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Understanding the demand for REDD+ credits

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Abstract

REDD (Reducing emissions from deforestation and forest degradation), broadened to REDD+, has recently emerged as a potentially important component of the global policy mix to mitigate climate change. In this context, it has been the hope of policy-makers that private sector stakeholders will turn into novel and active actors in many of the different components of REDD+ such as forest conservation and many have expected them to play a central role in providing funding for forest protection. However, even as REDD+ credits have become increasingly available on the voluntary market – private sector stakeholders seem to have lost interest in REDD+ carbon credits.

In order to better understand possible models of private sector engagement in REDD+ in the future, this report analyzes the motivation of a sample of private sector stakeholders to engage in REDD+, the perception of the potential of REDD+, the critical obstacles to making REDD+ functional and finally how private sector actors perceive themselves as part of future REDD+ scenarios.

Based on a range of qualitative engagements with a wide grouping of private sector actors, we find that few seem to expect a regulatory market for REDD+ to emerge and that credits from the voluntary market have to be more tailor-made to their specific needs (ranging from demands based on Corporate Social Responsibility, to portfolio diversification and hedging strategies against stranded assets). The carbon value alone is currently not sufficient for many private actors.

For REDD+ to become more attractive for most surveyed private sector stakeholders, the main problem is the uncertainty about how REDD+ will be designed in the future, along with building understanding of the values, barriers and risks that accompany REDD+.

1. Introduction

Reducing emissions from tropical deforestation and agriculture, which together account for roughly 25% of global anthropogenic greenhouse gas emissions, presents an essential and time-limited opportunity to reduce emissions enough to turn the corner to climate safety (van der Werf et al., 2009). Though deforestation rates have decreased in recent years in major regions such as Brazil (Arima et al 2014, Boucher et al 2013) potential changes in policies and rising agricultural commodity prices indicate that they could increase – with profound effects on climate. Thus, it is important that sufficient incentives are created for Reducing Emissions from Deforestation and forest Degradation (REDD+).

REDD+ is at a crossroads - discussions have advanced in the UNFCCC negotiations and global leaders have endorsed the concept with the New York Declaration on Forests (UN 2014). Readiness efforts are progressing with public financing but private capital is largely on the side lines.

The problem has been couched in the literature as a mismatch between demand and supply. A major NGO called Conservation International estimate that REDD+ projects in existence today issuing credits and those about to do so represent more than three times the current voluntary market demand (Conservation International, 2013), while the Global Canopy Programme (GCP) estimate that demand for REDD+ could be as little as 3% of estimated supply between 2015 and 2020 (GCP, IPAM, FFI, & FI, 2014). Much of the advocacy work has been to ‘generate’ demand to meet this supply. However, this approach has not yet been broadly successful, perhaps because it concentrates on creating demand where none exists. Instead this report tries to understand current private sector motivations to get involved with REDD+ and will explore possible future opportunities to involve the private sector. One aspect that previous attempts to analyse the low private sector demand for REDD+ credits have neglected is that those credits were considered as a commodity rather than a new type of asset, which we try to keep on board to help us better understand potential channels for future private sector engagement. This view of REDD+ as a potential investable asset rather than a commodity to be purchased allows us to look beyond REDD+ purely as a tool to offset emissions, either voluntarily or due to regulatory compliance. Instead we examine REDD+ as an asset that can offer private sector actors a range of different returns, financial or otherwise.

The motivations and risks associated with developers of REDD+ projects are different from those of middle-men looking to purchase credits and sell them on, and different again from those looking to directly invest in REDD+ projects or purchase credits emanating from such projects. The aim of this report is to examine the motivations of those toward the end of the supply chain – those firms providing investment into REDD+ projects or purchasing REDD+ credits – rather than project developers. Therefore, unless explicitly stated the firms, or entities referred to in this report are those investing in REDD+ or purchasing credits.

The guiding research questions are:

- What have been the motivations of existing REDD+ purchasers?
- What have been the key lessons from the experiences of these existing purchasers?
- What are the main barriers to engaging private sector finance in REDD+?
- What are the main buyer, and intermediary risks facing REDD+ today?
- What are the perceived prospects of REDD+ playing a role in compliance markets?
- What are the perceived prospects for increasing non-compliance REDD+ demand?
- What are possible future forms of involvement into REDD+ for private sector stakeholders?

The report finds, that the current lack of investment in REDD+ can be attributed to the low profitability of the asset today, and an anticipated low level of profitability in the future, combined with either a high level of risk, or a lack of understanding of the risk associated with REDD+.

Despite the relatively limited volume of private capital engaging with REDD+, our analysis finds that in fact there is a wide diversity of motivations behind the trickle of finance that is starting to flow to REDD+ projects.

Initially, it had been anticipated that private sector finance for REDD+ would predominantly come from regulated entities. Generally however, this has failed to arise due to the failure of such carbon trading schemes to emerge, or the reluctance of existing schemes to accept REDD+ credits as is the case in the EU. So in the current situation the private sector has engaged with REDD+ for a wide range of voluntary reasons. The results of our study show that these include:

- the desire of firms to offset emissions associated with their products;
- firms looking to gain experience of engaging with REDD+ projects prior to credits from these projects being available to use for compliance with environmental regulations;
- firms looking to purchase credits cheaply in the hope of selling them on for a profit should they become compliance-grade;

- firms looking to provide evidence of ‘green’ supply chains – or to offset unavoidable damage as a result of their supply chains; and
- firms looking to offset risk from investments in potentially stranded carbon-intensive assets.

Understanding the different returns and risks associated with each of these different motivations can help to create an appreciation of the policy interventions that may be beneficial to increase returns and reduce risks (or at least to help build the visibility of these returns and risks).

This report summarises the findings from the research and discusses implications and potential ways forward for REDD+. Section 2 discusses the context to the report. Section 3 discusses the methodology used to understand the current nature of REDD+ demand. Section 4 discusses the key findings that have emerged from the research. Section 5 draws implications for REDD+ demand and suggests ways forward.

2. Context: understanding the REDD+ demand

REDD+ emerged in the context of international negotiations on climate change (UNFCCC) and was first proposed by Costa Rica and Papua New Guinea in 2005 ([FCCC/CP/2005/MISC.1](#)). Since then, about 10 years have passed and in spite of the initial high motivation and commitment from various sides, including national governments, local communities, conservationist NGOs and the private sector (Asner, 2011; Engel & Palmer, 2008; Nhantumbo, 2011), progress in the formal establishment of the mechanism remains slow. However, in anticipation of future compliance markets for greenhouse gas emissions, many stakeholders have engaged in voluntary market transactions (Corbera & Schroeder, 2011). In order to contextualize the lack of investment in REDD+ credits, private sector involvement in these two structures will be briefly described.

2.1 The regulatory market

The peak of interest in REDD+ as a potential new investable asset class seems to have been between 2-4 years ago. There was optimism regarding REDD+ with potential for investors to sell on credits to entities with potential future compliance needs, and companies showing interest in REDD+ as they looked to gain experience in a mechanism that could become an important part of future compliance strategies.

A number of trading schemes were evolving around the world that offered potential streams of finance for REDD+ projects and demand for REDD+ credits. Chief amongst these was the Waxman-

Markey Bill in the United States that proposed a national level cap-and-trade scheme ([American Clean Energy And Security Act of 2009](#)). It would have allowed between 500 million to 1 billion tonnes of REDD+ credit purchases by participating firms per year. Credits would have been sourced from eligible projects and countries with a gradual movement towards a fully national-level approach with purchases directly from governments. The failure of the passage of the bill in the US Senate in 2009 reduced short-term expectations of the return from REDD+ investments, and removed the immediate prospects of national-level demand for REDD+ from the US.

Further damage to potential compliance demand for REDD+ came with the repeal of the Australian Carbon Pricing Mechanism in 2014. Although the Australian scheme had not yet granted eligibility to REDD+ credits it did represent a potential future source of demand, especially given close relations between Australia and Indonesia on REDD+.¹

The uncertainty over any future eligibility of REDD+ in the largest compliance scheme, the European Union's Emissions Trading Scheme (EU ETS) has also hampered prospects of future compliance demand. At present only credits from the Clean Development Mechanism (CDM) and Joint Implementation (JI) are eligible for use by EU ETS installations and although there has been some discussion regarding the inclusion of REDD+ into the CDM, the short-term prospects seem slim. This coupled with concerns regarding an existing surplus of credits in the EU ETS and a move away from the use of offsets generally have meant that there is a general scepticism regarding future REDD+ compliance demand from Europe.²

Amongst this general scepticism and pessimism regarding potential future investments from compliance entities for REDD+, there is one potential bright spark. California has moved ahead with a state-level cap-and-trade scheme in the absence of US national policy. The scheme began in January 2013, initially only allowing domestic offsets. Each regulated entity can use such offsets to meet 8% of their compliance obligations, with the use of international credits capped at 2% from the start of their permitted entry, before rising to 4%. Eligible REDD+ credits are likely to come initially from two jurisdictions: Chiapas in Mexico and Acre in Brazil. The basic tenet behind the idea is that REDD+ credits will come from approved jurisdictions that reduce overall deforestation below a jurisdictional level baseline. Given that REDD+ is yet to enter into the Californian schemes there are only estimates of the future potential scale of investment in REDD+ that could emerge. The Global

¹ The Indonesia-Australia Forest Carbon Partnership ran between 2009 and 2014 supporting REDD+ efforts in Indonesia as a whole and Kalimantan and Sumatra in particular.

² In addition, it has been feared that relatively cheap offsets could undermine incentives to invest into low carbon technology. However, experiences from e.g. California show that this will depend on the design of offset inclusion and pricing and thus further research is needed.

Canopy Programme (GCP) estimates that up to 80 million tonnes of REDD+ credits could be purchased by Californian regulated entities by 2020 (GCP et al 2014). Although the scale of Californian demand for REDD+ credits is relatively small compared to the potential supply pipeline of REDD+ globally – between 2015 and 2020 it would cover only 70% of the proposed emission reductions in the Brazilian state of Acre alone (GCP et al 2014) - it could offer a valuable learning experience for how REDD+ could be included into a wider carbon trading scheme, and could demonstrate best practice and REDD+'s potential to other jurisdictions looking to include REDD+ into future or current schemes.

2.2 The voluntary market

Beyond the regulatory market, a voluntary REDD+ market has evolved. The market is relatively small, especially in comparison to the potential REDD+ supply pipeline. GCP et al (2014) estimated that 28 million tonnes of CO₂e of REDD+ credits were purchased by a variety of different types of companies for voluntary reasons in 2012, with a total value invested in REDD+ of US\$216 million, slightly less than the previous year. These values are both much lower than the potential REDD+ supply in the pipeline, and also the credits generated by the projects in existence today (GCP et al ., 2014). Forest Trends reported that in 2012 30 million tonnes of CO₂e of REDD+ credits from existing projects remained unsold, over 50% of the total supply in the pipeline for that year (Forest Trends, 2012). The implication of this unsold surplus can be seen in the reported prices for REDD+ credits, down to an average of US\$4.2/tCO₂e in 2013 from US\$7.4/tCO₂e in 2012 (Forest Trends 2014); whether increased investment will emerge to mop up this excess of credits at lower prices remains to be seen.

Despite these shortfalls the voluntary market offers a range of different sources of investment for REDD+, with a variety of different types of voluntary demand identified by the participants in this project. Box 1 below offers an illustration of the variation in types of engagement that the private sector has made with REDD+. Our analysis focuses on these different motivations of private sector stakeholders to participate in the REDD+ market and the findings are presented below.

Box 1: A tale of two options

The Kasigau Corridor REDD project is an area of 500,000 acres situated between two national parks in Kenya's Taita Taveta District (Code REDD 2013). It was the first REDD project to receive Verified Carbon Standard (VCS) validation (Verified Carbon Standard 2013), and has also been validated to the Gold level of the Climate, Community and Biodiversity (CCB) Standard (The Climate, Community and Biodiversity Alliance 2013). The project has been developed by Wildlife Works Carbon LLC, a US conservation business. BNP Paribas SA provided initial finance for the project through an investment of up to US\$50 million which gave BNP the option to purchase 1.25 million tons over five years (Bloomberg 2011). It exercised its option in the first year. The project in total generates over 1 million VERs per year. Other investors in the project who have purchased VERs include Nedbank, the South African Banking group and ColiPoste, the parcel delivery arm of France's La Poste.

The Ulu Masen REDD demonstration project covers around 750,000 hectares in Aceh, Indonesia. The project was designed by the Government of Aceh in combination with the private company "Carbon Conservation" with some initial guidance from Flora and Fauna International (Institute for Global Environmental Strategies 2007). Merrill Lynch was reported to have invested US\$9 million into the project in an arrangement that committed the bank to purchase US\$9 million worth of credits with an option to buy further credits, with a profit sharing arrangement if the bank could've sold the credits at a premium (Business Green 2008). Credits were sold for US\$4 per tonne. The justification for the investment was given by the bank's Head of Carbon Markets Abyd Karmali:

"Merrill Lynch's thesis on the carbon market is that the days of vanilla credits [that simply deliver emission reductions] are nearing an end," he said. "Companies will be looking for credits that deliver more benefits and the Aceh project is a prime example of this approach – there are five endangered species in this region that will benefit from biodiversity protection while the income will also aid development in an area badly affected by the 2004 tsunami" (Business Green 2008).

The project was validated by the CCBA in 2008 but the validation has subsequently expired and the project has stalled, with no VERs being issued (The Climate, Community and Biodiversity Alliance 2013). A part of the land planned for the REDD+ project, was sold to a Canadian mining company (Sydney Morning Herald 2012). The status of the project is uncertain and is being reviewed by the Government of Aceh. FFI have distanced themselves from the project and it is unclear whether Bank of America Merrill Lynch (the successors to Merrill Lynch) have made any payments to Carbon Conservation regarding the project.

3. Methodology

To gain a better understanding, of the motivations, scepticism, and self-perception of the role of private sector stakeholders in REDD+, the views of a wide range of sector stakeholders were evaluated in a three step process.

First of all, semi-structured one-to-one interviews, following a predesigned interview guide, were conducted with 14 individuals (including representatives of emitting industry associations, REDD+ market experts, commodity purchasers and carbon market traders). Interviews were held in a variety of locations and included phone and Skype interviews. They varied in length from 30 to 90 minutes. These interviews provided initial evidence for the key research questions highlighted above, from both companies and organisations directly involved in REDD+ and also from those outside REDD+ who still may have a future interest in investing.

Secondly, to complement the interviews and further test initial findings from the data collected, a workshop was held with private sector actors in April 2014.³ Nineteen participants were involved drawn from the REDD+ working groups of the Carbon Market Investors Association (CMIA) and the International Emissions Trading Association (IETA). They included representatives of project developers, investors, international donors and a range of companies who provide legal and institutional support to REDD+ projects. The participants shared similar background as those selected for interview, but were mutually exclusive from this group, so that the robustness of hypotheses developed on the basis of the interviews could be checked.

Finally, in order to confirm previous findings and refine the understanding of self-perception of private sector stakeholders in the future of REDD+, a survey was send out to 600 buyers and potential buyers of REDD+ credits, in order to get a broader picture of the perceptions of market participants. However, the response rate was very low (16 participants in total) further underlining the low interest in REDD+ at the moment.

These three methodological steps allowed us to gather diverse qualitative, case-by-case evidence on private sector views on REDD+. Even though we do not attempt to draw any quantitative conclusions from the interviews and the survey due to the low sample size, this approach still allows us to better understand the current lack of demand for REDD+ and possible mechanisms for private sector engagement in the future. The findings from each of the three steps are collated together into a structured analysis below. Triangulation between the methodologies and with secondary sources is

³ The agenda can be found in the appendix.

used to validate the analysis (Denzin 1978, Miles and Huberman 1994). The analysis is broken down into three main sections: the key motivations of actors; the decision-making procedures and barriers of actors; and the possible future scenarios for private sector investment in REDD+.

4. Key findings

4.1 Key motivations of private sector stakeholders to get involved into REDD+

There is a major problem of a current lack of investment in REDD+ due to current low profitability and expectations of future low profitability. Despite this, a key finding of this study is that there is still some level of private sector involvement in REDD+. This involvement has come in a variety of forms from a wide range of different actors, each with their own motivations. As a result, there appears to be a small, but highly differentiated pool of investors in REDD+.

An important aspect of the analysis was the elucidation of (1) the different motivations of those private sector actors who are still engaged, (2) how those motivations could be affected by design decisions and (3) who were the key decision-makers in the private sector. When the question of motivations was raised, a clear difference was immediately observed between firms looking to engage in carbon offsets as part of the regulatory market and those looking to invest for voluntary reasons.

4.1.1 Preparatory and pre-compliance demand

A key type of voluntary involvement with REDD+ has been from firms anticipating the prospect of future compliance markets. Two different categories of investors have been engaged in this respect.

First are those companies who face potential future compliance obligations and are looking to engage with REDD+ in order to gain experience with the types of projects that they might wish to be involved in on a much larger scale if and when REDD+ becomes useful for regulatory compliance. It was the view of many participants that this type of demand has been reduced in recent years due to the above-mentioned decline in the prospects of REDD+ being widely used to meet regulatory targets.

It was the perception of some of the participants that for entities looking to meet regulatory targets, the main factor determining whether they should engage in offsetting or not was minimising costs. The implication of this is that the major factor when deciding in whether to engage in offsetting in the first place, and when choosing between various offsetting options, is price (as long as credits

meet any pre-set criteria facing the compliance entity, such as the stipulations regarding credits from CDM projects entering into the EU Emissions Trading System (EU ETS)).⁴ It was the view of participants that in many large compliance entities the purchase of credits is undertaken by trading desks – a fact which in their opinion reinforced the importance of price over other factors, as traders treated carbon offsets as merely another commodity. Should REDD+ be granted widespread access to compliance markets, there is little evidence that it would be treated differently to any other carbon credit –implying that price would be the crucial factor in the decision to purchase.

The second category of investors includes those who are motivated by the resale opportunities that investing in REDD+ projects now may bring. Again, it was the view of some of the participants that the number of these types of investors has also dropped, as the short and mid-term prospects for REDD+ have fallen, and as some early investors got their fingers burnt by project failures. Ecosystem Marketplace (2012) found that almost half of the buyers of forest carbon credits (including Afforestation and Reforestation credits through the CDM) were motivated by either resale or investment or for compliance or pre-compliance reasons.

4.1.2 Corporate social responsibility and offsetting

Corporate Social Responsibility (CSR) has emerged as an important marketing strategy for many companies (Kitzmuller, Markus, Shimshack, 2012; McWilliams & Siegel, 2001), especially as a corporate response to the challenges of climate change (Kolk & Pinkse, 2004). Internationally operating companies, and especially those operating under regulatory uncertainty, have high incentives to engage in CSR as a way to reduce reputational risks (J. G. Ruggie, 2003; J. Ruggie, 2008).

Ecosystem Marketplace (2013) observed that almost a quarter of REDD+ credit buyers are motivated by corporate social responsibility objectives, with another fifth motivated by demonstrating climate leadership. This trend was examined in detail in the survey with two slightly different motivations found: either to offset part of a company's emissions or for PR/branding reasons. Participants observed that these two basic motivations are the key reasons behind much of the investment in a range of carbon-reducing projects in the voluntary market as a whole, and that these have generally grown in popularity as both management and customers have become more aware of the issue.

For those companies looking to engage in REDD+ for voluntary reasons the motivations discussed by participants were markedly different than for pre-compliance entities. A key phrase that was raised that sums up the views of a number of participants is *'it's all about the story'*, i.e. in order for firms to be motivated to purchase REDD+ credits for non-compliance reasons, such as for part of their

⁴ The details of the entry requirements are available here: http://ec.europa.eu/clima/policies/ets/linking/index_en.htm

wider CSR programmes, they need to buy into the story of REDD+, and that story needs to fit into their wider strategic goals. A key problem facing REDD+, in the view of some of the participants, is that the story is not attractive for corporate entities at this moment in time.

At one level, there seems to be a fundamental issue with REDD+ for private sector actors as it has been framed to date. REDD+ has been predominantly viewed as paying actors to stop cutting down the rainforest. This can be viewed rather negatively by the private sector – a typical quote from the interviews is *‘Why should I pay someone to stop doing something?’*

What appears to be more attractive is to pay for someone to do something tangible such as building a wind turbine, or an eco-lodge. This is a subtle difference but is important when the ‘story’ of REDD+ is of high importance to private sector voluntary investors. It also speaks of the importance of the co-benefits of REDD+⁵ for this type of investor. These co-benefits have often been seen as ‘the cherry on the top for REDD+’ but perhaps are more fundamental with in fact the carbon savings seen as the added bonus (see Section 4.3.2).

Additionally, for firms looking to engage in projects as part of their CSR programme, the relevance of these projects to their overall business and strategic direction is important. This is why sometimes the reduction of the storyline to the *“emission reduction story”* is insufficient. Instead, firms are looking to projects that offer wider benefits, fit within their corporate direction and speak to their overall business strategy and – ultimately - customers. For example, REDD+ may be of most relevance to firms with supply chains extending into forested areas, or those sourcing key inputs such as leather that can come from deforested landscapes.

This hands-on approach allows for the values, benefits and co-benefits of REDD+ to be maximised – in the sense of choosing projects that offer biodiversity and community benefits. This helps to make the story of REDD+ as attractive as possible. It may also help to reduce risks – or at least to put the management of those risks in the hands of the investors. This approach may have motivated Kering, a French luxury goods holding company of major brands such as Gucci and Puma, to make a major direct investment into the REDD+ development company Wildlife Works (See Box 3 on Kering’s strategy).

⁵ For example, the protection of biodiversity and other ecosystem services such as water, and potentially local community development,

Ensuring that REDD+ is relevant to as many different sectors as possible, and creating REDD+ projects that are relevant to targeted firms may be crucial in scaling up voluntary REDD+ demand as far as possible in the short- to medium-term.

Box 3: Kering and REDD+

Kering is a French multinational clothing and accessories company controlling global brands such as Puma and Gucci. The firm has a strong commitment to sustainability dating back to an original ethics charter issued in 1996. One of its subsidiaries, Puma, moved to Environmental Profit and Loss Accounting in 2011.

As part of its sustainability strategy, Kering has committed to a number of environmental targets with direct or indirect relevance to forests. These include a commitment to offset all its emissions from Scope 1 and 2 activities – using ‘offset programmes that contribute to the welfare of the community and the conservation of biodiversity in its regions of operations.’ (Kering Sustainability Report). In order to help achieve this objective in 2012 Kering procured a 5% stake in Wildlife Works, a leading REDD+ project development and management company. This allowed Kering to take a place on the management committee of the company through which it procures the REDD+ credits that it uses to offset all its emissions.

Kering’s engagement with REDD+, despite its relatively higher price than otherwise offset opportunities, fits within the overall target of its sustainability arm to: ‘invest in for-profit businesses that incorporate biodiversity conservation and social concerns into their business model, resulting in net-positive social and environmental impacts.’

The multiple benefits that REDD+ offers to Kering may well lie behind the companies large commitment to the asset class. Further REDD+ investments may also prove useful to meet other sustainability targets that Kering has set itself. The company has committed that 100% of the leather used in its products will be from sources that do not result in converting ecosystems into grazing or agricultural lands. REDD+’s potential role in providing green supply chains, along with offsetting carbon emissions may therefore offer strong motivations for companies with multiple sustainability objectives to invest in the asset.

With regard to the price sensitivity of these CSR REDD+ investors, it is worthwhile differentiating between those companies seeking to use REDD+ credits for CSR only and those seeking to use it for carbon-neutrality CSR. In the view of various stakeholders questioned pertaining to the first group, prices do not seem to play a major role. These companies see the purchase of REDD+ credits as a type of charitable donation - the value obtained from a REDD+ purchase is the spending of a certain amount of money on a worthy cause, and if the price was lower, 'donations' would actually be less.

The latter group however, frames its CSR storyline majorly around carbon neutrality. As there are also other options to achieve carbon neutrality, with possibly different prices, these market participants have more direct and measurable comparisons and tend to care more about prices. With the overall aim to offset their emissions at the cheapest possible price, these firms are more eager to purchase the cheapest possible offsets. They are only willing to pay higher prices if the projects are charismatic and bring wider public relations benefits. In fact, a common strategy amongst such firms is to purchase a large volume of cheap offsets to cover the vast majority of their emissions, and then to purchase a small volume of a more charismatic project type with additional social or environmental benefits, such as REDD+.

4.1.3 Supply chain greening – supply chain management

A number of major multi-national companies have recently committed to the goal of zero net deforestation, for example:

- Procter and Gamble have committed to eliminating deforestation across its palm oil supply chain by 2020 (Shankleman 2014),
- Nestlé has pledged that none of their products will be associated with deforestation⁶,
- The Consumer Goods Forum has pledged to 'mobilise resources within the respective businesses to help achieve zero net deforestation by 2020'.⁷

These commitments have led to increasing interest in bringing together the goal of zero deforestation supply chains and the complementary goals of REDD+. This raises the potential for private sector capital to become engaged in reducing deforestation – but through 'insetting' rather than 'offsetting'. This is where firms focus on reducing emissions from their entire supply chain,

⁶ Information on Nestlé's pledge is available at: <http://www.nestle.com/csv/rural-development-responsible-sourcing/responsible-sourcing/deforestation>

⁷ Information on the Consumer Goods Forum's pledge is available at: <http://sustainability.mycgforum.com/deforestation.html>

rather than looking to offset their emissions from elsewhere. In this way REDD+ could better fit the strategic interests of firms. Although to date there have been major pledges by companies such as those highlighted above, and a range of discussions about the complementarity between supply chain greening and REDD+, there is generally a lack of clarity and clear proposals about how the two can work in unison.

4.1.4 Other potential sources of demand

Beyond these more traditional motivations, pockets of investment have emerged in different and unusual places and increasingly the involvement of the private sector is not in the role of simply purchasing carbon credits for offsetting purposes (whether required through regulation or otherwise). These new pockets of demand are emerging with little or no regulation from government. Instead, they are developing as a result of direct or indirect action in the private sector, responding to either internal drivers (such as the desire for moving toward green and sustainable supply chains) or external private sector-led drivers (such as the demand for REDD+ created by sustainability indices and bank lending conditions). Although at present these pockets of finance are very small, and unlikely to be consistent with a large scaling up of REDD+, they do raise the interesting proposition that at least some level of REDD+ investment can be built on self-reinforcing action from within the private sector, with little or no government involvement.

An interesting new source of finance for REDD+ projects being targeted by some REDD+ project developers are charitable and philanthropic donations for tax exemption purposes or otherwise. A number of large philanthropic foundations are already active in the REDD+ space including the Gordon and Betty Moore Foundation who have supported REDD+ projects in a range of regions, the MacArthur Foundation, the Ford Foundation and the Clinton Foundation (PwC et al 2011). Expanding the scope of philanthropic and charitable donations could provide an interesting source of finance that could complement private-sector capital seeking a market return.

REDD+ has gained importance to improve performance with benchmark standards such as the Dow Jones sustainability index (DJSI).⁸ As a key reference point for, the DJSI assesses not only climate change mitigation and supply chain standards, but also incorporates information on corporate economic and social performance, assessing e.g. corporate governance, branding and labour practices. Companies which do not adhere to sustainable and ethical operations can be excluded.

⁸ The DJSI was launched in 1999 and evaluates the sustainability performance of the largest 2,500 companies listed on the Dow Jones Global Total Stock Market Index.

Investments by these companies in REDD+ projects may assist in helping to improve performance on such indices.

Another channel through which REDD+ has been quoted as having gained importance in both the survey and the interviews was that it can be used to facilitate cheaper credit through bank sustainability targets. For example HSBC's forest policy required clients in the forest sector to have 70% of their activities certified by the Forest Stewardship Council or an equivalent standard, with evidence that the remainder was legal.

Further potentially new sources of demand, such as via companies potentially exposed to significant risk of investing in carbon-intensive assets that could become stranded should regulation be tightened was also identified by participants to the study. With the prospect of future tightening of regulation relating to fossil-fuel intensive assets – whether relating to extraction such as oil wells or coal mines, or combustion such as coal power stations or industrial facilities – investors with interests in these assets face significant future risks that their investments become stranded.⁹ This issue has attracted increasing attention (e.g. Carbon Tracker 2014), becoming a concern in terms of wasted investment today in assets that may become worthless before their expected lifetime, and also for investors in companies holding those assets who may face significant losses in the future. There have been calls for such investors (often large institutional investors such as pension funds), to diversify their portfolio away from companies holding a large amount of these potentially stranded assets towards opportunities that will thrive in a low-carbon future, such as sustainable forestry projects. This may open up the scope for an increased demand in projects such as REDD+ if they can demonstrate a return on capital, along with removing some of the risk of having future stranded assets. The extent to which such appetite for investment in REDD+ could emerge is dependent upon the extent to which the investors in potentially stranded assets see it as their fiduciary duty to diversify away from such companies – a factor which today is highly uncertain.

4.2 Decision procedures, barriers and risks

We now move to summarize the key barriers, obstacles and risks as expressed by private sector investors that create disincentives to further investment in REDD+.

⁹ The Generation Foundation identified Market Forces and Socio-political Pressure along with regulation as risks that could lead to significant stranding of fossil-fuel intensive assets (Generation Foundation 2013).

4.2.1 Different decision-making procedures and time horizons

In understanding the motivations of businesses engaged in REDD+, an important question asked to participants was who the key REDD+ decision-makers were in their respective firms. Decision-making structures differ from company to company, depending on the size and the industry. For those firms engaged in purchasing REDD+ for CSR reasons, the decision-making generally lies with the CSR department, though in some instances the decision-making went all the way to the CEO depending on the individuals involved.

The fact that decision-making lies with CSR departments generally implies that finance for REDD+ comes out of the general CSR budgets, with implications for the time horizon of those investments. As budgets for CSR departments are generally decided on an annual basis, investments through these channels are generally done with very short time horizons, and can fluctuate from year-to-year, as budgets change. Time horizons for voluntary purchases for CSR are therefore not more than 5 years and are often much shorter in the range of 1-3 years. There is a key disconnect here between REDD+ projects that generally operate in timeframes of 10 years plus and finance that flows on an annual basis.

For entities engaging in REDD+ to reduce their future risk from investments in carbon-intensive stranded assets, or to procure more favourable credit arrangements, such as in the extractive industries, decision-making often lies with actors involved in risk management. This has implications for both the types of projects that these firms are likely to engage in; with decision-makers understanding better the risk features of projects, but understanding less the carbon- and co-benefits.

As discussed above, a third type of REDD+-related project has started to emerge from which investors receive not just REDD+ credits but predominantly some sustainably sourced commodities, with carbon benefits as an extra add-on. For these projects it was the view of the participants that time horizons were likely to be longer than for CSR projects due to the more long-lived revenue streams that the commodities offer.

4.2.2 Barriers, obstacles and risks to private sector involvement

Preparatory and pre-compliance market demand

A major barrier for many private sector stakeholders, especially for those anticipating a compliance market, is the lack of a current regulatory framework and a lack of clarity on future regulations.

Along with this go the concerns over the actual emergence of a compliance market and - in case compliance became real - the lack of certainty on which activities are actually going to be eligible under a possible future international regulatory framework. The emerging pilot institutions and procedures to register projects are perceived as being too bureaucratic and cumbersome and provide little clarity about which projects offer credits under which conditions and which values these different types of projects have. The complexity of these procedures put too much emphasis on greenhouse gas emissions, according to the participants that are more interested into REDD+ for CSR reasons and seek easily marketable overall ecosystem services and not just emission-reduction benefits alone. Along with this lack of clarity, problems related to the national institutions and power to craft sound and transversal REDD+ strategies that guarantee that emissions from deforestation are not simply displaced to another region are cited as major concerns.

In addition to this, in the current analysis a main risk associated with potential compliance purchasers were those risks relating to price and cost. These investors were deemed to be the most price-sensitive actors and were thus amongst those most concerned with the potential risk that REDD+ could turn out to be more costly than anticipated. In addition, compliance investors were perceived to be more concerned with technical risks relating to REDD+ such as additionality, leakage and permanence. These risks are likely to be incorporated into the criteria that would allow entry of REDD+ into compliance markets and thus are likely to form part of the risk assessment of any compliance purchasers. The risks associated with those looking to invest for pre-compliance reasons were deemed to be similar to those of compliance purchasers, with the added risk that the potential compliance market may not emerge.

Voluntary

The risks related to investments in the voluntary market are perceived to be different from compliance or pre-compliance investments. Price was deemed to be less important to these investors, especially those with more general CSR motivations. The technical risks such as permanence and additionality were perceived to be less important to this group of investors as well – partly because the actual performance of the REDD+ project was less important than the fact that the company was being seen to be investing in the activity, and partly because of limited exposure to REDD+ and the nature of these risks. Such technical risks were determined to be only important to some subsets of purchasers – those with more experience and knowledge regarding REDD+.

Some risks are greatest to those companies heavily publicising their involvement in REDD+ - such as those looking to invest for CSR reasons. REDD+ has a number of features that lends itself to

reputational risk to the parties involved. A significant amount of bad press associated with REDD+ and a number of stories and reports issued by organisations such as Greenpeace and REDD-Monitor focusing on issues such as indigenous rights, additionality and carbon credit scams¹⁰ has created negative connotations for REDD+ in the eyes of many private sector operators. In addition, many actors who dipped their toes into the REDD+ water in its early years experienced project delays, failures and the lack of an emergence of substantial demand. This has all contributed to a rather negative perception of REDD+ in the minds of many private sector actors – leading them to be rather nervous of re-engaging with REDD+.

This risk is especially high in contexts, where the geographical, political and institutional environment is challenging for corporate entities –especially, where they have to deal with issues such as corruption, government interference, weak, insecure and missing property rights and land conflicts (Amacher, 2006; Cotula & Mayers, 2009; Koyuncu & Yilmaz, 2008; Palmer, 2005, 2010). Companies therefore face large risks of either projects failing due to these issues, or at the least negative press attention relating to these challenges.

A further complication regarding reputational risk is the difficulty that companies face in simply measuring, quantifying and understanding the reputational risk associated with REDD+. The unfamiliarity of REDD+ to many companies, and the countries and contexts in which it operates, makes merely understanding the type of reputational risk that it may involve extremely difficult. Quantifying this reputational risk to include in risk assessments serves is an even greater challenge. Reducing this reputational risk, or at least helping companies understand and quantify the risk would, in the view of the participants to this study, could provide further impetus to companies to engage with REDD+.

There are private sector institutions that perform this role to some extent today in the form of standards. The Verified Carbon Standard (VCS) and the Gold Standard play some role in this regard. Companies know that if they purchase REDD+ credits from projects that have met these standards' criteria, some of the risks to the organisation should be minimised. However, at present these standards are extremely stringent and require huge effort, and finance, from the project developer, serving as a barrier to entry to the market for many project developers or jurisdictions. Furthermore, the fact that there is a multitude of standards in the market may serve as a signal to companies that the market is still immature and developing. A firm proposal from the participants to this study was

¹⁰ REDD-Monitor is a blog which has an aim to facilitate discussion about the concept of reducing deforestation and forest degradation as a way of addressing climate change. It is available at: <http://www.redd-monitor.org/>

that in order to improve senior stakeholder buy-in within companies (moving REDD+ from something understood in CSR departments to something understood in the boardroom), there should be a move towards creating a unified package of information regarding REDD+ projects (see below regarding the 'Missing middle'). Streamlining standards, and reducing the number of industry associations and the variety of certificates on offer would reduce complexity for decision makers and more easily help secure senior corporate backing.

Supply chain greening risks

A number of participants expressed interest in supply chain greening and sustainable agricultural activities. However, they also underlined that there are significant challenges in order to meet these pledges, such as a mechanism via which these firms can certify that their commodities are 'deforestation free', and potentially an offset mechanism for firms to achieve zero net deforestation when zero deforestation sourcing is not possible.

Participants reported that there have been some moves toward these tools through initiatives such as the Round Table on Sustainable Palm Oil,¹¹ however they have encountered heavy criticism with accusations that many of the members of the Round Table are continuing deforestation in their concessions and that the standards given to members are too weak (Greenpeace 2013). It was the view of participants that more research was required to exploit the potentially large synergy between REDD+ and the move toward sustainable supply chains.

4.2.3 REDD+'s missing middle: The difficulty for private sector stakeholders to understand the complexity of REDD+

In order to conceptualise the situation facing REDD+ demand today, the workshop set out to understand two key aspects of the current market: first, the value or services that private sector actors are obtaining from REDD+ today (and what values or services they may obtain in the future), and second, what the risks associated with REDD+ are that may cause these values or services to fail to emerge.

What became apparent, however, in the discussions with the participants was that perhaps the most limiting factor in scaling up REDD+ demand was not the lack of a value from REDD+, nor the existence of significant risks associated with REDD+ - although both of these are important - but a

¹¹ Further information is available at: <http://www.rspo.org/>

lack of understanding of either the values that REDD+ can bring or the risks that those values may not emerge. We characterise this lack of understanding as REDD+'s 'missing middle' (Figure 1).

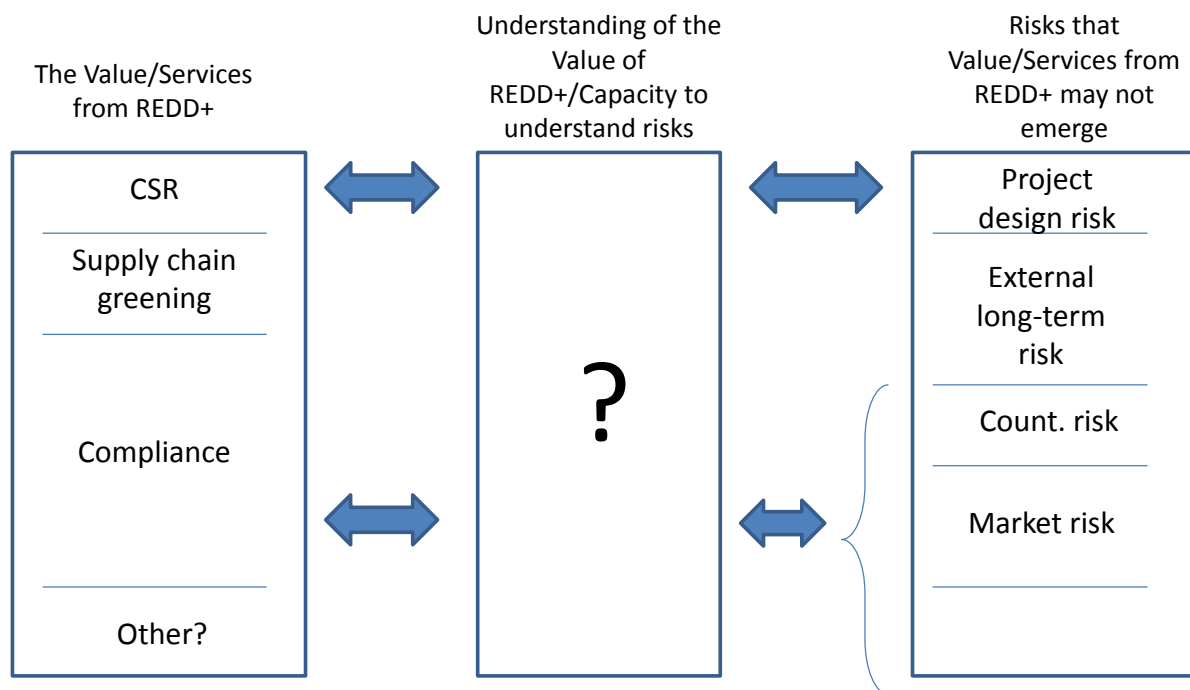


Figure 1: REDD+'s missing middle, Source: Authors

This 'missing middle' essentially consists of three elements – a lack of understanding of the values that REDD+ can bring to the private sector (highlighted above with regard to the lack of an attractive story for REDD+), a lack of understanding of the risks associated with REDD+ (demonstrated above in the discussion regarding the difficulties in understanding and valuing reputational risks), and a lack of understanding regarding the mapping of risks on to values. Helping to bridge this missing middle, aiding the private sector to understand the value that may arise from investing in REDD+ (and the positive 'story' that REDD+ may bring), and to understand the risks that they may be encountering through such investment, could potentially help to boost private sector investment for REDD+ - and may be more tractable in the short-run compared to broadening the values from REDD+ or reducing its risks. The missing middle of REDD+ characterised by a lack of understanding is mirrored in similar situations in other parts of the carbon market. It is most notable in the observed price differential between EUAs and CERs in the EU ETS. In theory, these two types of credits – issued by the EU and emerging from the CDM – are fully fungible and theory tells us that their prices should be equalised. However, a clear gap has existed between prices of the different credit types - of which one potentially causal factor, along with a host of other political economy concerns regarding the mid to

long-term acceptability of offsets within the EU ETS, is a gap in understanding regarding CERs and CDM projects and a lack of capacity in many firms to manage the risks associated with CDM projects – leading to a reduced demand for that credit type.

4.3 Future scenarios for private sector involvement into REDD+

In the last part of our analysis, we examine how private sector stakeholders project themselves in a future possible REDD+ landscape, how they perceive their own role and under which conditions they see themselves as part of a future REDD+ agreement.

4.3.1 Jurisdictional versus project-level REDD+

A key question regarding the motivation of REDD+ purchasers was whether there was any intrinsic difference for purchasers between REDD+ credits from small scale projects or from national or regional-level governments under a jurisdictional approach. The general perception of market actors was that CSR purchasers prefer ‘small, nice, cuddly’ projects, preferring the ownership, control and public relations benefits that these can offer. They allow companies to feel a sense of investment in the area in which the project operates and, in the view of participants, offer greater communication benefits than purchasing credits from a jurisdiction. Participants were also of the view that there were fears from some buyers of working too closely with national or regional governments due to issues of corruption. This again reduced the attractiveness of jurisdictional level REDD+ credits versus project level sources to private sector purchasers.

Countering this trend however, was the opinion that firms want projects to be embedded in overall jurisdictional REDD+ frameworks, as these reduce the scope of technical issues such as leakage. However, it was the view of one participant that only a subset of firms regards these issues as important– only those firms with experience and understanding of the complexity of REDD+ were taking such issues into account.

Under which conditions large companies would be willing to have an involvement with a jurisdiction such as Acre in Brazil remains to be seen – and is a challenge to scaling up private sector investment in jurisdictional REDD+. Widespread private sector investment may require the incorporation of the benefits of REDD+ that make it attractive to the voluntary market, such as the co-benefits it can bring– and the PR opportunities that stem from those co-benefits, along with the ability to manage risk that comes from the hands-on investment in small projects. Designing jurisdictional level REDD+ programmes to provide these values and benefits to investors is a major challenge for both policy-makers and academics alike.

4.3.2 REDD+ as the co-benefit?

A major theme that emerged throughout the discussions regarded the move away from REDD+ being the focal point of projects and activities - in the sense that the main motivation of firms investing in REDD+ projects were the carbon credits, and the main projected revenue stream for developers was the income from selling those carbon credits. Instead, private sector firms are looking for wider benefits from their investment, and developers are increasingly relying on other sources of income beyond REDD+.

This implies that REDD+ has moved from being the main focal point of projects to being a co-benefit for purchasers, investors and developers alike. Instead, there is an increasing focus on other benefits that arise from projects that aim to reduce tropical deforestation. This may be related to conservation of certain species or biodiversity hotspots and development benefits that such projects offer that serve companies' wider CSR goals, or increasingly important, the sustainable sourcing of commodities.

The move away from REDD+ credit purchases purely for voluntary offsetting or for compliance is reflected in changes in the mind-set of REDD+ project investors and developers. Rather than seeing the sale of REDD+ credits as a major revenue stream for potential projects, it is increasingly being seen as a possible add-on for projects that generate a return in other ways, such as agro-forestry. REDD+ revenues – should they emerge for such projects – are being seen as the 'cherry-on-top of the cake'. This move has two implications for the REDD+ market. On the one hand, the discounting of potential future REDD+ revenues by project developers highlights the low expectations in the marketplace for the future return on REDD+ assets, and the problems faced by REDD+ developers in raising finance for their projects. On the other hand, however, it highlights that there may be a group of forest-related projects which are at the margin of profitability - for which a small price signal for REDD+ offered by either the private sector, or guaranteed by a public sector body could make their implementation profitable.

4.3.3 Possible future scenarios for REDD+

While some still see hope that under clarified institutional settings and rule systems, REDD+ could eventually gain momentum again, many also expressed high uncertainty in this regard. Clarifications would be required with respect to the eligible activities under REDD+, the institutional setting and the actual strategies to reduce deforestation effectively.

Some expressed the belief that public-private partnership agreements are more likely to play a significant role for private sector involvement in efforts to protect tropical forests in the future.

Others also highlighted that REDD+ is increasingly moving towards a development aid program, a view that is also expressed by Neeff, Göhler, & Ascui, (2014). Finally, one participant also argued that it might simply remain a CSR tool, relevant only in a philanthropic investment context (company ethics, carbon footprint).

On the other hand, some expressed the view that they think payments for more feasible and tangible ecosystem services would have a higher potential than taking such a complex ensemble as a forest. Water perhaps is the most feasible and tangible of these services with a number of payment mechanisms already established, and a clear market in the shape of cities or hydropower plants who demand watershed management in order to ensure the supply of freshwater that they require.

So while among private sector stakeholders, there seemed to be a general readiness to participate in REDD+ and payment for ecosystem service schemes, there seems to be little confidence that the international community and national governments of REDD+ countries will provide a robust and functional framework in the near future.

Unless a robust framework for a compliance market emerges, for instance through jurisdictional REDD+, it seems that private sector stakeholders prefer to participate in the efforts to reduce emissions from deforestation and forest degradation in a narrower context, much more aligned with business activities and where control of deforestation is more in the power of individuals or companies. These business-activities-related venues for forest protection seem to offer more tangible outputs than complex REDD+ schemes.

5. Conclusion

REDD+'s brief history has been marked by periods of optimism and periods of pessimism. The current mood in the market is generally pessimistic, with doubts over the emergence of widespread compliance demand for REDD+ credits. Despite this general pessimism there are interesting developments in a number of different areas that show the potential for REDD+ to become an asset class of interest to a range of investors. Compliance demand could potentially emerge from jurisdictions implementing carbon markets such as California that could help to demonstrate proof-of-concept, encouraging adoption elsewhere. The move by these jurisdictions to think about including REDD+ offers the asset class the opportunity to demonstrate that it can overcome some of the risks associated with it, and offer investors suitable returns. Building up the experience that will emerge will be crucial to developing wider interest in REDD+. In the voluntary market, recent moves

by major companies to green their supply chains and the start of innovative moves to market REDD+ as a tool to reduce investment risk offer some new shoots of potential investment.

Such experience is vital in the attempts to convince policy-makers that REDD+ could play a role in future compliance markets. What is clear from our analysis is that this lack of certainty about whether any compliance-based demand for REDD+ will emerge is limiting the interest of the private sector to invest in the asset. Further uncertainty regarding the exact nature of the requirements that REDD+ would have to meet to access these compliance markets also creates barriers and risks to the private sector, but these are secondary to the concerns that these markets may not exist at all.

What is clear from the perceptions of the range of stakeholders still involved in REDD+ is that in the short-term any REDD+ 'market' will be based on a differentiated approach, most notably because its many possible future versions and the respective conditions for investment still need to be defined more clearly. Those investing in REDD+ and purchasing any carbon credits that might emerge from projects are likely to have a range of very different motivations – from compliance purchasers to those looking to voluntarily offset their emissions to those looking to green their supply chains. These different motivations will require different types of qualities in REDD+ projects. Those investors looking for compliance credits were thought to be more interested in obtaining low cost options, whilst those purchasing for CSR reasons were more interested in the 'story' of REDD+ - and the biodiversity and community benefits (and PR coverage) that it can bring. These differentiated motivations for investing in REDD+ implies that those developing REDD+ projects, and jurisdictions interested in marketing REDD+ credits, may need to offer a range of different REDD+ products, or at least understand their own REDD+ product and which market suits it best.

One of the key barriers identified through this analysis has been the absence of clarity on the institutional framework for REDD+, which simultaneously makes it unclear how emissions from deforestation can be reduced effectively and how in this contexts, profits could possibly be made with this. There is a clear lack of understanding among many private sector stakeholders, of what REDD+ is actually about and how it works. Therefore providing a clearer institutional framework and formalization of possible future strategies for emission reductions through REDD+ could help to build an understanding that REDD+ can bring a range of different values and benefits to a range of different private sector entities and thus aid to build a constituency of potential investors. Furthermore, a key limitation highlighted by the stakeholders that participated in our study was a lack of understanding of the risks that come with REDD+. These risks, like the values, differ depending on the motivation of the investor. Yet there seems to be a lack of understanding of the

types of risk involved, and even further an inability to measure and quantify the risks associated with REDD+. REDD+ lies outside the main activities of most companies, and if they are unable to understand, measure and quantify specific risks, they may be reluctant to even touch the idea of investing in the asset.

This 'missing middle' for REDD+ needs to be overcome for a REDD+ market to evolve the demand of which can absorb the potential supply in the pipeline. It may motivate the creation of specific institutions to help raise the understanding of the potential values and benefits of REDD+ and also to assist in the understanding, measuring and quantification of the risks involved. Such institutions could help to boost the overall private sector involvement in REDD+ and help to bridge the missing middle. The exact form that such institutions would need to take to most effectively provide the information and services required needs further research and study, however they would need to harness expertise and experience from both the public sector and the private sector and REDD+ developers, existing purchasers and potential future buyers.

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6. Bibliography

- Amacher, G. S. (2006). Corruption: a challenge for economists interested in forest policy design. *Journal of Forest Economics*, 12(2), 85–89.
- Arima, E., Barreto, P., Araujo, E. and Soares-Filho, B. (2014). Public policies can reduced tropical deforestation: Lessons and challenges from Brazil, *Land Use Policy*, 41 465-473
- Asner, G.P. (2011). Painting the world REDD: addressing scientific barriers to monitoring emissions from tropical forests. *Environ. Res. Lett.* 6, 021002. doi:10.1088/1748-9326/6/2/021002
- Bloomberg, (2011). Wildlife Works gets carbon credits for Kenyan project. <http://www.bloomberg.com/news/2011-05-31/wildlife-works-gets-carbon-credits-for-kenyan-project-correct-.html> (retrieved on 2015-03-06).
- Boucher, D., Roquemore, S. and Fitzhugh, E. (2013). Brazil's Success in Reducing Deforestation, *Tropical Conservation Science*, 6(3)
- Business Green, (2008). Merrill Lynch throws weight behind avoided deforestation credits Available at: <http://www.businessgreen.com/bg/news/1806676/merrill-lynch-throws-weight-avoided-deforestation-credits> (retrieved on 2015-03-06).
- Carbon Tracker, (2014). Unburnable carbon – are the world's financial markets carrying a carbon bubble? . <http://www.carbontracker.org/wp-content/uploads/2014/09/Unburnable-Carbon-Full-rev2-1.pdf>)
- Code REDD, (2013). Wildlife Works Carbon/ Kasigau Corridor Kenya <http://www.coderedd.org/redd-project-devs/wildlife-works-carbon-kasigau-corridor/> (retrieved on 2015-03-06).
- Conservation International, (2013). REDD+ Market: Sending out an SOS. Conservation International Carbon Fund <http://www.redd-monitor.org/wp-content/uploads/2013/09/REDD-Market-SOS.pdf> (retrieved on 2015-03-06).
- Corbera, E., Schroeder, H., (2011). Governing and implementing REDD+. *Environmental Science & Policy* 14, 89–99.
- Cotula, L., & Mayers, J., (2009). Tenure in REDD - start-point or afterthought? Russell The Journal Of The Bertrand Russell Archives. London, UK: Natural Resources Issue No. 15 International Institute for Environment and Development. <http://pubs.iied.org/pdfs/13554IIED.pdf> (retrieved on 2015-03-06).
- Denzin, N.K., (1978). *Sociological methods: A source book* (2d ed.) New York: McGraw-Hill.
- Economist. (2012). Deforestation in Sarawak: log tale, November 3, 2012. <http://www.economist.com/news/finance-and-economics/21565622-new-investigation-accuses-hsbc-ignoring-its-own-sustainability-policies-log> (retrieved on 2015-03-06).

- Engel, S., Palmer, C., (2008). 'Painting the forest REDD?' Prospects for mitigating climate change through reducing emissions from deforestation and degradation. ED Working paper 3/ Institute for Environmental Decisions, ETH Zurich. Available at SSRN: <http://ssrn.com/abstract=1430324> or <http://dx.doi.org/10.2139/ssrn.1430324>
- Forest Trends, (2014). Sharing the stage: state of the voluntary carbon markets 2014. <http://www.forest-trends.org/vcm2014.php> (retrieved on 2015-03-06).
- GCP, IPAM, FFI, & FI, (2014). Stimulating interim demand for REDD + emission reductions : the need for a strategic intervention from 2015 to 2020. Global Canopy Programme, Oxford, UK; the Amazon Environmental Research Institute, Brasillia, Brazil; Fauna and Flora International, Cambridge, UK; and UNEP Finance Initiative, Geneva, Switzerland. <http://globalcanopy.org/StimulatingInterimDemand-Report> (retrieved on 2015-03-06).
- Generation Foundation, (2013). Stranded carbon assets: why and how carbon risks should be incorporated in investment analysis, October 30, 2013. <http://genfound.org/media/pdf-generation-foundation-stranded-carbon-assets-v1.pdf> (retrieved on 2015-03-06).
- Greenpeace, (2013) Certifying destruction: why consumer companies need to go beyond the RSPO to stop forest destruction. <http://www.greenpeace.de/files/publications/rspo-certifying-destruction.pdf> (retrieved on 2015-03-06).
- Institute for Global Environmental Strategies, (2007). Reducing carbon emissions from deforestation in the Ulu Masen Ecosystem, Aceh, Indonesia. Project design note for CCBA Audit (December 29, 2007). <http://redd-database.iges.or.jp/redd/download/project;jsessionid=F5414B40A100A330B258A615F97995C8?id=87> (retrieved on 2015-03-06).
- Koyuncu, C., & Yilmaz, R., (2008). The Impact of Corruption on Deforestation: A Cross-Country Evidence. *The Journal of Developing Areas*, 42(2), 213–222.
- Miles, M. B. & Huberman, M. (1994). *Qualitative Data Analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks, California: SAGE Publications.
- Neeff, T., Göhler, D., Ascui, F., 2014. Finding a path for REDD+ between ODA and the CDM. *Climate Policy* 14, 149–166. doi:10.1080/14693062.2013.831289
- Nhantumbo, I., 2011. REDD+: a win-win deal is possible!, International Institute for Environment and Development. <http://www.iied.org/redd-win-win-deal-possible> (retrieved on 2015-03-06).
- Open Congress, H.R.2454 - American Clean Energy And Security Act of 2009. <https://www.opencongress.org/bill/hr2454-111/text> (retrieved on 2015-03-06).
- Palmer, C. (2005). The Nature of Corruption in Forest Management. *World Economics Journal*, 6(2), 1–11.

- Palmer, C. (2010). Property rights and liability for deforestation under REDD+: Implications for 'permanence' in policy design. *Ecological Economics*, 70(4), 571–576.
- PwC, Winrock International, Climate Focus, IUCN (2011), Funding for forests: UK Government support for REDD+,
- Ruggie, J., (2008). Protect, respect and remedy: s framework for business and human rights. *Innovations* 3, 189–212. 2008, vol. 3, issue 2, pages 189-212.
- Ruggie, J.G., (2003). Taking embedded liberalism global: the corporate connection. Institute for International Law and Justice, New York University School of Law.
<http://www.cid.harvard.edu/events/papers/LSE-final.pdf> (retrieved on 2015-03-06).
- Shankleman, J., (2014). P&G pledges zero deforestation by 2020, GreenBiz.com,
<http://www.greenbiz.com/blog/2014/04/10/pg-pledges-zero-deforestation-2020> (retrieved on 2015-03-06).
- Sydney Morning Herald, (2012). Credits lost in tangle of Aceh's forests.
<http://www.smh.com.au/environment/conservation/credits-lost-in-tangle-of-acehs-forest-20120608-201gl.html> (retrieved on 2015-03-06).
- The Climate, Community and Biodiversity Alliance, (2013). The Kasigau corridor REDD project phase II – the community ranches. <http://www.climate-standards.org/2011/03/17/the-kasigau-corridor-redd-project-phase-ii-the-community-ranches/> (retrieved on 2015-03-06).
- UN, (2014). New York Declaration on Forests. <http://www.un.org/climatechange/summit/wp-content/uploads/sites/2/2014/09/FORESTS-New-York-Declaration-on-Forests.pdf> (retrieved on 2015-03-06).
- UNFCC (United Nations Framework Conference on Climate Change), (2005). Reducing emissions from deforestation in developing countries: approaches to stimulate action. Submissions from parties; [FCCC/CP/2005/MISC.1](http://www.unfccc.int/Docs/CP/2005/MISC.1.pdf) (retrieved on 2015-03-06).
- Van der Werf, G. R., Morton, D. C., DeFries, R. S., Olivier, J. G. J., Kasibhatla, P. S., Jackson, R. B., Randerson, J. T., (2009). CO₂ emissions from forest loss. *Nature Geoscience*, 2(11), 737–738.
- Verified Carbon Standard, (2013). Verified Carbon Standard Database.
<https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=612> (retrieved on 2015-03-06).

7. Appendix

Appendix I.

Workshop Agenda

The workshop was based around three sessions, each introduced by an LSE member of staff to outline the scope of the session before moving to open discussions:

- **Session 1 – *Where does REDD+ stand today?*** (Tim Laing)
 - Prospects for Compliance/Non-compliance
 - Motivations for current purchasers
 - Lessons from previous experience
 - Jurisdictional v Project based approaches
- **Session 2 – *Barriers and Risks to REDD+*** (Luca Taschini)
 - Main barriers to engaging private sector
 - Main risks facing buyers, suppliers and intermediaries
- **Session 3- *The Future for REDD+*** (Charles Palmer)
 - Options and other tools to reduce risk
 - Actions to enable interim financing
 - California possibilities
 - Post 2020 Prospects