The ‘Zero Deforestation’ Movement: Putting Companies in the Driving Seat

**Stakeholder opinions and analysis of current concepts and possible ways forward**

--- JEI Working Paper ---

November 14, 2014

Urs Dieterich

Master of Environmental Management Candidate 2015

Yale School of Forestry & Environmental Studies

Urs.dieterich@yale.edu

Disclaimer

This paper draws on the statements of 15 stakeholders from companies, NGOs, technical advisers, and consultants. The statements stem from personal interviews, including Skype and phone conversations, (13 stakeholders), as well as emails (2 stakeholders). The statements quoted or paraphrased in this paper reflect personal opinions and do not necessarily mirror the view of their affiliated organizations. In total, 30 people were contacted, half of which agreed to an interview. The organizations represented by these 30 stakeholders were: Cargill, Climate Advisers, Coca-Cola, Consumer Goods Forum, Dogwood Alliance, Environmental Paper Network, Forest Trends, Future 500, G1 Germany, General Mills, Greenpeace International, Henkel, Mondelez, National Wildlife Federation, Nestlé, Proforest, Rainforest Action Network, Rainforest Alliance, SNV, Solidaridad, The Forest Trust, Unilever, WWF International, WWF US, as well as an independent consultant. In this first version of the working paper the [Chatham House Rule](http://www.chathamhouse.org/about/chatham-house-rule) will serve to maintain confidentiality for the identities of all interviewees. Please direct possible questions to urs.dieterich@yale.edu. The contributions of all interviewed stakeholders are greatly appreciated. They enabled to draw a picture of the varied opinions and conceptions relating to ‘zero deforestation’. Thank you very much.

It is important to recognize that this paper does not represent the opinions of all individuals and organizations involved with ‘zero deforestation’. The challenges described and solution approaches mentioned in this paper are not exhaustive and limited to topics addressed during the interviews. For a more comprehensive view, the resources listed in the bibliography can be consulted. Additionally, a wealth of resources with thorough analyses and case studies relating to various mechanisms to address commodity-driven deforestation is available online. Organizations with particularly relevant publications that this paper refers to are, among others, the Climate and Land Use Alliance, Climate Advisers, the Global Canopy Programme, and the National Wildlife Federation.

Executive Summary

Remarkable dynamics have unfolded in the year 2014 in several aspects of corporate responsibility, climate advocacy, and sustainable investing. The green bonds market has tripled in size compared to 2013, justifying hopes for a gradual alignment in the need for sustainable capital investments with appropriate investment vehicles. The New York Climate Summit has introduced a formal process for climate leadership beyond the UNFCCC, building on corporate leadership and regional initiatives. And a wave of ‘zero deforestation’ commitments has swept across a growing league of responsible companies. By drawing on 15 interviews, this paper discusses what ‘zero deforestation’ means to different stakeholders, how it can be implemented, and what some of the potential pitfalls might be as companies, civil society, and government act and respond to these new challenges and opportunities.

Recent policy dialog and company-driven leadership initiatives have put supply chains front and center of corporate responsibility. Increasing recognition for the interdependencies between economic performance and environmental, social, and governance aspects has sparked a dynamic dialog between the private sector, NGOs, technical advisers, and policy makers. Research results presented in this paper suggest, to reap the full benefits from the corporate momentum surrounding ‘zero deforestation’ (ZD) it is important to explore the full suite of possible strategies, mechanisms, and tactics of implementation. This includes options that are within the realm of corporations’ decision-making power, as well as options requiring the involvement of governmental policy instruments.

Several uncertainties remain in regards to what ZD comprises. While deforestation can function as a buzzword, tactically leveraged to achieve broader sustainability outcomes, it is unclear what exactly this entails and how it might impact agricultural commodity production. While some stakeholders argue for a ‘zero net deforestation’ approach due to reasons of feasibility and corporate engagement, others believe that newly planted forests cannot functionally replace ecologically more valuable natural forests and therefore support ‘zero gross deforestation’. Disagreement further exists as to the value of third-party certification and commodity roundtables. While some see universal standards as a cornerstone to spreading sustainable practices across an entire industry, others are unsatisfied with the progress achieved over the past years and see the need for strategies that ensure more than what is sometimes perceived as merely finding the least common denominator. Some argue that alternative approaches like company-internal sustainability scorecards and sustainable sourcing schemes, or individual company-NGO partnerships, could be the way forward. The interviews suggest, given the increasing availability of technologies to ensure transparency and increase accountability, tools and processes deployed by companies, NGOs, and policy makers should evolve with these new possibilities and diverse stakeholder requirements.

This paper further discusses public private partnerships, a possible ‘zero deforestation’ umbrella standard, and deforestation offsets, among others, as possible ZD strategies. Using the Roundtable on Sustainable Palm Oil, the Palm Oil Innovation Group, and the Sustainable Palm Oil Manifesto as examples, this paper also outlines some of the challenges in creating trust across stakeholder groups. Lastly, this paper lists a range of industry groups working on related sustainability topics, as well as a number of tools that companies, civil society, and policy makers can utilize to assess and monitor ‘zero deforestation’ commitments.

Ultimately, on-the-ground progress is what corporate forest conservation policies are assessed against. A challenge is that signatories of commitments can’t afford unlimited upfront investment without outlook for economic returns within the foreseeable future. It is therefore in the hands of all stakeholders to contribute to meaningful implementation of the ambitious targets that have been set over the past months. The stakes are high and ‘zero deforestation’ may suffer from a gradual loss of significance similar to other voluntary sustainability commitments before. Given these challenges, it is important to recognize that ZD is a dynamic movement, built on visionary leadership and momentum. Keeping this momentum alive will be instrumental in building on the important groundwork laid out by the ‘zero deforestation’ movement.

Table of Contents

Disclaimer 2

Executive Summary 3

Table of Contents 5

Glossary 5

I. Background and Significance of ZD Commitments 7

II. About the metric of ‘Zero Deforestation’ 8

Zero Net Deforestation (ZND) vs. Zero Gross Deforestation (ZGD) 9

Should ‘No Deforestation’ Become the Norm, and Indeed Can It? 10

III. What Has the Private Sector Done So Far to Make the Case for Sustainability? 12

Sustainability Schemes Within Companies 12

IV. Background & Description of Industry Initiatives and Partnerships 13

Views & Opinions: CGF – a Central Player in the ZD Movement 15

Industry Initiatives and Controversy: the Case of the SPOM 15

V. Clarifying the Content: HCS and Certification for ZD? 17

Is the High Carbon Stock (HCS) Approach Key to Defining ZD? 17

What Could the Role of Certification Be in Achieving and Credibly Reporting ZD? 19

VI. Possible Ways forward with ZD?! 21

Commodity roundtables — diverging perceptions 21

Rewarding the Top Without Raising the Floor … Yet? – Add-on Standards 23

Traceability and Reporting—Moving Toward Full Disclosure 23

PPPs / Jurisdictional Approaches / Supply Basin Certification 24

ZD Umbrella Certification 25

Offset Mechanisms Facilitating the Potential ‘Net’ in ZD 27

VII. Tools for mapping, quantifying, and monitoring ZD 30

VIII. Concluding remarks 32

Appendix I 34

Appendix II 34

Bibliography 34

Glossary

POIG Palm Oil Innovation Group

SPOM Sustainable Palm Oil Manifesto

SPS Sustainable Production and Sourcing

ZDPS Zero Deforestation Production and Sourcing

ZD Zero Deforestation

ZGD Zero Gross Deforestation

ZND Zero Net Deforestation

I. Background and Significance of ZD Commitments

The last months have seen what has been coined a “corporate conservation revolution” (Horowitz 2013). A wave of ‘zero deforestation’ commitments has swept across the field of agricultural commodity and consumer goods production, challenging the media and civil society to track them all. Dozens of individual companies, as well as the Consumer Goods Forum with its 400 member companies and staggering annual sales of $2.5 trillion, have announced ‘zero deforestation’ targets by 2020. Strong signals also come from policy makers around the world. The New York Declaration on Forests, endorsed by dozens of national and state governments, 30 leading companies, and more than 50 civil society groups at the UN Climate Summit in September 2014, calls for halving all deforestation by 2020 and stopping deforestation altogether by 2030 (Climate Summit 2014 2014). It further calls for restoring 150 million hectares by 2020 and decided steps to support the private sector’s 2020 ZD goals for agricultural commodities.

An increasing corporate feeling of responsibility for supply chain impacts on environmental and social values has sparked a dynamic dialog between the private sector, NGOs, technical advisers, and policy makers. Technological advances in supply chain management and land use change analysis provide an unprecedented level of verifiable information to guide management decisions, as well as increasing transparency and participatory monitoring. This fosters corporations’ capacity for, and self-interest in, sustainable production and sourcing (SPS). SPS enjoys rising recognition as valuable risk mitigation tool, including for economic and reputational constraints and opportunities, such as ensuring the long-term supply of raw materials and fundamental goods and services and mitigating regulatory and reputational risk. Further opportunities lie in achieving market differentiation to serve demand shifts toward sustainable products and to increase brand loyalty. Indeed, CDP’s forests report for 2014, which was written on behalf of 240 investors managing $15 trillion in assets, confirmed the increasing role of sustainability for risk management. Among surveyed companies 55% recognize reputational risks across commodities, 51% recognize operational risks, and 45% recognize regulatory risks (CDP 2014).

Research results presented in this paper suggest, to reap the full benefits from the corporate momentum surrounding ‘zero deforestation’ (ZD) it is important to explore the full suite of possible strategies, mechanisms, and tactics of implementation. This includes options that are within the realm of corporations’ decision-making power, as well as options requiring the involvement of governmental policy instruments. This paper focuses on the former to identify a set of potential ways forward even in the absence of bold government leadership. This does not imply that regulatory approaches and fostering political will to thrust governments into a leadership position is less important or unlikely. Quite the opposite is the case and strategic creation of mutually stimulating dynamics between corporate leaders with strict ZD policies and governments can push policy formulation, extending regulation on ‘corporate laggards’. This counters competitive advantages that less regulated “corporate laggards” have over companies with strict, albeit voluntary, commitments, and is therefore in the self-interest of corporate leaders. These dynamics, termed “California effect”[[1]](#footnote-1) (Vogel 1997), can broaden corporate activities and make them “sticky”[[2]](#footnote-2) (Levin et al. 2012).

In such times of corporate leadership, advocacy for government regulation can be particularly bold given the window of opportunity to pass otherwise unpopular policies (which are therefore often less feasible). In parallel, the increasing push for collaborative solutions with private sector lead warrants harnessing the potential of all currently available—and newly arising—mechanisms and strategies that are environmentally effective while (1) being quick to implement to benefit from the current momentum (2) matching the values, structure, and market segment of companies to foster buy-in of companies and support of employees, and (3) being scalable and economically efficient to extend their application beyond leading companies and allow for transfer across sectors.

As with other non-legally binding commitments the question about the value of these commitments arises (Donofrio 2014). Are the commitments sufficient to save forests worldwide in a timely manner and to ensure the vital functions and services they provide to humanity and the planet? How can full implementation be fostered? What roles can the private sector, all three branches of government, civil society, consumers, and the media play? While it is not possible to give definitive answers to most of these questions as of now, fostering open and inclusive dialog (which has already started) is critical to pave the way for ZD to increase its legitimacy and outcomes. The value of voluntary commitments lies in that all involved stakeholder groups can contribute to making them meaningful and to shape them in a collaborative exchange of perspectives to realize their potential. The ZD movement will become what stakeholders agree to make out of it.

Despite all optimism, it is important to keep the challenges and complexity inherent to the interface of forest conservation and development in mind. Due to the diversity of stakeholders surrounding forests globally, and given the history of the private sector’s involvement in forest loss and degradation, the discourse about forests is characterized by opposing views and strong emotions. For the ZD movement it may be elusive to achieve buy-in from all stakeholder groups—regardless of the strategies pursued. This constitutes a risk for the durability of outcomes, but visionary leadership in the absence of consensus also defines the momentum and flexibility with which potentially far-reaching conservation commitments are spreading across sectors and continents.

II. About the metric of ‘Zero Deforestation’

Questions about what ‘zero deforestation’ (ZD) means have been frequently asked since the first ZD targets have been formulated by NGOs, governments, and companies. Before answering this question, underlying definitions of ‘forest’ and ‘deforestation’ require clarification. While there are approaches to harmonize forest definitions—which include elements of canopy cover, tree height, minimum area, biodiversity, rotation periods, and carbon density—by UNFCCC, CBD, and FAO (2002), it remains unclear if a universal definition is feasible, or if national definitions are more appropriate. This also affects what types of changes in forest cover shall be included in ‘zero deforestation’.

Brown and Zarin (2013) analyze common conceptions of ‘deforestation’. They compare ‘net deforestation’, such as reported by countries for the FAO Forest Resources Assessment (FRA) as the net change in forest area, with ‘gross deforestation’, which is the loss in forest area caused by conversion to non-forested land without compensation through newly grown forest. In a remote sensing approach, “gross deforestation” constitutes the sum of pixels changing from ‘forest’ to ‘non-forest.’ To calculate ‘net deforestation’ one subtracts the sum of pixels changing from ‘non-forest’ to ‘forest’ from the calculated ‘gross deforestation’. Brown and Zarin argue that, depending on the country, a ‘zero gross deforestation’ target may be unfeasible while ‘zero net deforestation’ may be too low a target. To contribute to the conservation of forests in a meaningful way, a widely agreed decision-making framework for what sort of ‘zero deforestation’ is to be pursued needs to be developed. Such a scheme also needs to take into account individual circumstances like issues of national sovereignty and the economic, social, and ecological conditions of forests in a region.

Another question concerns the relationship between ZD and more general conceptions of sustainable production and sourcing (SPS). This is particularly relevant for companies sourcing raw materials through complex supply chains, such as consumer goods companies. The following section captures opinions of interviewed stakeholders, including about zero *net* deforestation (ZND) vs. zero *gross* deforestation (ZGD).

Important issues requiring thorough assessment, interviewed stakeholders agree, include the definition of ‘forest’ and system boundaries, or scope, for ‘deforestation’; how zero deforestation relates to sustainable supply chains; and how actual forest management can be improved through corporate pledges:

* “What is a forest, what is not?”[[3]](#footnote-3)
* “ZD approaches on their own don’t create sustainable supply chains.”[[4]](#footnote-4)
* “Anti-deforestation pledges are limited in helping to define how to manage forests around the world.”[[5]](#footnote-5)

*Zero Net Deforestation (ZND) vs. Zero Gross Deforestation (ZGD)*

Most stakeholders did not have definite answers about whether to favor ZND or ZGD. It may be necessary to decide what target to pursue on a case-by-case basis, taking into account the ecological and economic considerations. Generally, a lack of clarity about the content of commitments, and whether they imply ZND or ZGD, characterizes the current situation. Neither companies nor NGOs have developed technically detailed trajectories for implementation.

Several stakeholders see more potential in pursuing a ZND approach, arguing that ZND is more feasible and potentially yielding more promising results for maintaining and increasing ecological functions. “Right now, zero deforestation [here defined as ‘zero large scale deforestation’] is what some think is the answer, but when one looks at the technical integrity it is not credible. Zero *net* deforestation may be more credible.”[[6]](#footnote-6)

“Zero deforestation really has to be an offset. There are lots of marginal lands that can be reforested, others could be cut down and plantations installed. Some areas, if restored, could serve a great ecological purpose, e.g. as buffer zones to other key areas.”[[7]](#footnote-7)

Zero net deforestation and degradation is a “huge and much broader commitment” than the forest conservation policies introduced by major producer companies, one stakeholder argues.[[8]](#footnote-8)

Another stakeholder disagrees with a *net* approach that allows compensating for forest clearing in some areas by restoring others.[[9]](#footnote-9) Opportunities to stay out of ecologically valuable areas are plenty, according to the stakeholder. Brazil has reduced deforestation by 70%, and almost eliminated related to soy production (National Institute for Space Research Brazil 2013). Meanwhile soy production kept increasing. This, the stakeholder argues, was achieved not by a net mechanism but through bold government leadership and monitoring technology.

*Should ‘No Deforestation’ Become the Norm, and Indeed Can It?[[10]](#footnote-10)*

Deforestation as buzzword can tactically be leveraged to achieve broader sustainability outcomes, two stakeholders argue.[[11]](#footnote-11) However, they emphasize, it is important to recognize that deforestation is not the only sustainability issue despite the big current focus on the topic. Besides deforestation (forest cover loss from forest clearing) also degradation (a reduction in forest functions due to activities not necessarily comprising clearing land) is seen by many as a necessary part of the broader definition of ZD to achieve meaningful environmental benefits.

While there are limits to the concept of ‘deforestation-free’, and recognizing the need to introduce clarity as to what constitutes a ZD target, there are several benefits a ZD metric can have compared to other common sustainability metrics—if stakeholders find common ground in some of the controversies. Deforestation has become a stigma for human-caused environmental harm and often elicits strong emotions across stakeholder groups. This can be attributed, in part, to events like forest dieback (Waldsterben) from acid rain in the 1980s, heated debates about forests and national sovereignty in the context of the Rio Earth Summit in 1992, as well as massive campaigns in the following years against forest products companies (e.g. Mac Millan Bloedel in Clayoquot Sound, BC; ForestEthics 2015), forestry project finance institutions (e.g. Citi Group; Seigel 2013), or the catalog industry (e.g. Victoria’s Secret; ForestEthics 2007)—not to mention the far-reaching environmental campaigns against companies now part of the zero deforestation movement, such as Asia Pulp and Paper (Dieterich & Auld 2014).

As such, deforestation evokes emotional responses by people internationally, and curbing deforestation enjoys widespread public support in the developed world. While ZD may be referred to as maintaining forest cover, a ZD metric can likely address a whole suite of elements pertaining to sustainability. These include biodiversity conservation, ecosystem services provisioning, and other socioeconomic and cultural values contingent on natural forest ecosystems. The emotional load surrounding forests, on the other hand, also constitutes a risk that companies need to consider in the design of their ZD strategy and in the mechanisms they utilize to achieve their targets. Economic valuation of forests and offsets, for instance, are criticized by some stakeholder groups as stripping nature off of its intrinsic value or buying the right to continue business as usual. On the other hand, the importance for environmental valuation and clear metrics is increasingly emphasized. Public dialog is fostered through events like the 2nd World Forests Summit in March 2014 by the Economist to “unlock the true potential of forests” (Gardner 2014). The following two paragraphs compare the ZD metric to the terms ‘sustainability’ and ‘carbon neutrality’ out of a marketing perspective.

Despite current controversies ZD has potential to be perceived by consumers as a clearly understandable metric. With the term ‘sustainability’ today being ubiquitous, vague interpretations suggesting different *degrees* of “sustainability” render the term less meaningful to many people. ZD, on the other hand, can be developed as a tangible unit in a binary system—deforestation-free or not deforestation-free. Either one can attribute a certain area of forest loss to the production of a unit of commodity or one cannot. This can be a powerful message influencing individual consumers’ purchasing behavior, engaging civil society in monitoring, as well as driving decisions for supplier contracts and corporate customers.

ZD can complement “carbon neutrality,” a tangible metric that experiences growing uptake in the private sector. Adding a corporate ZD target to a carbon neutrality target adds charisma to a company’s sustainability strategy. To many consumers, forests are more symbolic of a healthy environment than carbon. Further, perceived trade-offs between carbon and intrinsic natural values, frequently mentioned by some stakeholder groups, could be effectively addressed by developing a comprehensive and transparent ZD strategy. Lastly, despite forests’ significant role in the carbon cycle, carbon neutrality approaches do not necessarily include investing in forest conservation or sustainable sourcing, and instead often center on renewable energy and energy efficiency. Therefore, a carbon neutrality commitment does not replace a ZD commitment. Rather, both targets can be complementary and reinforce each other.

Given the development toward a ZD norm, what can be learned from past corporate approaches to addressing deforestation in their supply chains? How can the highest possible standards for ZD be achieved and controlled? How can clarity and a common understanding of the issue be fostered? The following chapter gives an overview of sustainable sourcing mechanisms of leading companies.

III. What Has the Private Sector Done So Far to Make the Case for Sustainability?

*Sustainability Schemes Within Companies*

In order to develop broadly accepted concepts for “zero deforestation production and sourcing” (ZDPS) it is important to understand how “sustainability” has been defined and pursued by leading companies in the past years. Current corporate sustainability practices are important groundwork for achieving principles for ZDPS that can be adopted quickly by companies, and dialogue and exchange with other stakeholders is instrumental for achieving support by civil society and policy makers.

Currently, several companies rely on sustainability scorecards to rank and measure their level of sustainability. To categorize “sustainably sourced” materials, companies utilize a set of external certification standards and complement these by in-house scorecard systems. Unilever’s Sustainable Agricultural Commodities Scheme Rules, for instance, contains a list of external standards that Unilever recognizes as qualifiers for “sustainably sourced” materials (Unilever 2014). Additionally, Unilever’s scheme contains another list of standards that “are not considered fully equivalent, but cover certain chapters” of Unilever’s sustainability requirements. These latter standards are complemented by additional criteria Unilever developed to render products compliant with their sustainability policy. The company “collect[s] information from suppliers on compliance, calculate[s] scores and track[s] metrics for continuous improvement.” Nestlé’s Responsible Sourcing Guideline describes a similar approach (Nestlé 2013). For different commodities, the guideline lists a set of labels accepted as means for verifying compliance with Nestlé’s sustainability requirements. Besides external standards alternative means of verification are applicable for certain commodities and categories, such as “HCV Assessment,” “Assessment by recognized company,” or “Policy Commitment by Supplier.”

These are the benchmarks that these two companies currently use to evaluate their progress in sourcing sustainable raw materials. Due to their nature as company-internal mechanisms criteria differ from company to company, and individual provisions that allow deviating from the standard approaches in certain cases add to complexity. This can have adverse consequences for the effectiveness of corporate policies on a broader scale, and can be a barrier to gaining the trust of external stakeholders. On the other hand, tailor-made policies that take into consideration individual circumstances also have positive sides.

Advantages of company-internal ZD strategies:

* Market differentiation for individual companies (if effectively communicated)
* Relative independence from other companies and government bureaucracy enables quick action and revision of strategies and policies

Challenges limiting the effectiveness of company-internal ZD strategies as only means:

* Limited transferability to industry competitors or to other sectors
	+ outcomes are limited to individual companies’ operations
	+ the corporate playing field is at an unequal level
* Limited transparency and accountability mechanisms reduce the legitimacy of corporate leadership vis-à-vis the public and increase reputational risk.
* Government response through supporting policies may be slower and more complex. (Government policies to define criteria that reward the top while pushing the bottom cannot build on pre-defined concepts and harmonized benchmarks.)

There are several ways corporate efforts for showcasing sustainable sourcing can be built on in order to make corporate attempts to deforestation-free sourcing more effective. To achieve ZDPS while overcoming the challenges outlined above three core elements can be instrumental:

1. Principles and criteria constituting a legitimate proxy for ZD need to be identified in an inclusive process (together with stakeholder groups);
2. The requirements of utilized certification standard need to be rendered tangible and clearly recognizable for external stakeholders; and
3. The methodology for assessing certification standards against corporate ZD goals needs to be transparent.

Additionally, fostering cross-sectoral uptake by companies is critical to effect meaningful outcomes and sustain the current momentum fostered by industry leaders. To generate the necessary buy-in from various stakeholder groups acquiring legitimacy is cornerstone for the success of any initiative toward ZD.

The following chapter briefly presents several industry associations and partnerships aimed at mainstreaming sustainable production and sourcing (SPS) and achieving ZD across industry sectors. These descriptions are followed by a collection of stakeholder statements surrounding one of the most prominent players, the Consumer Goods Forum (CGF). An outline some of the controversies surrounding “green pledges” and industry consortia follows thereafter by giving the example of the Sustainable Palm Oil Manifesto (SPOM).

IV. Background & Description of Industry Initiatives and Partnerships

To address some of the challenges individual companies face when trying to implement stricter policies, potentially leading to short-term competitive disadvantage, companies often convene in industry alliances as a useful strategy. Besides enabling companies to achieve impacts beyond their own operations, industry alliances are also a way to achieve more political visibility and relevance for policy makers. Similarly, NGOs have increased their scope by engaging in technical advisory activities for industry associations. On the downside, certain NGOs have also yielded criticism by other environmental or social groups through their engagement with controversial industry actors. Lastly, public-private partnerships (PPPs) have emerged as a way to merge benefits from the financial equipment and technical expertise of the private sector with the legislative authority of governments (bolstering market mechanisms through governmental regulation).

The following describes some of the associations and partnerships with stated goals to reduce companies’ deforestation footprints.

[Consumer Goods Forum (CGF)](http://www.theconsumergoodsforum.com/strategic-focus/sustainability/board-resolution-on-deforestation)

The CGF is an international industry network of approximately 400 companies and other stakeholders from 70 countries. The annual sales of the CGF’s member companies constitute a combined €2.5 trillion. Founded in 2009 the CGF is governed by a board of directors of 50 CEOs and Chairpersons. In their Board Resolution on Deforestation CGF signatories pledge to “mobilise resources within … [their] respective businesses to help achieve zero net deforestation by 2020.” Further, the CGF intends to “also work with other stakeholders – NGOs, development banks, governments etc – to create funding mechanisms and other practical schemes.”

[Tropical Forest Alliance (TFA)](http://www.tfa2020.com/index.php/about-tfa2020)

Initiated around the momentum of the Rio+20 conference in 2012 as a public-private partnership (PPP) the TFA’s goal is to achieve zero net deforestation (ZND) by 2020. Its founding partners are the Government of the United States and The Consumer Goods Forum (CGF) while other governments and a host of NGOs have joined.

[Banking Environment Initiative (BEI)](http://www.beiforum2014.com)

The BEI is a partnership between major financial institutes, complemented by experts from WWF-US, convened in 2010. The BEI intends to transform global value chains of agricultural commodities to eliminate deforestation from corporate supply chains by 2020. The BEI acts as financial sector complement to the demand signal of the CGF.

[The Sustainability Consortium (TSC)](http://www.sustainabilityconsortium.org)

CGF and TSC officially joined forces in 2012 when they announced a partnership between the two organizations, but we have yet to see this partnership live up to its potential.

TSC is an association of nonprofit organizations, government agencies, universities, and consumer product companies (TSC and CGF announced a partnership in 2012). TSC aims to create mechanisms to facilitate environmental and social impact measurement and reporting to enable better decision making by retailers and other buyers.

[Sustainable Trade Initiative (IDH)](http://www.idhsustainabletrade.com/partnerships)

IDH aims to drive sustainable market transformation surrounding global commodity production through a coalition of over 400 key stakeholders. IDH finances and harmonizes sector-specific sustainability initiatives. It comprises NGOs, companies, and financial institutions, and also works with governments on financing strategies.

[Sustainability Trade Initiative on Pulp & Paper (STIPP)](http://www.idhsustainabletrade.com/news/commitment-together-towards-sustainable-pulp--paper)

STIPP originates from the momentum generated surrounding the Forest Conservation Policy of Asia Pulp and Paper (APP). STIPP is supported by the Indonesian Government, and founding members include APP and IDH.

*Views & Opinions: CGF – a Central Player in the ZD Movement*

The CGF is a leading association spearheading the movement toward SPS. It has acquired remarkable legitimacy across the private sector, several NGOs, and governments. For governments the CGF constitutes a financially powerful and, to a certain degree, tangible entity that can provide critical feedback of the feasibility of select policy instruments targeted at SPS. For NGOs the CGF provides an opportunity for addressing sustainability issues in a collaborative and more harmonized way than possible with separate companies. Among others, WWF, Rainforest Alliance, and Greenpeace are working with CGF on a set of sustainable sourcing guidelines for select forest risk commodities (guidelines on soy and pulp, paper and packaging were published recently in summer 2014; Consumer Goods Forum 2014). Sustainable sourcing guidelines include establishing traceability, excluding illegality, and procuring products certified by a credible standard. It is important to note, however, that within the CGF compliance with these guidelines is voluntary for CGF members.

WWF’s engagement, for example, follows the logic that CGF member companies will push their sustainability policies up their supply chains and eventually reach companies that are no sustainability leaders per se via this demand-driven mechanism.[[12]](#footnote-12)

The value of the CGF is also seen by NGOs as inspiring a serious dialog on important sustainability issues and that the association will play an important role for time to come. How conversations and coordination happens within the CGF, however, remains a black box even for many involved NGOs.[[13]](#footnote-13)

The CGF provides an interesting opportunity to explore how competing, cooperating, or co-opting companies influence one another and how this enables NGOs to step in as well. If leading CGF companies like Unilever and Nestlé keep improving their supply chains voluntarily NGO campaigners can build on that to pressure less performing CGF members to follow suit.[[14]](#footnote-14)

*Industry Initiatives and Controversy: the Case of the SPOM*

Corporate initiatives focused on working toward sustainable production and sourcing (SPS) are not limited to industry leaders. Recently, also companies without known “corporate ethos” for environmentally sound practices have entered the sphere of proclaiming sustainability as core value. Using the Sustainable Palm Oil Manifesto (SPOM) as an example, I outline some of the controversies surrounding “green” industry associations, particularly where no commonly accepted approaches and definitions have been reached yet. The multitude of groups with similar stated goals, but divergent strategies and definitions, is both a challenge and an opportunity for achieving and measuring outcomes for forests and people.

Companies find several advantages in participating in industry associations. Alliances of competitors allow for more coordinated strategies while not exposing individual companies to competitive disadvantage due to one-sided renouncement on development or production practices while others continue business-as-usual. While corporate initiatives toward sustainability are a positive sign of the significance the topic has acquired for companies working at an international level the landscape of sustainable production and sourcing (SPS) has become ever more complex. What do corporate associations actually do to reduce their ecological footprint and increase their benefits to a region’s socioeconomic wellbeing? Particularly in controversial sectors, such as palm oil, this question warrants attention. Two initiatives that acquired a lot of public attention are the Palm Oil Innovation Group (POIG) and the Sustainable Palm Oil Manifesto (SPOM).

POIG is championed as a forum to promote sector-wide ratcheting up of standards in palm oil production. Launched at a Tropical Forest Alliance meeting in 2013 the group intends to improve RSPO Principles & Criteria and is endorsed by a number of NGOs including Greenpeace, RAN, and WWF (Greenpeace 2013; WWF 2015). In part as alternative to the lead of the POIG, major palm oil firms not participating in the POIG have conceived the SPOM in July 2014 (Butler 2014a). The manifesto includes elements similar to those included by industry leaders like Golden-Agri Resources or Wilmar in their forest conservation policies (Apical Group 2014). Nevertheless, NGOs criticize the SPOM to lack set deadlines for ending forest clearing and imprecise applicability to suppliers of SPOM signatories. “The Sustainable Palm Oil Manifesto is similar to the Japanese approach to research whales … by harpooning them,” one stakeholder argued.[[15]](#footnote-15) Due to the harsh response from NGOs, the SPOM announced in September 2014 to seize forest clearing until the end of the HCS study (Butler 2014c). The SPOM secretariat (2014), one the other hand, called NGO claims “unacceptable” and that it is “the role of governments and rural communities to assess their own rights to development.” Further, the SPOM secretariat stated it is aiming to develop a single approach implemented across the industry and accepted by both governments and civil society (Rowling 2014).

Such heated debates are indicative of the general low level of clarity, certainty, and trust between different stakeholder groups about the different actors involved and the agendas they pursue. While any initiative targeted toward SPS (sustainable production and sourcing) could be regarded as a step in the right direction, the ambition to create success stories should not compete against carefully screening the content and implementation of industry sustainability initiatives. This is particularly important when “claimed” SPS initiatives could potentially outcompete “truly” SPS in supply chain relationships due to cost advantages. Even in the absence of disadvantages for “truly” sustainable producers uncertainty surrounding the intentions of corporate alliances may induce “greenwashing” claims by NGOs. This could lead to eroding the delicate trust that has built around the general momentum surrounding sustainability initiatives, discrediting corporate actors — sincere and claimed sustainability leaders alike.

To progress with ZD creating a common understanding of concepts and strategies is critical. This can occur by fostering problem-oriented dialog among different stakeholder groups to identify and map different perceptions of the problem and proposed steps forward. Recent events that enabled such personal dialog include the conference [‘How business can tackle deforestation?’](http://innovation-forum.co.uk/deforestation) by Innovation Forum in London and the dialog [‘Understanding Deforestation-Free’](http://theforestsdialogue.org/dialogue/scoping-dialogue-understanding-deforestation-free-udf) by The Forests Dialogue (TFD) at Yale University, both in October 2014. Exchanging opinions as to what instruments and strategies constitute legitimate approaches toward ZD and what are appropriate timelines is central to garnering widespread support for the ZD movement as a whole. The following chapter treats commonly proposed underlying criteria used to differentiate “sustainable” or “deforestation-free” from conventional production.

V. Clarifying the Content: HCS and Certification for ZD?

The description of current processes by industry, NGOs, and governments, including the stakeholder perceptions about these, indicate that disagreement exists about underlying assumptions relating to sustainability and ZD. An important step toward achieving broad support and uptake of the ZD movement across the private sector and civil society is to gather a critical number of stakeholders around an agreed set of principles and criteria. To give a sample of opinions the following section describes stakeholder statements about the relatively new, but prominently debated, High Carbon Stock (HCS) approach, as well as current certification schemes and potential ways to pursue ZD with these tools.

*Is the High Carbon Stock (HCS) Approach Key to Defining ZD?*

There is widespread agreement about the paradigmatic change brought about through the commitment formulation and HCS assessment planning of companies in collaboration with The Forest Trust (TFT) and other environmental groups. Yet, stakeholders voice concerns about the ability of the current model to scale up and follow through on implementation.

|  |
| --- |
| What is HCS?In the HCS concept forests are stratified into six categories according to their average carbon stocks. The HCSs threshold is set at 35 tons of carbon per hectare, lying between the second and third category (young and old shrub). The HCS concept was pioneered in a 2012 collaboration of Golden Agri-Resources (GAR) and its subsidiary SMART with TFT and Greenpeace (Greenpeace 2014). |

Stakeholders agree that HCS can be a very useful and workable framework for progressing with ZD in tandem with FPIC and HCV assessments (for more detail about HCS, HCVs, and FPIC see Appendix I). Despite this agreement, stakeholders also mention concerns as to whether or not protecting HCS forests while allowing others to be cut is a suitable way of interpreting ZD. This, however, is not a facet solely pertaining to HCS, but part of the wider debate surrounding the definitions of ‘forest’ and ‘deforestation’.

**Is HCS protection the right goal for achieving ZD?** Two stakeholders emphasized that degraded forests are at the same time recovering forests, i.e. forests currently classifying as low carbon stock (LCS) may still warrant protection, instead of only focusing on HCVFs and old growth forests.[[16]](#footnote-16) Despite these caveats in interpreting HCS also more critical stakeholders see practical value in the framework: “We are basically accepting that a functioning forest is 35t—but that does not mean zero deforestation. It is a proxy [that can be used] for commercial deforestation.”[[17]](#footnote-17) (A detailed overview of the history and development of the “provisional 35t threshold” can be read in a commentary by TFT Founder Scott Poynton on Mongabay; 2014.)

One stakeholder argues that HCS, or other additional requirements going beyond current certification schemes, may not be needed to claim ZD. “FSC is a sufficient and good proxy for ‘zero deforestation’.”[[18]](#footnote-18) Nevertheless, the stakeholder continued, “HCS, if FPIC and HCV are included, could represent a practical framework. It could be one of the starting points, to show which forests can be cleared and which ones cannot.”

**How can HCS achieve the necessary scale?** Scale is another point of concern for some stakeholders. “The model for the companies coming out with no-deforestation policies has been to become a client to TFT and pay them to sort things out. This model, however, is not suitable for scaling up.”[[19]](#footnote-19) On the other hand, one stakeholder emphasized the leverage achieved by TFT already today is considerable, mentioning that the group’s work “is conservatively affecting the production of more than $100 billion of supply chain turnover.”[[20]](#footnote-20)

To enable a range of stakeholder groups to apply TFT’s tested model and conduct HCS assessments TFT is developing an HCS toolkit.[[21]](#footnote-21) This toolkit, which is planned for publication this fall, details the procedures of community work, GIS and remote sensing, ground-truthing and sample plot establishment, and decision tree analysis. It aims to facilitate the selection of forest patches for conservation and for development. Through such empowerment of stakeholder groups to conduct independent monitoring and consulting services for companies TFT aims facilitate the envisioned cross-sectoral transformation of business practices.

**How to implement HCS? What are developments & actors involved?** Aware of some of the concerns voiced by stakeholders and to mainstream the utility of the HCS concept, the HCS Approach Steering Group (SG) was convened with a first meeting in Singapore in August 2014 (HCS Approach Steering Group 2014; A list of engaged groups and companies can be seen in Appendix II.) It aims to develop a standardized approach to HCS assessments, including HCS thresholds and governance. An intended outcome is to increase the public and scientific legitimacy of the HCS concept and its ability to generate widespread uptake by NGOs, consulting groups, and companies, as well as to potentially feed into policy formulation by governments.

A parallel development to define HCS is led by signatories of the Sustainable Palm Oil Manifesto (SPOM). The group’s Steering Committee (2014b), announced in July 2014, overseas a year-long, jointly funded HCS study with the objectives to “(1) clearly define what constitutes a High Carbon Stock (HCS) forest; (2) provide practical guidance on how to delineate HCS forests on the ground; and (3) establish thresholds for HCS that take account of regional socio-economic conditions and opportunities.” The HCS Approach Steering Group distanced itself from the SPOM HCS Steering Committee stating “there has not yet been sufficient progress and movement from all of this group to take a precautionary approach to land clearance … However the Steering Group would consider the results of the science review that has been initiated by the SPOM and any relevant expert reviews.”[[22]](#footnote-22)

Implementing HCS in an integrated way with HCV and FPIC is a cornerstone objective of the HCS Approach SG. Integration with HCV could go as far as defining HCS as a seventh HCV, one stakeholder stated. “The beauty of this system [the HCV framework] is that it does not require hard rules. It is established to achieve environmental outcomes as determined locally. The approach is to have a concept with a purpose in mind and then create generic and local guidance.”[[23]](#footnote-23) To generate widespread buy-in defining HCS will need to be “partly scientific, partly political, and partly pragmatic,” similar to how the HCV definition process evolved, the stakeholder continued. “Don’t be too puristic or idealistic.” Generally, there was broad agreement about the importance for local interpretation and adaptation of the HCS framework.

While challenges of acquiring legitimacy by stakeholders from all backgrounds require continued work to be overcome, important groundwork for broad-scale implementation is underway. Given the presumed large role HCS will continue to play, and increasingly so, in the definition and implementation of ZD, “what is the best role for established certification systems?” [[24]](#footnote-24)

*What Could the Role of Certification Be in Achieving and Credibly Reporting ZD?*

|  |
| --- |
| Varied perceptions“FSC is a sufficient and good proxy for ‘zero deforestation’.”[[25]](#footnote-25)Vs.“FSC is a great standard, but it’s like a Russian bureaucracy, that is, moving very slow.”[[26]](#footnote-26) |

“Third party” certification has been a central element to discussions and processes surrounding sustainable forest management since the inception of the Forest Stewardship Council in the wake of the Rio Earth Summit in 1992 (Cashore 2002a; Bernstein & Cashore 2007; Cashore et al. 2011; Auld & Gulbrandsen 2012). Initially dismissed by the forest products industry as inappropriate burden to economically viable business practices, certification today is an accepted and recognized risk management tool by leading private sector actors. Compared to where certification started off a few decades ago this is a notable gain in legitimacy among businesses. On the other hand, questions relating to the efficacy of certification as a whole, and also to the validity of individual certification bodies, persist—including the risk of a “race to the bottom” (Haufler 2003; Cashore et al. 2011; Kozak 2013).

All interviewed stakeholders see certification as a valuable tool in achieving ZD, albeit with limits in applicability and efficiency. Most agree that innovation is critical to realize the potential of certification, including harmonizing concepts across standards and streamlining auditing processes, fostering synergies with state regulation, and developing additional elements boosting ZD.

“We have really undergone a revolution in the last year. The certification schemes are finally seen as delivering to companies’ sustainability values instead of as a goal in itself. Companies may use certification schemes as a vehicle for achieving their policies. However, as a whole the certification labels are not going to be sufficient [to achieve ZD].”[[27]](#footnote-27)

“[Certification] is a valuable and important tool, however the question is if they are doing their progress fast enough … the certification market is a little static, and this is where we can see other approaches developing. E.g. TFT and Greenpeace saying we need to move beyond certification. FSC is a great standard, but it’s like a Russian bureaucracy, that is, moving very slow.”[[28]](#footnote-28)

One stakeholder mentioned that “in many cases certification is technically not possible or viable” and ways need to be developed to “engage an auditor to verify similar guidelines are being kept.”[[29]](#footnote-29) This is also relevant to APP’s case, despite its recent leadership in the ZD movement, can’t pursue FSC certification due to the standard’s 1994 deadline for forest conversion. On the other hand, one stakeholder mentioned that with companies and civil society increasingly using transparency tools like Global Forest Watch (see chapter VII. Tools for mapping, quantifying, and monitoring ZD) external certification may be rendered partially obsolete.[[30]](#footnote-30)

Vehicles to broaden the scope, lower the costs, and increase uptake of non-state market-driven instruments (NSMDs, Cashore 2002a) like certification require improvement and innovation. Companies today appreciate certification as a screening and risk management tool, while some NGOs see the rise of certification as a victory for environmental concerns in the private sector and policy realm. Building on this support, and by learning from past successes and failures, the possibilities for new applications of NSMDs are tremendous. Not least due to the surge of innovation in management, measurement and monitoring technology (see chapter VII. Tools for mapping, quantifying, and monitoring ZD). Given the overwhelming view that certification, in various forms, is likely going to be a key element to achieving ZD, and taking into account diverging opinions on the success of past approaches, what mechanisms could bring the desired outcomes?

The following chapter describes stakeholders’ perceptions about the potential and limits of commodity roundtables and explores potential new vehicles and applications for NSMDs to move the ZD movement from promise to reality.

VI. Possible Ways forward with ZD?!

*Commodity roundtables — diverging perceptions*

The potential and limits of commodity roundtables are a widely debated topic. Opinions of pro- and opponents diverge more than in most of the other discussed initiatives and tools. Relevant roundtables relating to the main “forest risk commodities” include RSPO (palm oil), RTRS (soy), GRSB (beef), and RSB (biomaterials). This section focuses on processes and opinions relating to RSPO.

**Valuable years of building trust vs. failure to take meaningful action.** Proponents emphasize that gathering diverse groups around sustainability issues in the global commodity industry is a success that needs to be recognized more widely. Over the years, four stakeholders argue, roundtables have established themselves as recognized fora to progress toward sustainable production, albeit at a slow pace.[[31]](#footnote-31) The “zero deforestation movement” could now build on trust that has slowly been established over the years between producers and NGOs to introduce more rigid rules. Getting more producers to engage with roundtables would be central to achieving a sector-wide transition. Only as a subsequent step could the floor be raised. Dismissing progress, albeit slow, as negligible would be “shortsighted and detrimental” to achieving sectoral change, the proponents argue.

“Right now we should get more people behind roundtable discussions. While some are complaining it is not enough, others are not even at the conversation yet. They are not even complying with the current RSPO rules yet.”[[32]](#footnote-32)

“Building on past progress, even if slow in the past, and pushing reforms needs to be embraced. You need to build such approaches into the strategy toolkit as a transition process.”[[33]](#footnote-33)

“There is a hunger for dismissing current labels and roundtables, however they are the product of ten years of negotiation with the producers.”[[34]](#footnote-34)

“Yes to the mechanism—no to the (current) criteria … There is lots of justified criticism with RSPO, however it is better than other labels. RSPO sets a common basis for [our company] and other companies. Yet, [our company] supports zero deforestation, zero peat, zero HCS.”[[35]](#footnote-35)

Opponents criticize the RSPO is dominated by palm oil growers, and that the pace and content of discussions reflects their interests in a disproportionate way.[[36]](#footnote-36) One opponent argued RSPO, covering approximately 15% of the world’s palm oil (Balch 2013), risks becoming obsolete given forest conservation commitments with higher requirements than RSPO by giants like Wilmar, GAR, Cargill, and most recently IOI. The latter together cover approximately 75% of the world’s palm oil (Johnson 2014).

“Customers don’t care whether RSPO has a lot of stakeholders together, but they care whether forests are falling or not … RSPO had its chance and they failed to seize the moment. They had years, but chose not to take meaningful action.”[[37]](#footnote-37)

**Is RSPO certificate trading a stepping stone and role model for “net” mechanisms in ZND, or a ‘deforestation subsidy’?** RSPO accepts four supply chain models for “sustainable palm oil.” For detailed information see Dols (2014). Certificates trading under the book and claim (B&C) system, practiced mostly via the GreenPalm platform, is the most commonly used method. In this approach, certified and non-certified palm oil is mixed during processing (driving down costs) and end product manufacturers buy certificates for the amount of palm oil they purchase. B&C is comparable to CO2 emissions trading. The other three models include Mass Balance (MB), Segregation (SG), and Identity Preserved (IP). Only the last model requires full traceability to the mill level.

One stakeholder mentioned the role of certificates trading as a stepping stone, important to achieve broader buy-in from palm oil growers. It could also be a model for developing a framework for “deforestation-free” production for a range of commodities other than palm oil.[[38]](#footnote-38)

Certificate trading, an opponent claimed, enable companies to market palm oil from recently deforested areas as sustainable by using certificates from older plantations without clear “additionality” of sustainability outcomes.[[39]](#footnote-39) By buying palm oil labeled “sustainable” from companies with both “sustainable” and “unsustainable” operations consumers subsidized companies involved in deforestation.

Certificates trading is “essentially giving extra money to companies without requiring any action from them.”[[40]](#footnote-40)

“Their governance is very business-oriented.”[[41]](#footnote-41)

Value of commodity roundtables, albeit contested, lies in their function as realm for mutual engagement around SPS. There is a notable shift in perception across the industry. Some of the positive effects commodity roundtables have had on commodity producers include committing to a certain level of disclosure to the public and progress reporting (even though detailed information is mostly only shared among roundtable participants), sensitizing participants to approaches for developing metrics, and measuring impact. Nonetheless, stakeholders from both the NGO and private sector side emphasize the importance to achieve substantial ratcheting up of roundtable rules and proceedings (e.g. revision of principles and criteria, which is intended for 2018).

*Rewarding the Top Without Raising the Floor … Yet? – Add-on Standards*

Could voluntary add-on standards be a way to enable market differentiation for leaders while keeping the bottom engaged? The idea is that leading companies are encouraged to utilize voluntary add-ons to demonstrate compliance with particularly demanding facets of sustainability while less progressive companies are still able to keep up with the general (i.e. “floor”) certification. Such an approach, stakeholders argue, could prevent losing broader industry support from actors unwilling or unable to adopt higher standards, and include everyone in the process of eventually raising the floor toward the voluntary add-ons.[[42]](#footnote-42) A decisive feature of add-ons is to build on existing certification system—rather than competing with them—while providing leading companies a recognized way to distinguish themselves by going beyond floor requirements.

Examples of existing voluntary add-ons include the RSPO greenhouse gas calculation tool (RSPO 2014), or the annex for GMO-free production of the Roundtable for Responsible Soy (WWF 2010). Similar add-ons could be developed for FPIC to address social issues, or HCS (or another tool serving as ZD proxy).

*Traceability and Reporting—Moving Toward Full Disclosure*

Across industries, there is a growing demand by companies and end users to know about the origin of the products they purchase, several stakeholders state.[[43]](#footnote-43) With the development of new tools, such as by the Global Reporting Initiative (GRI), CDP (now also housing the Forest Footprint Disclosure Project of the Global Canopy Programme; CDP 2012), Global Forest Watch, and TFT’s SURE technology, among others “consumers are going to be asking for it, companies are going to be pressured to reveal information … it creates accountability. This spurs compliance and general interest.”[[44]](#footnote-44) This development toward full disclosure of corporate impacts on forests is exemplified in the increase in investor signatories to CDP’s forests program in the last two years. From June 2012 to October 2014 the assets represented by investors more than doubled from $7 trillion (Global Canopy Programme 2012) to $15 trillion (Donofrio 2014).

While establishing traceability is widely recognized as cornerstone toward ZD, one stakeholder voices concerns that “traceability is costly, in a disproportionate way.”[[45]](#footnote-45) Establishing full traceability for each supplier is “too much piece meal, [there is a] need [for] broader approaches.” Nevertheless, most stakeholders see no way around creating fully traceable supply chains as bedrock for complementary steps. “It is uncomfortable to hear that in 2014, in the 21st century, companies cannot trace what they buy. This is mind-boggling. You have to be able to say what you want to buy and see how it was produced. Therefore ensuring traceability is key.”[[46]](#footnote-46)

*PPPs / Jurisdictional Approaches / Supply Basin Certification*

Recent years have seen an evolution of various types of public-private partnerships (PPPs) to scale up sustainable agricultural production and protect forest ecosystems. Such PPPs often combine elements of private certification and government regulation. Often mentioned benefits of PPPs include that they work on a larger scale than typical project-level certification, reduce the burden of frequent audits from various labels for individual producers, and foster good governance. Potential for PPPs also lies in integrating ZD in jurisdictional REDD+ initiatives and supporting international trade instruments like legality verification and tariffs.[[47]](#footnote-47)

Approaches for certification not on a project basis, but on a landscape or jurisdictional scale, have grown in a number of applications over recent years. For thorough background information and analysis, as well as a compilation of case studies see Brickell & Elias (2013) and Elias et al. (2013). Possible designs include monitoring and verifying a collective of producers in administrative units (e.g. state provinces), rather than certifying individual producers as in common certification schemes. Several stakeholders argued this generates synergies between private certification schemes, corporate policies, and governmental regulation.[[48]](#footnote-48) Unlike other approaches, one stakeholder argued, establishing traceability down to each producer may not be required if the jurisdictional origin of a product is regarded as credible proxy for ZD.[[49]](#footnote-49) This could be a decisive cost advantage, besides fostering good governance within that jurisdiction. While seeing the benefit of working with “supply basins” instead of with individual producers, another stakeholder emphasized full traceability to the level of individual producers as critical for clearly demonstrating compliance.[[50]](#footnote-50)

An example where a significant reduction of commodity-driven deforestation is attributed to a jurisdictional approach is the Brazilian Soy Moratorium (Climate and Land Use Alliance 2014). In this mechanism, peer control among producers within the same district induces compliance. Inability or unwillingness to perform collectively results in being cut off from the global market. Such mechanisms could achieve substantial environmental outcomes with other commodities as well, one stakeholder emphasized.[[51]](#footnote-51)

The magnitude of positive impacts that improving state governance can have for the private sector-driven turn toward sustainability is tremendous. This is exemplified by the findings of a recent Forest Trends report, according to which illegal conversion for commercial agriculture accounts for 49% of all tropical deforestation in the past decade (Lawson et al. 2014). Nonetheless, it is also important to note that the required direct government involvement in the development of PPPs and jurisdictional approaches potentially renders them less feasible for immediate implementation.

*ZD Umbrella Certification*

Could the development of an ‘umbrella certification’ for ZD be a practical way to increase the comparability and transparency of the ZD commitments? In this concept, different sustainability labels would be housed under one umbrella and rated according to their requirements in relation to deforestation. A framework could be developed by categorizing labels that are currently accepted by ZD signatories as fulfilling their sustainability requirements. These labels could be ranked in their elements relating to deforestation in order to identify which label needs to be complemented by a particular additional component (e.g. HCS assessment) to serve as ZD proxy. Existing databases like [Ecolabel Index](http://www.ecolabelindex.com) with 458 ecolabels could potentially be utilized to provide input for such an approach. The idea behind such a consolidated framework would be to lend more transparency, traceability, and credibility to ZD commitments.

Generally, the interviewed stakeholders did not see a universal “zero deforestation standard” as the most promising way forward. However, efforts toward harmonizing certification procedures and protocols of different standards are seen by several stakeholders as promising for both increasing clarity about the actual standard requirements and reducing the burden for producers certified according to multiple standards.

"In principle, we really don't like at all the idea of universal standards or even labels. We believe in the importance of companies setting their own standards and then transparently reporting their progress in achieving them.”[[52]](#footnote-52)

“It is hard to say if it would be useful or important. It’s not the necessary next step.”[[53]](#footnote-53)

“I don't think that there is appetite or need for a standard to be developed by a standard-setting organization (this is in fact the first time I hear the idea floated). In effect there is a de-facto standard that companies such as Nestlé, GAR, Wilmar etc have adopted … Claiming deforestation free is still a long way off, especially given the difficulty of getting traceability particularly over the traded commodities (e.g. palm oil).”[[54]](#footnote-54)

“Getting different certification systems under one umbrella is very unlikely … [it can be] unproductive to come up with something new if one has put so much work into the current system already.”[[55]](#footnote-55)

“I would hesitate to create another type of certification for ‘deforestation-free.’ Generally there are so many questionnaires to fill out from NGOs, too many labels and certifications, it is hard to find out which ones are valuable and which ones are not.”[[56]](#footnote-56)

“Companies pursue a vast variety of certifications with different labels. This … adds cost. … [Producers] supplying several corporate buyers have to endure visits by many different auditors all with different requirements according to the buyer policies. There are enormous efficiency arguments to getting as many standards as possible combined in a package … Some concepts, e.g. FPIC, HCV, HCS, that cut across many commodities will benefit from harmonized guidance on their application. This can be referenced in individual standards or in public or private procurement policies or in investment safeguards.” Nonetheless, “I don’t think it’s feasible to create mega-certification systems, but there is huge potential to harmonize key concepts.” Such an approach “will also require country-specific interpretation, and there is great potential for these interpretations to be used in multiple standards and national public policies.”[[57]](#footnote-57)

“All of the standards will have to be assimilated [over time], some will get dropped … There is dynamics, the standards won’t stay the same.”[[58]](#footnote-58)

In relation to the idea of a “zero deforestation standard” within industry associations like CGF, internally decided and externally verified one stakeholder replied: “I don’t think there is the intention to establish a CGF-wide standard [other than guidelines], rather to handle things flexibly and among the companies themselves.”[[59]](#footnote-59)

While a “zero deforestation standard” does not appear to be a favored way forward, an “umbrella framework” for how forest loss is dealt with by different ecolabels is an interesting thought experiment. Screening certification labels against their requirements relevant for a ZD metric and ranking them could be a useful tools for companies to manage and monitor their ZD implementation. Detailing set of possible complements, or “add-on standards,” to achieve full ZD compliance could provide security and legitimacy to companies’ ZD strategies.

*Offset Mechanisms Facilitating the Potential ‘Net’ in ZD*

Part of the power of the corporate pledges—while recognizing their limits and challenges to acquire legitimacy—is that they happen in the absence of government regulation. Emphasis should therefore also be given to means of implementation that do not as a first step require government legislation and revisions of, often tremendously complex, forest codes. This requires openness and innovation in exploring the full range of possible mechanisms and tools to achieve environmental benefits through the “corporate conservation revolution” (Horowitz 2013). It is also worth recognizing that, given the varied stakeholder opinions, no single approach is likely to yield everybody’s buy-in.

Including structured offset mechanisms into the toolbox for achieving ZD may be an element for moving forward while, in cases where necessary, circumventing issues relating to governmental and corporate diplomacy. Concerns about how ZD could impact national sovereignty have been raised in Southeast Asia. Yusuf Basiron, Chief Executive of the Malaysian Palm Oil Council, for instance, exclaimed that forest clearing for palm oil production is a moral imperative to ensure economic development to some of the region’s poorest people, and implied that the imposition of ZD by western nations was not acceptable (Gardner 2014). Provisions for offsets within ZD could give agency about allocation of priorities and compensation to countries that otherwise would revert to objecting ZD altogether. On the side of companies, enabling them to compensate parts of their environmental impacts through market mechanisms could be valuable to incentivize leaders and laggards alike, and to equip them with the necessary tools to reduce their net footprint.

While criticized by some stakeholders as ineffective and inequitable, others see offsets as a way of giving restoration and mitigation a defined monetary value based on market dynamics. If compensating impacts by financing external conservation or restoration projects via offsets is to be effective—and legitimate—they must not compromise companies’ dedication of resources to improving their own supply chains. Prioritizing their own supply chains should be centerpiece to any company with serious ZD commitments. If this is guaranteed offset vehicles could provide additional options for companies to exercise further market differentiation. This could be particularly relevant for remedying historical environmental impacts.

In REDD+ various financing mechanisms, including corporate offsets, intend to leverage forest conservation and climate change mitigation. Private sector finance for emissions reductions has, however, kept far behind the supply generated through forest conservation projects, according to numbers collected by the Interim Forest Finance Project (GCP et al. 2014). This leads to serious financial shortages for forest carbon initiatives in the period until 2020. Potentially, this gap could be filled by providing financing vehicles for ZD signatories to compensate their deforestation footprint in the critical period until their own commitments become operational in 2020.

Stakeholders have different opinions as to whether REDD+, the carbon markets, and other offset-focused mechanisms can play a role in facilitating quick implementation and large-scale impacts of ZD commitments. Exploring its potential, some stakeholders argue, could be a worthwhile activity. Several stakeholders agree that a distinction should be made between proactive offsets, such as companies offsetting their current impacts from their operations, and offsets intended to remedy historical harm.[[60]](#footnote-60)

**Benefits.** There are areas, one stakeholder argues, where sustainable agricultural production is not (yet) feasible. Including the possibility for offsets in the suite of options available to companies could therefore be instrumental for achieving broader adoption of ZD, rather than excluding such cases altogether in the first place.[[61]](#footnote-61)

Current conservation financing mechanisms like UN REDD are not receiving the level of private sector buy-in initially hoped for, two stakeholders argue.[[62]](#footnote-62) Another stakeholder stated “carbon is the first best market we have for ecosystem services and it’s not that great,”[[63]](#footnote-63) adding that there is great need and potential for innovation if ecosystem services markets are to make meaningful contributions to sustainability.

A benefit of including carbon-certified projects as option for offsetting corporate deforestation is the progress made on biodiversity and community safeguards in the forest carbon market, a stakeholder mentioned.[[64]](#footnote-64) In contrast, there are no commonly agreed requirements for the permanence of benefits or safeguards in company-internal restoration activities yet. Furthermore, the large oversupply—or lack of demand—of credits puts the successful continuation of projects at risk. This is a threat to their provisioning ecological, climatic, and social services.

“The idea of offsets is quite controversial, it has a bad name. However, it may be worthwhile to include an offset approach into the toolkit for ZND and private sector engagement.”[[65]](#footnote-65)

“One can always achieve more through parallel activities. But first, own supply chains need to be addressed. Some strategies might also be interpreted as ‘green washing’ by NGOs.”[[66]](#footnote-66)

**Pitfalls.** Contrary to the statements above, two stakeholders emphasized that including purchasing offset credits into the ZD strategy “may be asking two things at once.”[[67]](#footnote-67) Central to ZD, the stakeholders argue, is that companies clean up their supply chains by making them transparent and by purchasing sustainable raw materials, potentially with a price premium. Additional financial expenditures through offsets would compete with money available for realizing company-internal supply chain commitments. “Offsetting here would be a perverse incentive.”[[68]](#footnote-68)

“We don’t need to do these tradeoffs; these are false choices. It ignores a lot of the latest science.”[[69]](#footnote-69)

“I don’t see a role for offsets and carbon credits—at least for [our company].”[[70]](#footnote-70)

The controversial nature of offsets is an impediment to their achieving widespread buy-in from stakeholder groups. Lesson learning from currently practiced offset mechanisms, such as mitigation banking schemes in the US and several European countries or biobanking in Australia, as well as from the forest carbon markets, could inform the potential development and applications for ZD. Initiatives, such as the Business and [Biodiversity Offsets Programme (BBOP)](http://bbop.forest-trends.org) by Forest Trends, establish common guidelines, also in fields other than carbon, and are experiencing increasing traction. Impact studies quantifying the benefits of offset programs could help inform the development of best practices and maximize environmental outcomes. Two assessments quantifying and monetizing “co-benefits” of projects in the voluntary carbon market have jumpstarted the discussion in this realm (ICROA 2014; The Gold Standard 2014). Similarly, conservation finance experiences growing attention by investors, and main obstacles for growth are appropriate finance vehicles, rather than a lack of will to invest in nature conservation, as two recent studies found (Huwyler et al. 2014; The Nature Conservancy’s NatureVest & EKO Asset Management Partners 2014). The NatureVest report found the market is expected to grow to $37.1 billion over the next five years, among which $5.6 billion to be invested by private investors into conservation. These examples highlight the potential for including innovative and cross-sectoral approaches into the ZD movement.

Besides innovation on the financial side, innovation has also defined technological developments relevant to ZD. The following section introduces some of the recently developed geospatial, economic, and ecological tools that could revolutionize the way SPS is measured, verified, and monitored.

VII. Tools for Mapping, Quantifying, and Monitoring ZD

The last years have seen an explosion in technological innovation. A wealth of open access tools is available to companies, civil society, and policy makers. The number of applications, databases, and knowledge platforms keeps growing and enables an unprecedented level of transparency, stakeholder participation, and accuracy for strategic and operational planning, implementation, and monitoring purposes. Further, the transparency and stakeholder engagement facilitated by these tools can serve to avoid false allegations. A select few of these tools are presented below.

The following four tools are joint developments of different groups of organizations headed by the World Resources Institute (WRI). They are intuitive and interactive online mapping tools that allow for easy use by various stakeholders.

* Global Forest Watch (GFW) is the flagship of WRI’s forest monitoring information tools. It provides 30x30m resolution forest cover and forest cover change imagery on a global scale. GFW enables organizations to conduct their own regional analyses and monitoring as well as data uploads and downloads.
	+ <http://www.globalforestwatch.org>
* Global Forest Watch Commodities is an expansion of GFW particularly focusing on risks and opportunities of commodity production.
	+ <http://commodities.globalforestwatch.org>
* The Suitability Mapper maps land in Kalimantan and West Papua according to their suitability for palm oil cultivation taking into account climatic, ecologic, and economic considerations. The tool’s applicability will be expanded by increasing its geographic coverage over time.
	+ <http://www.wri.org/resources/maps/suitability-mapper>
* Similarly, the Forest Cover Analyzer allows for assessing forest cover change as well as providing a risk map related to palm oil production. The tool is currently limited to Kalimantan.
	+ <http://www.wri.org/resources/maps/forest-cover-analyzer>

These tools can help companies map the concessions of their suppliers and mills as well as identify forest cover and land use changes. Uploading and downloading of data such as shapefiles and geographic coordinates allows users to conduct their own analyses using geospatial software applications. Progressive companies are increasingly interested in applying these tools and see them as effective planning and risk management applications. For instance, Unilever has recently announced a partnership with WRI to actively use monitoring tools like GFW Commodities (WRI 2014).

Another tool that has been frequently mentioned in relation to corporate ZD commitments is TFT’s SURE technology. It enables transparent supply chain mapping and traceability of products. Additionally, in the case of Asia Pulp and Paper (APP) for instance, external stakeholders can follow the process and report progress or grievances via an [online monitoring dashboard](https://www.asiapulppaper.com/sustainability/tracking-progress/monitoring-dashboard).

* Product Sustainability Toolkits by The Sustainability Consortium (TSC), updated in October 2014, enable users to assess environmental and social issues on a product category basis, including key performance indicators (KPIs). The KPIs aim to facilitate tracking the use of certification like RSPO and FSC as a means to address deforestation. While the tools are freely available to TSC members, they require purchasing by non-members.
	+ <http://www.sustainabilityconsortium.org/our-products/#sthash.uUMMJsBu.dpuf>
* Forest Legality Alliance, by WRI and EIA (Environmental Investigation Agency) with support of USAID and the private sector, is a risk information tool on a country level to help businesses comply with import regulations such as EUTR, Lacey Act, or Australia’s Illegal Logging Prohibition Act.
	+ <http://risk.forestlegality.org/countries>
* Global Forest Registry, by FSC, Rainforest Alliance and NEPCon, similarly to the Forest Legality Alliance, is a risk evaluation tool and provides information from more than 150 countries for due diligence and raw material sourcing purposes.
	+ <http://www.globalforestregistry.org/>
* Greenhouse Gas Protocol by WRI and WBCSD, "the most widely used international accounting tool for government and business leaders to understand, quantify, and manage greenhouse gas emissions ... provid[ing] the accounting framework for nearly every GHG standard and program in the world.”
	+ [http://www.ghgprotocol.org](http://www.ghgprotocol.org/)
* Ecosystem Services Review by WRI to help identify business risks from ecosystem changes, used, for instance, by the Brazilian Business and Ecosystem Services Partnership and Walmart.
	+ <http://www.wri.org/publication/corporate-ecosystem-services-review>
* FAO SFM Toolbox, launched in the summer 2014, contains modules and describes relevant thematic areas with planning and implementation tools of sustainable forest management practices.
	+ <http://www.fao.org/sustainable-forest-management/toolbox/sfm-home/en/>
* Conservation International’s scientific data and tools site.
* <http://sp10.conservation.org/how/science/pages/scientific-data-and-tools.aspx>
* A web tool by CERES with climate change disclosure from 3,000 companies.
	+ <http://www.ceres.org/press/press-releases/new-web-tool-provides-easy-access-to-sec-climate-change-disclosure-from-3-000-public-companies>
* Ecosystem Valuation Toolkit, by Earth Economics, enables businesses to calculate the value of their natural assets, to account for them in their balance sheets, and to derive management decisions to optimize their natural capital. It includes a web-based tool and an online database of values for nature.
	+ <http://esvaluation.org/>
* Ecosystem-Based Management (EBM) tools to develop ecosystem models, illustrate economic and resource impacts of decision scenarios, and facilitate stakeholder involvement.
	+ <http://www.ebmtools.org/about_ebm_tools.html>
* Protected Planet, by IUCN and UNEP, is an online map of the World Database on Protected Areas (WDPA), and a comprehensive global database on protected areas. It enables companies to independently assess the legal status of the operating areas of suppliers.
	+ <http://www.protectedplanet.net>
* Geoserver, by the Open Source Geospatial Foundation, is a platform enabling users to share geospatial maps and data, as well as processing algorithms.
	+ <http://geoserver.org/about/>

VIII. Concluding Remarks

The stakes are high and ‘zero deforestation’ may suffer from a gradual loss of significance similar to other voluntary sustainability commitments before. Ultimately, on-the-ground progress is what corporate forest conservation policies are assessed against. Activities for ZD need to make a credible case in paving the way for transformational change. Failing to achieve the buy-in of various stakeholder groups, as well as to deliver timely progress, will give consumers and environmental groups yet another reason to see corporate commitments suspiciously. This in turn is a hurdle for first movers to realize market incentives through increased demand for sustainable products or reputational benefits.

A challenge is that signatories of commitments can’t afford unlimited upfront investment without outlook for economic returns within the foreseeable future. Further, depending on the interpretation of system boundaries (the scope) in deforestation footprint analyses, challenges may lie in creating sufficient supply of ‘deforestation-free’ produce that match consumer goods companies’ policies. Therefore, the scope of included processes into a ‘deforestation-free’ standard, timelines, as well as regulations for deforestation offsetting need to be balanced carefully. The goal should be to achieve widespread uptake among those causing the impacts while ensuring that real outcomes are achieved for the world’s forests.

Given these challenges, it is important to recognize that ZD is a dynamic movement, built on visionary leadership and momentum. This is opposite to consensus-driven processes, such as at the United Nations (or in the RSPO, which some have called a “miniature UN”), and is both a risk and an opportunity. For the ZD commitments, by achieving their intended goals by 2020, the opportunity lies in showcasing that bold corporate leadership can be effective and that trust can be regained in the market place. The full range of options should therefore be explored as possible option to legitimately claim to operate ‘deforestation-free’.

It remains the question: Are the 2020 targets sufficient, even if fully and timely implemented? An appropriate way to handle this could be to focus on holistic commitment implementation while seizing opportunities to achieve ZD objectives earlier than planned and to include even further objectives into the targets. The ZD movement may be one of the most exciting developments and paradigm shifts in international commodity production and corporate sustainability leadership. While commitments are nothing but commitments until they are implemented, it is in the hands of everybody to make them meaningful and to turn them into a cornerstone to achieve the vision of delinking commodity production from deforestation.

Appendix I

High Conservation Values (HCV) were initially developed by the Forest Stewardship Council. There are six HCVs relating to forests containing significant biodiversity concentrations and threatened ecosystems, providing critical ecosystem services, and supporting local communities socioeconomically as well as in their cultural practices and traditions. Since its first publication under Principle 9 of the FSC standard the HCVF concept has found widespread uptake internationally (Jennings et al. 2003).

Unlike the HCVs, the High Carbon Stock (HCS) concept is only a few years old, emerging from the international dialogue of the potential significance of forests to reduce global carbon emissions. While there is no globally agreed upon definition or standard methodology, pioneering work has been undertaken by Golden Agri-Resources (GAR) and its subsidiary SMART in collaboration with TFT and Greenpeace, published in 2012. According to their definition, forests are stratified in six categories according to their average carbon stocks. The HCSs threshold is set at 35 tons of carbon per hectare, which is between the second and third category (between young and old shrub). While the concept has found uptake through other actors such as the Roundtable on Sustainable Palm Oil, the methodology is still being refined as well as subject to potentially alternative thresholds and definitions according to local and national circumstances (Golden Agri-Resources & SMART 2012; Suksuwan 2012; Greenpeace 2014).

Free, Prior, and Informed Consent (FPIC) has emerged as an internationally recognized principle to ensure the adequate consideration of indigenous peoples and other local communities in initiatives such as development projects or industrial resource extraction, as well as their full participation in decision making. This concept is endorsed by a range of international organizations and listed in the UN Declaration on the Rights of Indigenous Peoples (The Forests Dialogue 2010).

Appendix II

Organizations invited to the HCS Approach SG meeting in Singapore:[[71]](#footnote-71)

NGOs: GP, WWF, FPP, RAN, UCS, CI, TNC, FoE, NWF, Catapult

Producer Companies: GAR, Wilmar, NBPOL, Cargill, AgroPalma, DAABON

Technical Support Orgs: TFT, Proforest, Daemeter

Consumer Companies: Unilever, Nestle

Other Interested parties: RSPO, FSC, HCVRN, APP

Bibliography

Apical Group. 2014. SUSTAINABLE PALM OIL MANIFESTO. Retrieved from http://www.apicalgroup.com/index.php/sustainable-palm-oil-manifesto .

Auld, G., and L. H. Gulbrandsen. 2012. Learning through Disclosure : The Evolving Importance of Transparency in the Practice of Nonstate Certification:1–35.

Balch, O. 2013. Sustainable palm oil: how successful is RSPO certification? Retrieved from http://www.theguardian.com/sustainable-business/sustainable-palm-oil-successful-rspo-certification.

Bernstein, S., and B. Cashore. 2007. Can non-state global governance be legitimate? An analytical framework. Regulation & Governance **1**:347–371. Retrieved October 10, 2013, from http://doi.wiley.com/10.1111/j.1748-5991.2007.00021.x.

Brickell, E., and P. Elias. 2013. Great Expectations: Realising social and environmental benefits from public - private partnerships in agricultural supply chains. London.

Brown, S., and D. Zarin. 2013. What Does Zero Deforestation Mean? Policy Forum.

Butler, R. 2014a. New palm oil sustainability manifesto met with criticism from environmentalists. Retrieved from http://news.mongabay.com/2014/0711-sustainable-palm-oil-manifesto.html.

Butler, R. 2014b. Palm oil giants announce deforestation moratorium — effective immediately. Retrieved from http://news.mongabay.com/2014/0920-palm-oil-deforestation-moratorium.html#U0ZeOH0a1J6Fx7mU.99.

Cashore, B. 2002a. Legitimacy and the Privatization of Environmental Governance: How Non-State Market-Driven (NSMD) Governance Systems Gain Rule-Making Authority. Governance **15**:503–529. Retrieved from http://doi.wiley.com/10.1111/1468-0491.00199.

Cashore, B. 2002b. Legitimacy and the Privatization of Environmental Governance: How Non-State Market-Driven (NSMD) Governance Systems Gain Rule-Making Authority. Governance **15**:503–529. Retrieved from http://doi.wiley.com/10.1111/1468-0491.00199.

Cashore, B., G. Auld, and S. Renckens. 2011. The Impact of Private, Industry, and Transnational Civil Society Regulation and Their Internaction with Official Regulation.

CDP. 2012. Carbon Disclosure Project and Forest Footprint Disclosure Project merge to create world’s largest natural capital disclosure system covering carbon, water and forests. Retrieved from https://www.cdp.net/en-US/News/CDP News Article Pages/CDP-and-FFD-merge-to-create-worlds-largest-natural-capital-disclosure-system.aspx.

CDP. 2014. Deforestation-free supply chains: From commitments to action. London. Retrieved from www.cdp.net.

Climate and Land Use Alliance. 2014. Disrupting the Global Commodity Business. San Francisco. Retrieved from www.climateandlandusealliance.org.

Climate Summit 2014. 2014. New York Declaration on Forests: Action Statements and Action Plans. Retrieved from http://www.un.org/climatechange/summit/wp-content/uploads/sites/2/2014/09/FORESTS-New-York-Declaration- on-Forests.pdf.

Consumer Goods Forum. 2014. Publications. Retrieved from http://www.theconsumergoodsforum.com/resources/publications.

Dieterich, U., and G. Auld. 2014. Moving beyond commitments: creating durable change through the implementation of Asia Pulp and Paper’s forest conservation policy. Journal of Cleaner Production. Elsevier Ltd. Retrieved October 24, 2014, from http://linkinghub.elsevier.com/retrieve/pii/S095965261400821X.

Dols, M. 2014. RSPO supply chain & surfactants: Challenges & opportunities. Speciality Chemicals Magazine. Retrieved from www.specchemonline.com.

Donofrio, S. 2014. Growing economies while avoiding deforestation. Retrieved from http://ccbriefing.corporate-citizenship.com/2014/10/03/growing-economies-avoiding-deforestation/.

Elias, P., D. Burns, N. Walker, M. Leggett, F. Davis, and A. Pinzon. 2013. Tools to Address the Drivers of Deforestation through Public and Private Sector Synergies.

FAO. 2002. Comparative framework and Options for harmonization of definitions: Forest.

ForestEthics. 2007. Victoria’s Dirty Secret. Retrieved from http://victoriasdirtysecret.net/section.php?id=9&qty=10&all=1.

ForestEthics. 2015. CLAYOQUOT SOUND — FORESTETHICS’ ORIGIN STORY. Retrieved from http://www.forestethics.org/origin-story.

Gardner, T. 2014. Unlocking the true potential of forests?

GCP, IPAM, FFI, and UNEP FI. 2014. Stimulating Interim Demand for REDD+ Emission Reductions: The Need for a Strategic Intervention from 2015 to 2020. Oxford, UK.

Global Canopy Programme. 2012. Carbon Disclosure Project and Forest Footprint Disclosure Project merge to create world’s largest natural capital disclosure system covering carbon, water and forests. Retrieved from http://www.globalcanopy.org/about/press-enquiries/press-releases/carbon-disclosure-project-and-forest-footprint-disclosure-proje.

Golden Agri-Resources, and SMART. 2012. HIGH CARBON STOCK. Retrieved from http://www.goldenagri.com.sg/pdfs/misc/High\_Carbon\_Stock\_Forest\_Study\_Report.pdf.

Greenpeace. 2013. Palm oil companies join NGOs to find palm oil solutions. Retrieved from http://www.greenpeace.org/international/Global/international/photos/forests/2013/Indonesia Forests/POIG Statement 28 June 2013.pdf.

Greenpeace. 2014. The HCS Approach: No Deforestation in practice. Retrieved from http://www.greenpeace.org/international/Global/international/briefings/forests/2014/HCS Approach\_Breifer\_March2014.pdf.

Haufler, V. 2003. New Forms Of Governance: Certification Regimes As Social Regulations Of The Global Market:237–247.

HCS Approach Steering Group. 2014. Steering Group Established to Oversee the High Carbon Stock (HCS) Approach for Implementing “No Deforestation” Commitments. Retrieved from http://www.greenpeace.org/seasia/Press-Centre/Press-Releases/Steering-Group-Established-to-Oversee-the-High-Carbon-Stock-HCS-Approach-for-Implementing--No-Deforestation-Commitments/.

Horowitz, J. 2013. The Corporate Conservation Revolution. Retrieved from http://skollworldforum.org/2013/02/27/the-corporate-conservation-revolution/?series=how-do-we-feed-the-world-and-still-address-the-drivers-of-deforestation.

Huwyler, F., J. Käppeli, K. Serafimova, E. Swanson, and J. Tobin. 2014. Conservation Finance Moving beyond donor funding toward an investor-driven approach.

ICROA. 2014. Unlocking the Hidden Value of Carbon Offsetting.

Jennings, S., R. Nussbaum, N. Judd, and T. Evans. 2003. The High Conservation Value Forest Toolkit. Oxford, UK. Retrieved from http://www.proforest.net/objects/publications/HCVF/hcvf-toolkit-part-1-final-updated.pdf.

Johnson, N. 2014. Palm-oil giant makes big commitment. Rainforests rejoice. Retrieved from http://grist.org/food/palm-oil-giant-makes-big-commitment-rainforests-rejoice/.

Kozak, R. 2013. What Now, Mr. Jones? Some Thoughts about Today’s Forest Sector and Tomorrow's Great Leap Forward. The Global Forest Sector: Changes, Practices, and …:429–444. Retrieved February 8, 2014, from http://books.google.com/books?hl=en&lr=&id=oDcTAgAAQBAJ&oi=fnd&pg=PA431&dq=What+Now,+Mr.+Jones%3F+Some+Thoughts+about+Today%E2%80%99s+Forest+Sector+and+Tomorrow%E2%80%99s+Great+Leap+Forward&ots=CpPxlcnxUP&sig=sbax2flZFdIK5MBrCgmW1uIHdhE.

Lawson, S., A. Blundell, B. Cabarle, N. Basik, M. Jenkins, and K. Canby. 2014. Consumer Goods and Deforestation: An Analysis of the Extent and Nature of Illegality in Forest Conversion for Agriculture and Timer Plantations. Retrieved from www.forest-trends.org.

Levin, K., B. Cashore, S. Bernstein, and G. Auld. 2012. Overcoming the tragedy of super wicked problems: constraining our future selves to ameliorate global climate change. Policy Sciences **45**:123–152. Retrieved March 23, 2013, from http://www.springerlink.com/index/10.1007/s11077-012-9151-0.

National Institute for Space Research Brazil. 2013. Estimativa do Prodes 2013. Retrieved from http://www.obt.inpe.br/prodes/Prodes\_Taxa2013.pdf.

Nestlé. 2013. Nestlé Responsible Sourcing Guideline.

Poynton, S. 2014. The history of the contentious number behind zero deforestation commitments for palm oil. Retrieved from http://news.mongabay.com/2014/0714-poynton-commentary-35-tons-c.html.

Rowling, M. 2014. Row erupts over magic number that could save forests from palm oil. Retrieved from http://www.trust.org/item/20140807091203-7bcje?view=print.

RSPO. 2014. PALMGHG CALCULATOR. Retrieved from http://www.rspo.org/certification/palm-ghg-calculator.

Seigel, J. 2013. Rainforest Action Network defends forests, climate against Citigroup, 2000-2004.

SPOM Secretariat. 2014a. Response to Greenpeace’s Relase on the Sustainable Palm Oil Manifesto. Retrieved from http://www.simedarby.com/Response\_to\_Greenpeace%E2%80%99s\_Release\_on\_the\_Sustainable\_Palm\_Oil\_Manifesto.aspx.

SPOM Secretariat. 2014b. The world’s largest palm oil players commit to funding High Carbon Stock Study. Retrieved from http://www.simedarby.com/The\_world%E2%80%99s\_largest\_palm\_oil\_players\_commit\_to\_funding\_High\_Carbon\_Stock\_Study.aspx.

Suksuwan, S. 2012. Carbon Assessment Tool for New Oil Palm Plantings. Retrieved from http://www.rspo.org/file/RSPOcarbonassessmenttoolfornewplantingsVer1.pdf.

The Forests Dialogue. 2010. Initiative on Free, Prior and Informed Consent. Retrieved from http://theforestsdialogue.org/sites/default/files/tfd\_fpic\_concept\_note\_0.pdf.

The Gold Standard. 2014. The Real Value of Robust Climate Action.

The Nature Conservancy’s NatureVest, and EKO Asset Management Partners. 2014. Investing in Conservation: A landscape assessment of an emerging market.

Unilever. 2014. Unilver Sustainable Sourcing Programme for Agricultural Raw Materials, Scheme Rules v. 3.0.

Vogel, D. 1997. Trading up and governing across: transnational governance and environmental protection. Journal of European Public Policy **4**:556–571. Retrieved October 7, 2014, from http://www.tandfonline.com/doi/abs/10.1080/135017697344064.

WRI. 2014. RELEASE: Unilever and WRI Announce Partnership to Increase Transparency of Key Commodity Supply Chains to Help End Tropical Deforestation. Retrieved from http://www.wri.org/news/2014/09/release-unilever-and-wri-announce-partnership-increase-transparency-key-commodity?utm\_campaign=wridigest&utm\_source=wridigest-2014-09-03&utm\_medium=email&utm\_content=image.

WWF. 2010. WWF, the Round Table on Responsible Soy and genetically modified soy. Retrieved from http://wwf.panda.org/about\_our\_earth/search\_wwf\_news/?156602/Involvement-in-the-RTRS-GM-Soy-Industry.

WWF. 2015. Palm Oil Innovation Group. Retrieved from http://wwf.panda.org/what\_we\_do/footprint/agriculture/palm\_oil/solutions/palm\_oil\_innovation\_group/.

1. The California effect describes a phenomenon where it is in the self-interest of companies to impose regulations on their less regulated competitors, introduced by (Vogel 1997) [↑](#footnote-ref-1)
2. “Sticky” policies, according to Levin et al. (2012) are “interventions that, through progressive incremental trajectories, *entrench* support over time while *expanding* the populations they cover. [↑](#footnote-ref-2)
3. Stakeholder B [↑](#footnote-ref-3)
4. Stakeholder J [↑](#footnote-ref-4)
5. Stakeholder B [↑](#footnote-ref-5)
6. Stakeholder J [↑](#footnote-ref-6)
7. Stakeholder E [↑](#footnote-ref-7)
8. Stakeholder I [↑](#footnote-ref-8)
9. Stakeholder G [↑](#footnote-ref-9)
10. This question was posed by Brendan May, Robertsbridge, in a management briefing for the conference “How business can tackle deforestation” by the Innovation Forum. [↑](#footnote-ref-10)
11. Stakeholder A, Stakeholder I [↑](#footnote-ref-11)
12. Stakeholder I [↑](#footnote-ref-12)
13. Stakeholder G [↑](#footnote-ref-13)
14. Stakeholder E [↑](#footnote-ref-14)
15. Stakeholder G, interview & unpublished document [↑](#footnote-ref-15)
16. Stakeholder J, Stakeholder G [↑](#footnote-ref-16)
17. Stakeholder J [↑](#footnote-ref-17)
18. Stakeholder J [↑](#footnote-ref-18)
19. Stakeholder K [↑](#footnote-ref-19)
20. Scott Stakeholder M [↑](#footnote-ref-20)
21. Phone conversation with Charlotte Opal, TFT [↑](#footnote-ref-21)
22. This quote is from an invitation email to the HCS Approach SG meeting in Singapore, provided by Stakeholder K. [↑](#footnote-ref-22)
23. Stakeholder K [↑](#footnote-ref-23)
24. This question was posed by Brendan May, Chairman and Founder, Robertsbridge, in a management briefing for the conference “How business can tackle deforestation” by the Innovation Forum. [↑](#footnote-ref-24)
25. Stakeholder J [↑](#footnote-ref-25)
26. Stakeholder E [↑](#footnote-ref-26)
27. Stakeholder G [↑](#footnote-ref-27)
28. Stakeholder E [↑](#footnote-ref-28)
29. Stakeholder I [↑](#footnote-ref-29)
30. Stakeholder E [↑](#footnote-ref-30)
31. Stakeholder A, Stakeholder I, Stakeholder K, Stakeholder L [↑](#footnote-ref-31)
32. Stakeholder I [↑](#footnote-ref-32)
33. Stakeholder K [↑](#footnote-ref-33)
34. Stakeholder A [↑](#footnote-ref-34)
35. Stakeholder L [↑](#footnote-ref-35)
36. Stakeholder G [↑](#footnote-ref-36)
37. Stakeholder G [↑](#footnote-ref-37)
38. Stakeholder A [↑](#footnote-ref-38)
39. Stakeholder G [↑](#footnote-ref-39)
40. Stakeholder G [↑](#footnote-ref-40)
41. Stakeholder J [↑](#footnote-ref-41)
42. Stakeholder K [↑](#footnote-ref-42)
43. Stakeholder E, Stakeholder I, Stakeholder A [↑](#footnote-ref-43)
44. Stakeholder E [↑](#footnote-ref-44)
45. Stakeholder A [↑](#footnote-ref-45)
46. Stakeholder I [↑](#footnote-ref-46)
47. Relevant instruments include the Lacey Act, EUTR, the Australian Illegal Timber Prohibition Act, the EU Renewable Energy Directive, and the US Renewable Fuel Standard 2. Potential also lies in preferential tariffs for sustainable products based on provisions under WTO/GATT (General Agreement on Tariffs and Trade) [↑](#footnote-ref-47)
48. Stakeholder I, Stakeholder A, Stakeholder K [↑](#footnote-ref-48)
49. Stakeholder A [↑](#footnote-ref-49)
50. Stakeholder I [↑](#footnote-ref-50)
51. Stakeholder G [↑](#footnote-ref-51)
52. Scott Stakeholder M [↑](#footnote-ref-52)
53. Stakeholder G [↑](#footnote-ref-53)
54. Stakeholder D [↑](#footnote-ref-54)
55. Stakeholder I [↑](#footnote-ref-55)
56. Stakeholder H [↑](#footnote-ref-56)
57. Stakeholder K [↑](#footnote-ref-57)
58. Stakeholder E [↑](#footnote-ref-58)
59. Stakeholder C [↑](#footnote-ref-59)
60. Stakeholder K, Stakeholder B, Stakeholder H [↑](#footnote-ref-60)
61. Stakeholder H [↑](#footnote-ref-61)
62. Stakeholder K, Stakeholder I [↑](#footnote-ref-62)
63. Stakeholder B [↑](#footnote-ref-63)
64. Stakeholder K [↑](#footnote-ref-64)
65. Stakeholder K [↑](#footnote-ref-65)
66. Stakeholder F [↑](#footnote-ref-66)
67. Stakeholder C, Stakeholder I [↑](#footnote-ref-67)
68. Stakeholder I [↑](#footnote-ref-68)
69. Stakeholder G [↑](#footnote-ref-69)
70. Stakeholder D [↑](#footnote-ref-70)
71. This information was provided by Stakeholder K, one of the organizers of the SG meeting. [↑](#footnote-ref-71)