 biodiversity, so maintaining forests can preserve wildlife habitat. Watershed Services: Maintaining
33 forest cover within a landscape can improve the quality of water in downstream parts of the
34 watershed, benefiting the environment and water users. Local economic development: REDD+
35 projects can be accompanied by programs to provide sustainable economic opportunities for

1 residents of local communities. Empowerment of women: Including women in REDD+ project
 2 administration can provide opportunities for them to gain agency within their communities.

3

4 Q11A In light of the non-carbon benefits described above, how would you characterize your
 5 organization's chances of investing or continuing to invest in REDD+?

- 6 Very Unlikely (1)
- 7 Unlikely (2)
- 8 Likely (3)
- 9 Very Likely (4)

10

11 Q12A How important are each of the following non-carbon benefits when your organization
 12 considers investing in REDD+ projects or purchasing carbon credits?

	Not Important At All (1)	Not Too Important (2)	Moderately Important (3)	Very Important (4)	Extremely Important (5)
Biodiversity Preservation (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Watershed Services (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Empowerment of Women (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local Economic Development (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please describe): (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13

14

1 Q13A How important is preventing the release of greenhouse gases when your organization
 2 considers investing in REDD+ projects or purchasing carbon credits?

- 3 Not Important At All (1)
- 4 Not Too Important (2)
- 5 Moderately Important (3)
- 6 Very Important (4)
- 7 Extremely Important (5)

8
 9 Q14A If new methodologies to measure the non-carbon benefits described above were developed,
 10 how important would the following aspects of those methodologies be to you as a potential investor
 11 or carbon credit purchaser?

	Not Important At All (1)	Not Too Important (2)	Moderately Important (3)	Very Important (4)	Extremely Important (5)
Market Recognition (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accuracy (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please describe): (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12

13 Skip to Section 3

14

15

16 Section 2: Uninvolved Organizations

17 Q2B REDD+ is a carbon offset mechanism that prevents the release of greenhouse gases by
 18 maintaining and improving forests at risk of deforestation and degradation. Companies and
 19 organizations provide upfront funding for REDD+ projects, which generate third-party verified
 20 emissions reductions (offset credits) that can then be sold to companies that want to reduce their
 21 greenhouse gas footprint. In this way, corporations, institutions, and individuals can address their
 22 unavoidable greenhouse gas emissions by paying to preserve forests and support the communities
 23 that depend upon them.

24

1 Q3B How would you characterize your organization's chances of investing in REDD+ in the near
2 future, or purchasing credits from REDD+ projects?

- 3 Very Unlikely (1)
- 4 Unlikely (2)
- 5 Likely (3)
- 6 Very Likely (4)

7

8 **If Unlikely or Very Unlikely Is Selected:**

9 Q4B Please select the factors influencing your decision (select all that apply)

- 10 Budgetary Constraints (1)
- 11 Prioritization of other sustainability initiatives (2)
- 12 Lack of institutional awareness / education (3)
- 13 Unclear message (4)
- 14 Other (please describe): (5) _____

15

16 **If Likely or Very Likely Is Selected**

17 Q4B Please select the factors influencing your decision (select all that apply)

- 18 Mitigating Carbon Footprint (1)
- 19 Conservation (2)
- 20 Market recognition/brand value (3)
- 21 Stakeholder input (4)
- 22 Return on investment (5)
- 23 Other (please describe): (6) _____

24

25 Q5B In addition to preventing the release of greenhouse gases, REDD+ projects can generate a
26 number of other benefits for local communities and the environment. Examples of these benefits
27 include: Biodiversity preservation: Forests threatened by deforestation are often in areas of high
28 biodiversity, so maintaining forests can preserve wildlife habitat. Watershed Services: Maintaining
29 forest cover within a landscape can improve the quality of water in downstream parts of the
30 watershed, benefiting the environment and water users. Local economic development: REDD+
31 projects can be accompanied by programs to provide sustainable economic opportunities for
32 residents of local communities. Empowerment of women: Including women in REDD+ project
33 administration can provide opportunities for them to gain agency within their communities.

34

1 Q6B In light of the non-carbon benefits described above, how would you characterize your
 2 organization’s chances of investing or continuing to invest in REDD+?

- 3 Very Unlikely (1)
- 4 Unlikely (2)
- 5 Likely (3)
- 6 Very Likely (4)

7

8 Q7B If your organization were considering investing in a REDD+ project or purchasing carbon
 9 credits from a REDD+ project, how important would each of the following benefits be?

	Not Important At All (1)	Not Too Important (2)	Moderately Important (3)	Very Important (4)	Extremely Important (5)
Biodiversity Preservation (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Watershed Services (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Empowerment of Women (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Local Economic Development (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please describe): (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10

11

1 Q8B If your organization were considering investing in a REDD+ project or purchasing carbon
 2 credits from a REDD+ project, how important would preventing the release of greenhouse gases be?

- 3 Not Important At All (1)
- 4 Not Too Important (2)
- 5 Moderately Important (3)
- 6 Very Important (4)
- 7 Extremely Important (5)

8
 9 Q9B If new methodologies to measure the non-carbon benefits described above were developed,
 10 what aspect of those methodologies would be most important to you as a potential investor or
 11 carbon credit purchaser? (please select one)

	Not Important At All (1)	Not Too Important (2)	Moderately Important (3)	Very Important (4)	Extremely Important (5)
Market Recognition (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accuracy (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other (please describe): (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12

13

14 Section 3: All Organizations

15 Q15C What standards, metrics, or criteria does your organization currently use to evaluate social
 16 and environmental investments? (select all that apply)

- 17 Forest Stewardship Council (1)
- 18 Programme for the Endorsement of Forest Certification (2)
- 19 Marine Stewardship Council (3)
- 20 ISO 14001 (4)
- 21 Impact Reporting and Investment Standards (5)
- 22 Other (please describe): (6) _____

23

1 Q16C Please select the category below that most closely matches your organization

- 2 Consumer goods (non-perishable) (1)
- 3 Food and Beverage (2)
- 4 Technology/Media/Telecommunications (3)
- 5 Entertainment (4)
- 6 Energy/Utilities (5)
- 7 Natural Resources (6)
- 8 Financial Services/Impact Investing (7)
- 9 Nonprofit/Academia (8)
- 10 Other (please describe): (9) _____

11

12 Q17C What types of business sustainability strategies and initiatives does your organization focus
13 on? (Select all that apply)

- 14 Improving your own ecological footprint (e.g., energy efficiency, waste reduction) or that of
15 your supply chain (1)
- 16 Community development (educational programs, infrastructure) (2)
- 17 Agriculture (3)
- 18 Energy (4)
- 19 Health (5)
- 20 Environment (6)
- 21 None (7)
- 22 Other (please describe): (8) _____

23

24 Q18C Please provide the name of your organization. (will remain confidential)

25

26 Q19C Would you like to be available for a follow-up interview?

- 27 Yes (1)
- 28 No (2)

29

30 Answer If Would you like to be available for a follow-up interview? Yes Is Selected

31 Q20C Please provide contact information.

- 32 Name (1)
- 33 Title (2)
- 34 Email Address (3)