PBL Netherlands Environmental Assessment Agency

THE EMERGING GOVERNANCE LANDSCAPE AROUND ZERO DEFORESTATION PLEDGES

Insights into dynamics and effects of zero deforestation pledges

Background Report

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The emerging governance landscape around zero deforestation pledges

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This background study is part of a larger research effort at PBL Netherlands Environmental Assessment Agency that focuses on new dynamics in global biodiversity governance where non-state actors play an increasingly important role and where the role of governments and international organisations is renegotiated. This background study is one of seven case studies analysing new and innovative approaches to global biodiversity governance. For more information on the project, please contact marcel.kok@pbl.nl.

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Findings

Over a billion people depend on forest resources for their livelihood. Forests also are important biodiversity hotspots and provide ecosystem services, such as soil erosion prevention, carbon sequestration and water-cycle regulation. Deforestation is responsible for up to 15% of global carbon emissions. It is estimated that, since the beginning of the Common Era, about 30% of global forest cover has been cleared and a further 20% degraded. Agriculture, including palm oil plantations and livestock grazing, is one of the main drivers of global deforestation. Most of the remaining forest areas are fragmented, with only about 15% still intact and deforestation and degradation taking place at an alarming rate.

Currently, net forest loss especially affects tropical forests and is mostly related to only a handful of internationally traded commodities, such as palm oil, soya, wood products and beef. In tropical countries, agriculture causes about two thirds of all deforestation: around 40% due to commercial agriculture and about 30% to subsistence agriculture. With the demand for agricultural commodities expected to double in coming decades, pressure on forests is likely to increase, particularly in the Global South.

Slow multilateral response to deforestation

Multilateral response to commodity-production-driven deforestation and degradation has been slow. After failure, in the 1990s, to negotiate a legally binding agreement on forests, multilateral negotiations have led to the adoption of a number of general principles and criteria, including the UN Forest Principles, the UNFF's Non-legally Binding Instrument on All Types of Forests and, most recently, the New York Declaration on Forests. However, these principles and tools lack compliance mechanisms and have not led to the intended large-scale transition to sustainable forest governance and curbing of the rate of deforestation. As a result of the limited political will to establish a strong international process on forests, current global forest governance is characterised by a plethora of private and civil-society initiatives that try to fill the implementation gap left by the international community.

Emergence of voluntary zero deforestation commitments

Building both on the maturing efforts of the standard setting and certification community, and on new opportunities arising from information technology developments, a new approach in global forest governance is gaining momentum, namely that of public- and private-sector pledges to achieve zero deforestation. Zero deforestation commitments mirror larger trends in global sustainability governance that build on common goal setting (e.g. SDGs) and individually formulated public and private commitments (e.g. the GPFML's Bonn Challenge and Paris Climate Agreement's nationally determined contributions).While there is ample discussion on whether zero deforestation commitments can indeed relieve pressure on climate and biodiversity, voluntary commitments to eliminate or reduce deforestation are

developing into a powerful framing of global activities to combat deforestation and forest degradation.

The zero deforestation governance landscape is characterised by dispersal of actors with overlapping functions

Looking at these initiatives, a landscape of zero deforestation commitments emerges with public and private front runners, applying instruments such as certification, moratoria, traceability tools, and with its own decentralised networked monitoring system. This study provides an overview of this wider governance landscape around zero deforestation commitments to aid a better understanding of its workings and dynamics.

Zero deforestation commitments are made by high level, powerful actors, on a global scale. Nevertheless, as a relatively new phenomenon that has yet to develop clearer sets of rules and approaches, the emerging governance landscape is dispersed with various actors taking on leadership roles and with several initiatives overlapping in governance functions. In addition, lack of clarity on definitions (zero net deforestation versus zero deforestation) makes it difficult to keep track and further disperses directionality within the wider ZD governance landscape.

Certification as the main instrument to implement ZD commitments

Companies making use of existent policy tools, such as certification and compliance with legal minimums rather than developing their own company standards avoid duplication and transaction costs. At the same time, reliance on certification might also hinder more ambitious actions and policies.

Within less than a decade, ZD to some degree has become entrenched in global forest governance. For instance, in response to the momentum around ZD commitments, roundtables on the certification of palm oil, soya and beef have incorporated commitments to zero net deforestation. ZD framing is also reflected in the New York Declaration on Forests (NYDF) and in some nationally determined contributions (NDCs) (e.g. INDC Mexico, 2015).

ZD commitments do not sufficiently address biodiversity aspects of forest loss

From a biodiversity perspective, ZD may not be enough. Strictly speaking, ZD is about forest cover or other easily measurable forest aspects, such as carbon sequestration, and less about biodiversity. However, corporate ZD policies often address more than merely the activities related to the clearing of forests. They also detail other important elements of commodity production that go beyond banning deforestation such as high conservation value and indigenous rights.

ZD commitments often operate in the shadow of hierarchy

Although most ZD commitments are made by businesses, governments are important partners in facilitating and implementing private-sector commitments. ZD commitments often peak in the context of high level climate change events, suggesting that companies committing to ZD commitments operate in 'the shadow of hierarchy' and benefit from the facilitating and convening character of high level intergovernmental meetings.

Initiatives such as Tropical Forest Alliance are funded by governments and business. Governments are important partners in the implementation of supply-chain commitments. Many tropical countries suffer from weak or absent forest governance, unclear land tenure, and/or unreliable law enforcement. Private actors alone cannot overcome these challenges. The failure of the Indonesian Palm Oil Pledge (IPOP) also points to the powerful role of government, in that case undermining more sustainable practices. Although most commitments are private-sector-driven, intergovernmental and national level decision-making arguably provides an important frame of reference for companies to articulate their expectations towards governments and promote their sustainability efforts.

Tropical Forest Alliance 2020: a potential agent of change with limited directionality

The Tropical Forest Alliance 2020's strong suit is highlighting co-benefits and convening key stakeholders from various sectors. It has successfully grown a membership base with key representatives from various sectors and world regions. The cross-sectoral membership base of the Tropical Forest Alliance (TFA) also means it can utilise a number of political resources, including diplomatic resources via governmental partners, public pressure via non-governmental organizations (NGO) and market pressure through the private sector. Because TFA partners are key actors in major deforestation risk commodity supply chains, it has the potential for scaling up and functioning as a strategic interface where actors from government, business and civil society may strengthen their individual efforts through collaboration.

While there are several co-benefits that enable collaboration within TFA, the long start-up phase of the initiative also points to the time needed for aligning benefits and interests of the diverse group of TFA members. TFA was set up in 2012, but it was not fully operational until 2015, and not until 2017 forested developing countries outnumbered donor countries.

TFA has been successfully tapping into the momentum around climate change politics, which has helped to raise its visibility, although it also led to a narrowed-down vision that de-emphasises other framings of forests and ZD beyond the related climate benefits. Several incidents suggest that TFA's ability to provide directionality, so far, has been limited. One explanation for this is could be that TFA's vision, so far, has been driven by a small number of frontrunner purchasing companies that push their ideas and agendas on sustainable forest governance, leaving less room for the visions of producing countries and companies.

Frontrunners take the lead and differences between supply chains persist

In 2016, 212 companies newly committed to eliminating deforestation from their supply chains, bringing the total number of such companies to over 400, and their total number of commitments to over 700. Most of these commitments are by consumer-facing companies and refer to sustainable palm oil and timber.

The considerable difference in performance between Consumer Goods Forum (CGF) members and non-members, in terms of internalised commitments, risks identified, policies and auditing, suggests that the widely publicised 2012 CGF pledge encouraged members to focus

more closely on deforestation risks in their supply chains. Climate Focus (2016) also finds that NYDF endorsers and TFA 2020 member companies have made more progress, in all supply chains—in terms of adopting pledges and implementing them.

There are large differences between supply chains. With respect to commitments as well as their implementation, good progress has been made in certified production and sourcing for wood products and palm oil, but less so for soya and cattle. The fact that the number of commitments for soya and cattle is considerably lower is also related to the smaller market share of certified products within these supply chains, making commitments more difficult to implement. The fact that cattle commodities are the largest drivers of deforestation suggests an implementation gap between NYDF Goal 2 and current efforts.

Zero deforestation commitments and their effects

Various assessments conclude limited progress, so far. The step from commitment to implementation still requires significant additional action. Most companies remain unable to trace commodities to the farm level, the question of common baselines to compare efforts has largely been left unaddressed and very few have geo-spatial information on their supplier farms. Only 13% of the 179 manufacturers and retailers tracked by CDP[1] work directly with their suppliers to implement sustainability requirements. This lack of communication and coordination perpetuates a disconnect along the supply chain that is preventing commitments from being translated into action – namely by engaging with those companies that are directly involved in production. The results also reflect a general trend in corporate sustainability governance; despite some frontrunners, most businesses still need to live up to their sustainability claims, which suggests that the transition to sustainable commodity sourcing is still at an early stage.

The trend of new commitments has been slowing down, in recent years. This could have several reasons. First, the Paris Climate Agreement might have indicated to companies that governments, having made their own nationally determined contributions, are now taking a stronger lead. Second, the controversies and finally disbandment of IPOP in mid-2016 might be seen as a setback and may have discouraged companies from making additional commitments. Finally, global governance is characterised by the rise and fall of new framings and concepts. Perhaps the time of ZD commitments has already peaked and —in response to the risks of leakage associated with commitments and the need for more spatial approaches— the policy debate now seems to be shifting towards jurisdictional approaches and financial-sector engagement.

As most commitments set 2020 as their target date, including TFA, there is still some time left to achieve the targets that companies have set for themselves. New technological developments and greater traceability in supply chains can give ZD commitments an additional boost. This will not be enough, however. Factors that can help achieve zero

[1] CDP formerly stood for 'Carbon Disclosure Project'; currently, CDP is an organisation working on global environmental disclosure.

deforestation commitments include traceability, social inclusion and Free Prior Informed Consent[2], environmental integrity, a landscape approach and leakage prevention to avoid displacement of forest loss. How companies perform with respect to most of these crucial factors often remains unclear. They do provide direction for companies, policymakers and think tanks to focus future efforts on.

[2] Free Prior Informed Consent is a specific right that pertains to indigenous peoples and is recognized in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). It allows them to give or withhold consent to a project that may affect them or their territories. The term is used and recognized in international biodiversity and climate negotiations.

1. Introduction

Forests host some of the most important biodiversity hotspots and are essential carbon sinks (FAO, 2016; Schmitt et al., 2009). Over a billion people depend on forest resources for their livelihoods (World Bank, 2004). Forests provide ecosystem services, such as preventing soil erosion and regulating water cycles (Millennium Ecosystem Assessment, 2005). Up to 15% of global carbon emissions result from deforestation (Vermeulen et al., 2012).

It is estimated that about 30% of global forest cover has been cleared and a further 20% degraded (WRI Website, 2017). Agriculture, including palm oil plantations and cattle pasture, is one of the main drivers of global deforestation (Graham and Vignola, 2011; Lawson, 2014). Most remaining forest areas are fragmented with only about 15% of them still intact and deforestation and degradation taking place at an alarming rate (Leadley et al., 2014; FAO, 2015). Currently, net forest loss is taking place especially in tropical forests and is related to only a handful of internationally traded commodities including palm oil, soya, wood products, and beef (Climate Focus, 2016). In tropical countries, agriculture causes about two thirds of all deforestation with commercial agriculture accounting for about 40% and subsistence agriculture accounting for about 30% of total tropical forest loss (Climate Focus, 2016). With demand for agricultural commodities expected to double in the coming decades, pressure on forests is likely to increase particularly in the Global South (Baudron and Giller, 2014).

Multilateral responses to address the commodity production-driven deforestation and degradation have been slow (Gulbrandsen, 2004; Agrawal, Chhatre and Hardin, 2008). After the failure to negotiate a legally binding agreement on forests in the 1990s, multilateral forest negotiations have led to a number of general principles and criteria, including the UN Forest Principles, the UNFF's Non-legally Binding Instrument on All Types of Forests and most recently the New York Declaration on Forests. However, these principles and tools lack compliance mechanisms and have not led to the intended large-scale transition to sustainable forest governance and curb in deforestation rates (Agrawal, Chhatre and Hardin, 2008). As a consequence of the limited political will to establish a strong international process on forests, current global forest governance is characterised by a plethora of private and civil-society initiatives that aim to fill the implementation gap left by the international community (Auld, Gulbrandsen and McDermott, 2008; Agrawal, Chhatre and Hardin, 2008).

A leading and extensively studied example of such non-state actor efforts is private standard setting. Standard setting and certification with front runners, such as the Forest Stewardship Council, created in the aftermath of the 1992 Rio Conference, has proliferated into one of the main tools for sustainable forest governance at the international level (Auld, Gulbrandsen and McDermott, 2008). Over the past decades, standard setting has matured into a widely used policy tool with its own institutions and compliance system (Van Oorschot et al., 2014).

At the same time, the extent to which standard setting and certification is able to achieve large-scale positive impacts for forests, especially in the Global South, is still subject to debate (Smit et al., 2015).

A more recent development shaping global forest governance is the surge in new transparency tools through technological and data analytical advances making them available at increasingly low costs. One example of such new transparency initiatives is Global Forest Watch led by World Resource Institute (WRI), which supplies geo-referenced data about the status of forest landscapes around the world, including near-real-time alerts for recent tree cover loss. These transparency tools are used by think tanks, rating agencies and NGOs to assess progress and hold governments and businesses accountable. For instance, the Global Canopy Programme's Forest 500 initiative uses data from Global Forest Watch for its assessments to rank the most influential companies, investors and governments involved in forest risk commodities. Also, companies such as Unilever partnered up with Global Forest Watch Commodities to develop a risk assessment tool that helps narrow down deforestation risks in their supply chains.

Building both on the maturing efforts of the standard setting and certification community, and on new opportunities arising from information technology developments, a new approach in global forest governance is gaining momentum: public and private-sector commitments to achieve zero deforestation. Zero deforestation commitments mirror larger trends in global sustainability governance that build on common goal setting (e.g. SDGs) and individually formulated public and private commitments (GPFML's Bonn Challenge and Paris Climate Agreement's commitment and review system) (Kanie and Biermann, 2017).

While there is ample discussion on whether zero deforestation commitments can indeed relieve pressure on climate and biodiversity, voluntary commitments to eliminate or reduce deforestation are developing into a powerful framing for global action to combat deforestation and degradation (Brown and Zarin, 2013). According to Forest Trends' Platform Supply Change, over 400 companies have made over 700 deforestation-related commitments (Supply Change, 2017). Supply Change is a platform that provides information on commitment-driven supply chains to businesses, investors, governments, and civil-society organisations to support and hold them accountable. Also, NGOs such as WWF and Greenpeace launched zero deforestation campaigns. Although the financial sector seems to recently be increasingly internalising forest-related risks (Supply Change, 2017; IDH Website, 2017), to date, its commitments are still less evolved compared to those in other sectors, with most financial-sector commitments being made through the Banking Environment Initiative (Bergman, 2015; Climate Focus, 2016).

The most publicised and large-scale zero deforestation commitment was made by the Consumer Goods Forum (CGF) at the Cancun Climate Summit in 2010 committing to promote zero deforestation amongst its member companies. NGOs considered the commitment a 'monumental milestone towards combating a major contributor to climate change' (Lister and Dauvergne, 2014). The CGF is a business association representing 400 of the leading consumer goods companies including Walmart, Tesco, Marks & Spencer, Nestlé,

Coca-Cola, Unilever, and P&G. With CGF's combined sales of EUR 2.5 trillion, the commitment could potentially have major impacts on global supply chains. As a spin-off of the CGF commitment, in 2012, the Tropical Forest Alliance 2020 was founded by the CGF in partnership with the US Federal Government. The multi-stakeholder initiative brings together companies, governments and civil society committed to achieving zero deforestation in agricultural commodity supply chains.

Monitoring of these new commitments and commitments is being taken on by think tanks and consultancies, such as The Global Canopy Programme, Forest Trends, Climate Focus and CDP (formerly Carbon Disclosure Project). Progress on the New York Declaration on Forests (NYDF) is also evaluated by a coalition of think tanks, the NYDF Assessment Coalition. In their reports, these think tanks paint a mixed picture with a growing number of commitments, differences between commodity supply chains and remaining uncertainty about real impacts (Bergman, 2015; Climate Focus, 2016; Supply Change, 2017; CDP, 2015).

Looking at these initiatives, a landscape of zero deforestation commitments emerges with public and private front runners, applying instruments such as certification, moratoria, traceability tools, and its own decentralised networked monitoring system. This study provides an overview of this wider governance landscape around zero deforestation commitments with the aim of obtaining a better understanding of its workings and dynamics.

This study unfolds as follows: it first outlines the methodology applied (Chapter 2) and its analytical framework (Chapter 3). Chapter 4 provides a brief overview of intergovernmental and private-led forest governance in the zero deforestation context. Chapter 5 analyses the zero deforestation commitments zooming in on a key player, the Tropical Forest Alliance 2020. Chapter 6 examines the potential and extent to which zero deforestation has led to actual changes in supply chains and avoided deforestation by means of an Input-Output-Outcome-Impact analysis. The case study ends with a conclusion (Chapter 7).

This study is part of a larger research effort at PBL Netherlands Environmental Assessment Agency that focuses on new dynamics in global biodiversity governance where non-state actors play an increasingly important role and where the role of governments and international organisations is renegotiated. It is one of seven case studies analysing new and innovative approaches to global biodiversity governance.

2. Methodology

The aim of the larger PBL research effort on new and innovative approaches to global biodiversity governance is to obtain a better understanding of new initiatives and their workings. In total, seven case studies were carried out covering various ecosystems and land uses (forest, agricultural land, abandoned land and land with a conservation status, marine environments, cities) and focusing on innovative approaches within biodiversity governance with strong non-state-actor involvement.

This report focuses on zero deforestation commitments and the governance landscape that is emerging around them. Zero deforestation commitments were chosen as a case for three reasons. First, zero deforestation commitments have been considered as a promising novel approach to global forest governance (Brown and Zarin, 2013) and reflect a larger trend in global sustainability governance (Kanie and Biermann, 2017). Second, in recent years momentum has been building around these commitments. Third, zero deforestation commitments take a bottom-up approach and feature a strong non-state-actor involvement, which is the common element on the basis of which all seven case studies were selected.

This report relies on published material in journal articles, reports and data provided on the initiatives' websites in Dutch or English. In addition, four expert interviews and two expert workshops on innovative biodiversity initiatives have been held to check findings and fill in gaps (see Annex).

To gain insights into the workings and dynamics of the governance landscape around zero deforestation commitments, this study applies an analytical framework (Chapter 3) derived from the global environmental governance literature that features an internal and external dimension.

To study the internal workings of a governance initiative (internal dimension), the study examines the internal workings of the Tropical Forest Alliance 2020, a prominent player in zero deforestation governance, major spin off of the widely publicised commitment by CGF, and one of the few larger public–private partnerships that is not concerned with monitoring and works towards implementing more sustainable sourcing practices.

To gain insights into the dynamics between governance initiative and the functions they fulfil within the wider governance landscape (external dimension), the study examines the Tropical Forest Alliance 2020 in its larger governance context, which includes other business actors, transparency initiatives, standard setters, governments and intergovernmental processes. Key actors within these different groups are identified based on prominent mentioning in reports on zero deforestation commitments (e.g. Supply Change, 2017; Bregman, 2016; Climate Focus, 2016) and through expert interviews.

2.1 Input-Output-Outcome-Impact Analysis

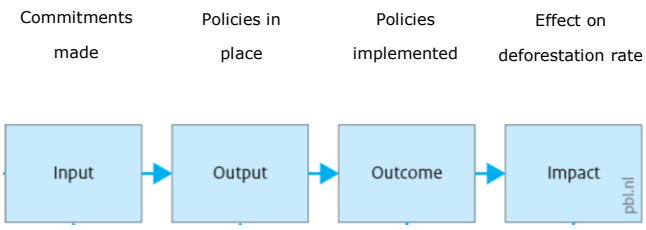
Regarding the extent to which zero deforestation has led to actual changes in supply chains and avoided deforestation, this study makes use of an Input-Output-Outcome-Impact analysis. An Input-Output-Outcome-Impact analysis refers to an assessment that makes a systemic distinction between various result categories. Inputs refer to the means that are necessary to carry out the process (Van Tulder, 2010) or the provision of regimes (Young, 1999, 111). Output refers to the results of a decision-making process or the norms, principles, and rules established (Underdal, 2002). Outcomes are the consequences of the implementation of and adaptation to these norms, principles and rules (Underdal, 2002). Impacts are the biophysical and ecological effects of a governance initiative (Underdal, 2002).

The main reason why high outcomes may not lead to high impacts is leakage (Meijer, 2015), which refers to the situation where reductions in deforestation lead to an increase in deforestation by others, for other purposes, or elsewhere (Wunder, 2008).

In the context of zero deforestation commitments, we operationalise inputs, outputs, outcomes and impacts as follows (Figure 1):

- formulated commitments are considered as *inputs*
- policies in place are considered as *outputs*
- policies implemented are considered as *outcomes*
- real effects on forests are considered as *impacts*

Figure 1. Input-Output-Outcome-Impact framework for zero deforestation commitments



Source: PBL

2.1.1 Indicators

Indicators for inputs used in this study are recognition of deforestation as a supply chain risk, number of commitments made, the share of commitments within a sector, actors of the supply chain involved and the type of commitment made.

Outputs can be measured as the share of companies that developed policies to adhere to their commitments, type of policies in place, as well as the overall number of policies developed to implement commitments.

Outcomes can be measured as the part of the sector, or the number of companies, that change behaviour (Meijer, 2015). High zero deforestation policy implementation rates of the sector forms one component of this. Another indicator can be the market share of sustainably produced products within a supply chain. However, companies that only slightly have to adjust their sourcing in order to implement their zero deforestation policies are often more inclined to join an initiative than companies that would have to significantly change their sourcing. This was observed for adoption of the Forest Stewardship Council (FSC) certification scheme (Pattberg, 2007). Because high implementation rates do not guarantee behavioural change, this report uses two indicators for zero deforestation outcomes: zero deforestation policy implementation rates and the share of commodities compliant with certification standards or internal standards.

Indicators for impacts include the amount of avoided deforestation. However, data establishing a clear link between commitments and avoided deforestation is still rare. As a proxy, the rate of global deforestation serves as rough indicator of overall development, recognising that deforestation has many drivers and that that global deforestation trends are not necessarily correlated with the number of commitments and their implementation.

2.2 Defining zero deforestation

Zero deforestation and zero net deforestation are often used interchangeably, but can have very different implications (Brown and Zarin, 2013). Zero deforestation means no forest areas are cleared or converted, while zero net deforestation allows for forest clearance or conversion in one area as long as an equal area is replanted elsewhere.

The term zero net deforestation has been criticised for its implications for implementing zero net deforestation commitments. First, parties committed to a zero net deforestation commitment may offset by using forest area that was originally not threatened. Second, forest area that is threatened, may often be too costly or difficult to protect. Third, it is difficult to ensure that the replaced forests has equal conservation as the forest that has been cleared. Furthermore, while some forest aspects —such as carbon capture— can be measured, other aspects are more difficult to quantify, such as biodiversity or cultural value. Therefore, with zero net deforestation, the total extent of forest area theoretically remains the same, but its quality may vary significantly (WRI Website, 2015).

In addition, definitions and measurements exists of what constitutes forest area. Forests are often defined as areas that feature more than 10% tree cover (McDicken, 2013). This one-size-fits-all approach, however, neglects the local and ecological context of forests around the world. Another approach is classifying forests according to their value using High Conservation Value and High Carbon Stock tools.

In this report, zero deforestation (ZD) is used as an umbrella term that also includes zero net deforestation.

3. Five aspirations for sustainability governance in the 21st century

This study applies an analytical framework (Kok and Ludwig, forthcoming) derived from a review of the literature on global environmental governance. The analytical framework builds on five aspirations for sustainability governance in the 21st century (see Table 1). These five aspirations have an internal and external dimension. The internal dimension refers to enabling conditions for the setting up and functioning of a governance initiative. The external dimension refers to the functions different governance initiatives adopt in the wider governance landscape. This chapter briefly outlines the five aspirations and their internal and external dimensions.

Table 1: Dimensions to understand performance

5 aspirations for sustainability governance in the 21st century	**Internal dimension: enabling conditions for effective governance initiatives**	**External dimension: governance functions within the wider governance landscape**
Partnerships	Co-benefits	Networking
Renewal	Clumsiness	Experimentation
Accountability	Transparency	Disclosure
Directionality	Vision building and goal-setting	Goal-setting and orchestration
Transformative entrenchment	Horizontal scaling	Vertical scaling

3.1 Building partnerships: networking and collaboration based on co-benefits

Networking is the essential social kit that makes governance initiatives and the collaboration between governance initiatives work.

Regarding enabling conditions for effective governance initiatives, collaboration comes with costs for actors involved; not only in terms of time and personnel but collaboration can also

bear risks for organisations, including the risk of becoming obsolete or competitive disadvantages by sharing exclusive information. A central enabling condition for effective governance initiatives therefore build on co-benefits and all participating actors will need to see opportunities in collaboration to realise own interests; especially in the beginning stages of setting up governance initiatives. Co-benefits for investing and participating in transnational partnerships range from financial and political incentives to opportunities for information sharing, capacity building, implementation and rule-setting. When setting-up a governance initiative, collaborating actors with differing objectives are more likely to join if their goals can be achieved using a common means.

Regarding governance functions within the wider governance landscape, networking between various governance initiatives is a crucial function that holds potential to enhance performance, synergies, and the flow of information and innovation within the wider governance landscape. Partnerships will equally require the existence of co-benefits for various governance initiatives to build partnerships.

3.2 Renewal: taking a clumsy perspective and providing room for experiments

Renewal is created by taking a clumsy perspective and providing room for experimentation by focusing on finding out what works, learning from failure and success stories and on implementing new ideas and problem-solving approaches.

Regarding enabling conditions for effective governance initiatives, clumsiness accepts the existence of contradictory problem perceptions and solutions and tries to make the best of it by focusing on the synergies while simultaneously taking into account differences in perception (Verweij et al., 2006). A clumsy perspective also means being able to flexibly adapt to frequently occurring and uncertain changes.

Regarding experimentation as a governance function within the wider governance landscape, governance initiatives pioneering ideas, pilots and experiments is essential to ensure renewal within the wider governance landscape. Experimentation involves daring to take risks and to accept failures as a means of learning. The spread of innovation in cases of successful experiments is closely linked to the networking dimension.

3.3 Accountability: transparency and disclosure

Transparency and disclosure are increasingly becoming a new norm, nudging businesses but also NGOs and public agencies to reveal their procurement strategies, supply chain management and investment practices. This strengthens overall accountability relationships, both within and between governance initiatives.

Transparency within a governance initiative can help strengthen both accountability and trust, if governance processes and activities of individual actors are communicated in a transparent manner. Enhanced transparency can also be an entry point for more active participation of actors within a governance initiative.

Disclosure is a governance function within the wider governance landscape through which businesses and financial institutions can be held accountable by a broader group of

stakeholders. Disclosure can take on many forms: certification schemes, company reporting systems, verification and auditing systems, online dissemination of information by civil society, and the availability of up-to-date online information to citizens.

3.4 Directionality: guidance in a polycentric governance context

Directionality involves governance strategies in the environmental domain to enhance coherence and order in a context of polycentrism. Directionality can be provided in various ways in a polycentric governance context: within a governance initiative via vision building and goal setting and within the broader governance landscape equally via goal setting but also via orchestration.

Vision-building within a governance initiative can help enhance its performance. For visions to influence collaborating actors within a governance initiative, goal setting can help operationalise the objectives formulated in the initiative´s vision. Vision building can also help align co-benefits and consequently strengthen collaboration within a governance initiative.

Goal-setting as governance function within the wider governance landscape comes in the form of international, national and sectoral goals, targets and commitments. Orchestration as another form of providing directionality in the wider governance landscape, is a governance mode 'in which one actor (the orchestrator) enlists one or more intermediary actors (the intermediaries) to govern a third actor or set of actors (the targets) in line with the orchestrator's goals' (Abbott et al., 2014, p.3). In contrast to both mandatory and voluntary regulation, orchestration is an indirect mode of governance that works through intermediaries. Leadership, agenda setting and review are key features of orchestration that render orchestration a highly relevant governance mode for providing directionality.

3.5 Transformative entrenchment: horizontal and vertical scaling

Sustainability governance within the 21st century has to, by definition, be transformative to successfully respond to the immense challenges of global change processes. An important element of a transformative process is that niche innovations are scaled-up both within and between governance initiatives and become entrenched in the wider governance context.

Scaling up potential can be understood as the enabling environment in which governance initiatives can expand their activities to enlarge their impact and reach a global scale (Termeer, Dewulf, Breeman and Stiller, 2015). It is an efficient and cost-effective way to increase outcomes and impacts for enhanced effectiveness. Impacts can be scaled up in two ways: horizontally and vertically. Horizontal scaling refers to governance initiatives that expand coverage and size by becoming a larger platform, covering more beneficiaries and by covering a larger geographical area. Vertical scaling up refers to governance initiatives that focus on advocacy and knowledge sharing with the purpose of shaping the behaviour of other public and private organisations in a way beneficial to the goals of the governance initiative.

4. Trends in global forest governance

This section places the emergence of hybrid forest governance in a historical context and identifies hybrid governance as a response to the limited ambition of multilateral forest governance.

4.1 A brief history of multilateral forest governance

Multilateral governance of forests is dispersed over several conventions, agreements, goals and instruments (Gulbrandsen, 2004) with no comprehensive legally binding agreement on forests.

International negotiations explicitly aimed at a global forest convention were initiated in 1990 by the G7 (Rayner et al., 2010). The G7 hoped to sign a forest convention at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992. However, at the Rio Summit the international community did not reach consensus on a forest convention. While countries of the Global North mainly supported a convention, the G77 and China viewed the convention as a way for countries of the Global North to influence the sovereign management of tropical forests, while ignoring forest problems in developed countries. As consensus on a global convention could not be reached, governments adopted Chapter 11 of Agenda 21 on combating deforestation and the non-binding Forest Principles which concern 'all types of forests', a compromise still found in the 2007 Non-legally Binding Instrument on All Types of Forests.3

Over the past decades, the Rio negotiations were followed up by the Intergovernmental Panel on Forests (1995–1997), the Intergovernmental Forum on Forests (1997–2000) and the current United Nations Forum on Forests (UNFF, 2000 to the present).

The UNFF was established by ECOSOC as a subsidiary body with universal membership with the aim to facilitate national implementation of sustainable forest management and strengthen coordination among international instruments and organisations with forest-related mandates (Rayner et al., 2010). The UNFF's mandate includes a five-year review and can be regarded a compromise between countries in favour of a convention such as the EU and those that were more sceptical, such as Brazil and the United States.

To support the work of the UNFF, the Collaborative Partnership on Forests was established as an informal, voluntary initiative among 14 international organisations and secretariats with

[3] "Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of All Types of Forests"

substantial programs on forests. When the 2005–2006 review did not create consensus on the negotiation of a legally binding agreement on forests, more countries, including African and some EU countries, moved away from the idea of a convention questioning the ability of a convention to generate significant 'new and additional financial resources' for countries from the Global South or raise standards of forest management worldwide (Rayner et al., 2010). In 2007, the UNFF and the United Nations General Assembly adopted the Non-legally Binding Instrument on All Types of Forests (NLBI) to improve implementation of sustainable forest management and the achievement of the UNFF's four objectives on forests. At the 2015 meeting (UNFF 11), the UNFF agreed to extend the UNFF until 2030 and lay out the main objectives for the coming decades.

It has often been argued that multilateral forest governance lacks political will to achieve a legally binding agreement (Ruis, 2001). One of the main reasons for why multilateral forest governance has faced limited political will is that forests are national sovereign territory and differ in quality and quantity across countries, meaning that countries have differing interests in a global forest convention. Forest-rich countries in the Global North such as Canada are interested in commercial forestry. Forest-rich countries in the Global South such as Brazil however, are more interested in safeguarding their sovereign rights to use forest areas to support development, including the conversion of forest areas for livestock and agriculture. Forest-poor countries, on the other hand, may be more interested in using forests in other countries for carbon offsetting.

Apart from limited political will and national sovereignty concerns, broad coverage of forests through other conventions have additionally complicated the establishment of a global forest convention. Firstly, besides the principles and criteria for forests established within the follow-up UN process to Chapter 11 of Agenda 21, forests are internationally governed by a number of multilateral environmental agreements, the major ones being the Convention on Biological Diversity (CBD), Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the UN Framework Convention on Climate Change (UNFCCC), and the World Heritage Convention.

Over the past decades and in the absence of a global forest convention, multilateral forest negotiations have led to a number of general principles and criteria, including the UN Forest Principles, the Intergovernmental Panel on Forests and the Intergovernmental Forum on Forests' Proposals for Action, the International Tropical Timber Organization's Criteria and Indicators for Sustainable Forest Management, and the UNFF's Non-legally Binding Instrument on All Types of Forests. However, these principles and tools lack compliance mechanisms and have not led to the intended transition to sustainable forest management and curb in deforestation rates (Agrawal, Chhatre and Hardin, 2008). Additionally, the multitude of principles and criteria as well as coverage by other conventions has also raised concerns about policy coherence.

Increasing consensus among policy makers has emerged that too much efforts have in the past been devoted to failed treaty negotiation while other forest-related international processes have been proceeding. The global forest governance community increasingly

considers forests as sufficiently covered through existing institutions, agreements and global goals. Nonetheless, weak multilateralism has led non-state actors to take on a prominent role in global forest governance.

4.2 The emerging hybrid ZD governance landscape

In the absence of a strong multilateral process on forests, non-state actors have started their own initiatives to contribute to sustainable forest governance. The most recent development in non-state-driven, hybrid global forest governance is ZD commitments. These initiatives often evolve alongside multilateral processes and take on the form of hybrid governance that involves multiple actors including national and subnational governments, business and civil society.

This section focuses on initiatives relevant in the context of ZD: the New York Declaration on Forests, voluntary commitments, transparency initiatives, voluntary standard setting and certification, jurisdictional approaches to ZD and financial-sector initiatives.

The initiatives discussed in the following use several of these concepts and definitions, sometimes interchangeably, and make use of these contestations depending on their political agendas. While business-friendly initiatives mostly rely on zero net deforestation, civil society and some academics tend to prefer zero deforestation framing. In order to obtain a broad picture, this study uses zero deforestation or ZD to include initiatives with both a zero deforestation and zero net deforestation agenda.

4.2.1 Voluntary standard setting and certification

Many voluntary commitments are based on certification (Supply Change, 2016). Over the past two decades, voluntary standard setting and certification schemes for agricultural commodities and forestry products have proliferated and developed from a niche in to a more mainstreaming mode of production (Potts et al., 2014).

Starting in the early 1990s, these initiatives were originally initiated by NGOs in industrialised countries, together with some private-sector parties, aiming to raise awareness amongst conscious consumers to buy more sustainable products. They did this by setting standards for improved production, by working with local producers, and by introducing product labels, such as fair trade for coffee and cacao and FSC for timber, to influence consumer choice. Over time, these initiatives were also adopted by front runner businesses and, gradually, the type and number of products for which standards have been set and implemented and labels introduced, increased by more than 400 voluntary sustainability standards in operation today (Potts et al., 2014). Sustainability standards and certification for coffee production cover about 40%, cocoa about 20% and palm oil production about 15% of global market shares (Potts et al., 2014).

Voluntary standard setting focuses on best practices in production units that include production methods, levels of intensity and location choice to safeguard and improve social and environmental conditions. This reduces the pressures of agriculture on forests and increases agricultural biodiversity levels in the production unit. Certification roundtables on palm oil, soya and beef incorporated ZD commitments (Lister and Dauvergne, 2014). Some

voluntary standard also establish relations to High Conservation Value areas or explore the contribution to nature conservation in the wider landscape (Van Oorschot et al., 2014). To date, voluntary standards are predominantly a North American/European enterprise, but there is increasing attention to also create demand in emerging economies.

Voluntary standard setting has also raised a number of questions including their credibility as the positive impacts are not yet clear; the market hurdles they can create for developing countries; the fear that a large number of labels and competition between them may create a race to the bottom, and confusion for consumers; limited market uptake outside EU and North America, systemic limitations to voluntary standard setting as they are often not able to reach least developed countries nor the poorest segments of the rural population; voluntary standard setting as one of multiple instruments for market transformation and the need to go beyond the certified production unit towards the landscape level (Van Oorschot et al., 2014; Fransen, 2015).

4.2.2 Voluntary commitments

Awareness in the business community is growing about the fact that long-term growth and profits can only be sustained if environmental concerns are integrated into core business strategies. Increasing public awareness around deforestation has made especially consumer facing companies vulnerable to campaigns and reputational loss (Bregman et al., 2015). Pledges provide an opportunity for business to reduce reputational, legislative and operational risks (Bregman et al., 2015). Being among the first in their market to commit to ZD, first moving companies are considered better protected against future changes in public policies and regulations. They may even have the opportunity to influence future regulation and by understanding their dependence and impacts on forests, companies face less operational risks (Bregman et al., 2015).

In May 2010, Nestlé launched the world's first No Deforestation Responsible Sourcing Guidelines and became the first global food company to publicly make a deforestation-free commitment (Pirard et al., 2015). The guidelines followed a Greenpeace campaign against Nestlé's use of palm oil in its KitKat chocolate bars (Pirard et al., 2015). Additionally, the guidelines also pointed to the insufficiencies of the Roundtable on Sustainable Palm Oil. In December 2010, CGF made the most well-known commitment at the Cancun climate negotiations committing to promote deforestation free supply chains among its members worth a combined sale of EUR 2.5 trillion. In February 2011, Golden Agri Resources, Indonesia's largest palm oil grower, announced its Forest Conservation Policy, which incorporates all of Nestlé's No Deforestation provisions. At the 2012 Rio+20 summit, CGF in partnership with the US Federal Government founded the Tropical Forest Alliance 2020 which brings together companies, governments and civil society committed to achieving ZD in agricultural commodity supply chains. The Tropical Forest Alliance's secretariat is currently hosted by the World Economic Forum in Geneva and receives funding from the governments of the Netherlands, the United Kingdom and Norway (TFA Annual Report, 2016–2017).

New commitments often peak in the context of high-level international events (Climate Focus, 2016). The CGF commitment and the founding of the Tropical Forest Alliance both took place at large international negotiations, and, at the 2015 Paris climate conference a series of new commitments was launched, including Unilever's and Marks & Spencer's 'produce-and-protect' statement to preferentially source from jurisdictions engaged in REDD+ efforts (CGF Website, 2015).

In their 2016 report, Forest Trends' Supply Change platform researched over 700 companies that have supply chains dependent on palm, timber and pulp, soya, and/or cattle. These agricultural commodities account for more than a third of tropical deforestation. Out of these more than 700 tracked companies, Supply Change identified 447 companies with a total of 760 public commitments addressing deforestation in their supply chains (Supply Change, 2017).

4.2.3 Transparency initiatives around deforestation

Monitoring of these new commitments and commitments is being taken on by think tanks, such as The Global Canopy Programme, Forest Trends, We Mean Business and CDP. For instance, the Global Canopy Programme's Forest 500 identifies and ranks the most influential companies, investors and governments in the race towards a deforestation-free global economy. In collaboration with the Global Canopy Programme, the CDP's Forest Programme acts on behalf of 365 signatory investors with USD 22 trillion in assets who wish to gain insights into how companies are addressing deforestation in their supply chains. In their reports, they paint a mixed picture with growing number of commitments, differences between commodity supply chains and remaining uncertainty about real impacts (Bergman, 2015; Climate Focus, 2016; Supply Change, 2017; CDP, 2015).

We Mean Business is a platform set up by CDP, World Business Council on Sustainable Development and others that compiles business and investor commitments for climate action including ZD. To date, about 650 companies and investors have registered over 1000 commitments, including 55 on deforestation. We Mean Business promotes policy frameworks to work towards implementing these commitments but does not track individual or overall progress in implementing these commitments.

Several new data tools have been launched in recent years that help think tanks such as CDP and other stakeholders to track deforestation worldwide. WRI's Global Forest Watch supplies geo-referenced data about the status of forest landscapes worldwide, including near-real-time alerts for recent tree cover loss. FAO and Google together with several research institutions developed Collect Earth, an open source tool that provides access to large collections of free, high-resolution satellite imagery and to the software and computing power needed to process these into reliable land use, land use change and forestry assessments. The 2016 Marrakesh climate conference saw the launch of yet another transparency initiative. Trase, a joint initiative of Stockholm Environmental Institute and Global Canopy Programme, maps global supply chains and for the first time links production landscapes to downstream buyers and consumers. Initially, Trase focuses on Brazilian soya

and aims to cover 70% of forest risk commodities and production geographies worldwide in the coming years (Trase Website, 2016).

4.2.4 The New York Declaration on Forests

The New York Declaration on Forests (NYDF) is a voluntary political declaration with ambitious targets to end forest loss. The declaration was signed at the United Nations Climate Summit in September 2014 by over 180 signatories including 37 governments, 20 sub-national governments, 53 multi-national companies, 16 groups representing indigenous communities and 63 NGOs. Signatories pledged to halve the rate of deforestation by 2020, end the loss of natural forests by 2030, restore at least 350 million hectares of degraded land by 2030 and eliminate deforestation from the supply chains of key commodities. Achieving NYDF goals could reduce the global greenhouse gas emissions by 4.5–8.8 billion metric tons every year.

The NYDF goals align with other governmental and non-governmental processes, specifically, the Sustainable Development Goals (NYDF Goal 6), the Paris Climate Agreement (NYDF Goal 7), the Tropical Forest Alliance 2020 for forest risk commodities (NYDF Goal 2), the Bonn Challenge for land restoration (NYDF Goal 5) and the Aichi Biodiversity Targets for biodiversity (NYDF Goal 1).

Progress towards the NYDF goals is monitored by the NYDF Assessment Coalition, which annually publishes as report and consists of a number of think tanks and consultancies including The Sustainability Consortium, Global Canopy Forum and Climate Focus. The 2015 and 2016 reports were funded by the Climate and Land Use Alliance[4] and the Tropical Forest Alliance 2020 (see Section 4.2.3).

4.2.5 Jurisdictional approaches to ZD

Jurisdictional approaches to ZD commodities combine three existing strategies to reduce forest loss and degradation which are increasingly converging: landscape approaches, voluntary standard setting (Section 4.2.5) and ZD commitments (Section 4.2.4) (WWF, 2016a).

Landscape approaches developed in the context of conservation, natural resource management and REDD+ efforts, and are characterised by stakeholder and cross-sector engagement and collaboration to reconcile competing land use objectives (WWF, 2016a). Jurisdictional approaches also have a spatial focus but additionally match the scale of the project to the administrative boundaries of primarily local governments. They have been a key focus in the development of REDD+ (WWF, 2016a).

Traditionally, certifications are individually approved for a specific facility such as a plantation or mill. Within the ZD community, there is a growing perception that certification approaches alone will not be enough unless they are scaled-up and governments take on a leadership role (WWF, 2016a). Under a jurisdictional scheme, local government commits to produce

[4] The Climate and Land Use Alliance is a collaborative initiative of the Climate Works Foundation, David and Lucile Packard Foundation, Ford Foundation, and Gordon and Betty Moore Foundation. The initiative focuses on the potential of forested and agricultural landscapes to mitigate climate change, benefit people, and protect the environment.

only certified commodities within its territory often including a localised monitoring system. First pilots have been implemented in regions with highly concentrated levels of commodity production such as Sabah (Malaysia), Central Kalimantan (Indonesia), and Mato Grosso (Brazil) (WWF, 2016a). In these regions, governments work together with key stakeholders to ensure that all palm oil produced in these regions must meet RSPO certification standards. This approach then applies to both large multinational plantations and smallholders (Supply Change, 2017).

Through jurisdictional initiatives, private actors can collaborate with governments in implementing supply-chain commitments. Examples of such collaborations are the produce-and-protect initiative of Unilever and Marks & Spencer and the partnership between the Tropical Forest Alliance members and the Liberian Government (Climate Focus, 2016). The joint produce and protect statement for instance provides several criteria that jurisdictions can use to qualify for preferential sourcing from their companies, including a forest emission reduction strategy, ambitious nationally determined contributions under the Paris agreement and monitoring systems (CGF Website, 2015).

As a newly emerging approach, the hope is that jurisdictional certification may be able to address some shortcomings of existing certification schemes including the cost of certification, smallholder engagement, and displacement of deforestation from one place to another. Forest and REDD+ advocates hope that scaling up certification approaches to jurisdictions can provide additional incentives for public forest conservation and sustainable management (WWF, 2016a). Jurisdictional schemes could also support the designation of land with high conservation value land and Free, Prior and Informed Consent (WWF, 2016a).

4.2.6 The financial sector

Although the financial sector seems to recently be increasingly internalising forest-related risks (Supply Change, 2017; IDH Website, 2016), to date its commitments are still less evolved compared to other sectors, with most financial-sector commitments being made through the Banking Environment Initiative (Bergman, 2015; Climate Focus, 2016).

Financial institutions such as national sovereign wealth funds, private wealth management firms, and project-level investors have started to develop policies against investing in companies with deforestation risk. The Natural Capital Declaration and the Banking Environment Initiative are the two major initiatives aimed at raising awareness on deforestation risks within the financial sector (Supply Change, 2017).

With risk identification and mitigation being a cornerstone of investment viability assessments, the introduction of deforestation as a risk factor suggests that awareness in the financial sector is growing. The financial costs of deforestation are currently especially related to high-profile incidents that can harm both a company and its investors. An example of such an incident the 2016 suspension of major palm oil producer IOI Group from the RSPO for violating rules regarding forest clearing (Supply Change 2016). In the aftermath of the suspension, stock prices dropped immediately, twelve major customers including Unilever,

Nestlé, and Johnson & Johnson ended their business relationship with IOI Group, and IOI was no longer able to sell its palm at price premium.

Despite some progress, compared with companies from other sectors, financial institutions have made the least progress in supporting sustainable commodity production. Less than 20% of major investors have developed forest safeguards or made commodity-specific commitments (Climate Focus, 2016).

4.3 Conclusion

The global governance of forests is dispersed over several conventions, agreements, goals and instruments, between public and private actors (Gulbrandsen, 2004; Meyer and Miller, 2015). Non-state actors have from the beginning of international forest governance started their own efforts on the sidelines of multilateral forest processes. Over the past decades, various often hybrid governance initiatives have proliferated, with voluntary standard setting taking on a prominent role. In the past few years, ZD has gained momentum as a new framing for public and private-sector efforts in transnational forest governance and seems to currently be able to galvanise action around deforestation (Brown and Zarin, 2013; Humphreys et al., 2016). Zero deforestation efforts hold potential to fruitfully combine the efforts of various hybrid initiatives including certification, Redd+, jurisdictional approaches, transparency and financial-sector initiatives. In doing so and by building on public-private collaboration, they could instigate a new logic of change in a hybrid forest governance landscape.

In the following section, ZD commitments are critically discussed using the analytical framework outlined in Chapter 3 by looking individually at the Tropical Forest Alliance as a key actor and by analysing the larger ZD governance landscape.

5. Understanding the dynamics of emerging ZD governance

ZD commitments have been hailed as a promising, new approach to global forest governance and sustainable sourcing (Brown and Zarin, 2013; Humphreys et al., 2016). To obtain a better understanding of ZD commitments as a relatively new governance approach, this report applies the analytical framework outlined in Chapter 3 to examine how ZD initiatives work by looking at the Tropical Forest Alliance (Section 5.1) and subsequently what functions various key initiatives fulfil in the larger ZD governance network (Section 5.2).

5.1 The Tropical Forest Alliance 2020: exploring the internal dynamics of a key ZD player

As a spin-off of the 2010 CGF pledge, in 2012, the Tropical Forest Alliance 2020 (TFA) was founded by the CGF in partnership with governments of the United States, the United Kingdom, Norway and the Netherlands. The TFA focuses on the commodities pulp and paper, palm oil, soya and beef which are together responsible for about 40% of tropical deforestation (Henders et al., 2015; Persson et al., 2014) and brings together companies, governments and civil society committed to achieving ZD in agricultural commodity supply chains who take voluntary action either together with others or individually (TFA Annual Report, 2015–2016). Currently TFA has regional initiatives set up in Brazil focusing on the implementation of the Brazilian forest code, in Africa focusing on sustainable palm oil and in Asia focusing on smallholder access to sustainable markets and jurisdictional approaches (TFA Annual Report, 2016–2017).

As there already are a number of initiatives working on ZD, TFA aims to avoid duplication for instance by building on and bringing together existent initiatives and efforts, for instance by building on certification systems as a way to implement and track ZD commitments (TFA Website, 2017; UNFCCC Website, 2017). TFA aims to improve planning and management of tropical forest conservation, agricultural land use and land tenure, share best practices on forest conservation, including on sustainable agricultural intensification for smallholders and promote the use of degraded lands and reforestation (TFA, 2016).

5.1.1 Convening key actors by identifying and aligning co-benefits

Collaborative efforts often depend on co-benefits, with all actors in an initiative seeing opportunities in collaboration to realise own interests (Kok and Ludwig, forthcoming).

The intention behind launching TFA as a multi-stakeholder platform was to align the CGF's commitment to achieve ZD by 2020 with the parallel interests and ambitions of governments, civil society and financial institutions. TFA partners stated that TFA brings together companies and governments which previously engaged in little dialogue by 'opening a door that was not opening fast enough by creating senior-level political visibility' (World Economic Forum, 2014). TFA partners assumed that the common ZD goal can be more effectively addressed in collaboration and exchange between governments, NGOs and businesses where individual strengths of each partner can be scaled (UNFCCC Website, 2017). For countries, TFA provides a platform to challenge multinational companies to commit to full traceability and public information. A major co-benefit is therefore realised through a 'sharing strategy – everyone asking: what do we need to do to win on this?' (World Economic Forum, 2014).

TFA managed to establish partnerships with several key business players that are involved in forest risk commodities. This signals that for globally active and front-runner companies co-benefits of joining TFA are evident. Forested countries, however, have only recently increasingly partnered with TFA (TFA Annual Report, 2016). TFA has started partnering with West and Central African countries through the African Palm Oil Initiative where palm oil production as a driver of deforestation is still limited but expected to be increasing in the future. Apart from key business players, also NGOs active in ZD are TFA partners[5] suggesting that TFA has been very successful in convening relevant actors in the field.

For governments, such as that of the Netherlands, joining TFA was beneficial because multi-stakeholder partnerships align with a general governance trend in the Netherlands focusing on supply chains and non-state initiatives (Kornet, 2016). With sustainability frontrunner Unilever as a TFA partner headquartered in the Netherlands, TFA also provides the Netherlands with the opportunity to present themselves internationally as a first mover in sustainable supply chains and to work on the topics together with other partners globally.

TFA also promotes agricultural intensification as a production method for smallholders (World Economic Forum, 2014; TFA Annual Report, 2016). As about 50% of the world's cultivated land is in the hands of smallholders, smallholder farming has the potential for large productivity wins, which could also trigger rural development (TFA Annual Report, 2016). Part of the TFA focus is working to empower, train and support smallholders to improve productivity of existing cultivated land (World Economic Forum, 2014). Head of TFA, Marco Albani, talks about a 'triple win' of delivering 'rural development and domestic economic growth, while protecting and restoring forests on a large scale' (TFA Website, 2015). This triple win, he argues can be achieved by choosing for a so-called jurisdictional or place-based approach by aligning domestic public-policy measures for forest protection and land use

[5] For instance, large globally operating NGOs such as WWF and Rainforest Alliance both have embraced ZD and are both also TFA partners.

planning with international support and investment in sustainable agricultural intensification, on the back of sustainable sourcing commitments from corporate buyers. The triple win framing illustrates how TFA attempts to get various stakeholders on board by pointing to the multiple co-benefits and advocating approaches such as jurisdictional certification that enable collaboration between various stakeholders.

While there are several co-benefits that enable collaboration within TFA, the long start-up phase of the initiative also points to the time needed to aligning benefits and interests of the diverse group of TFA members. While TFA was set up in 2012, it was only in 2015 that it was fully running and only by 2017, forested developing countries outnumbered donor countries (interview with member of TFA steering committee 2016; TFA Website, 2017).

The disbanding of Indonesia and Indonesian Palm Oil Pledge (IPOP) is a good illustration that co-benefits between TFA partners are not always aligned. Because Indonesia, several IPOP members and large multinational palm oil customers all are TFA members, the TFA could have been a forum to resolve these conflicts of interest. TFA also attempted to make use of its diplomatic channels by stimulating exchange between the Indonesian Government and other governmental TFA partners (interview with member of TFA steering committee 2016). The disbanding indicates that these diplomatic efforts did however not succeed in achieving a common vision on co-benefits for various stakeholders involved.

Box 1: The Indonesian Palm Oil Pledge (IPOP)

At the 2014 UN Climate Summit in New York, major Indonesian palm oil exporters including Asian Agri, Golden Agri Resources and Wilmar supported by the Indonesian Chamber of Commerce issued the Indonesia Palm Oil Pledge in order to adopt and promote deforestation-free and sustainable palm oil. Indonesia and several of the IPOP signatory companies are TFA partners; Indonesia, Golden Agri Resources and Wilmar also endorsed the New York Declaration on Forests.

The Indonesian pledge first seemed to make progress by attracting support from smallholders and providing a vehicle to push TFA partner Indonesia to support the transformation of the palm oil sector (Mongabay, 2016). IPOP paralleled a momentum for sustainability in Indonesia leading in 2015 to an extension of a moratorium on additional commercial activity in Indonesia's primary forest and peatland. In early 2016, IPOP even attracted a sixth member, Astra Agro Lestari, bringing the initiative's coverage to approximately 60% of Indonesia's palm oil production (Mongabay, 2016).

However, some branches of the Indonesian Government saw IPOP as meddling with governmental tasks and Indonesia's medium-sized palm oil companies saw IPOP as an interference with their business. These circumstances led the Indonesian Government to introduce an alternative palm oil pledge. The Indonesia Sustainable Palm Oil standard, however, is only based on compliance with Indonesian laws and does not aim at ZD. Indonesia's chief natural resources minister Rizal Ramli stated that: 'This is an example of how to fight for our sovereignty. We are the biggest palm oil producer. Why [should] the consumers from the developed countries set the standard for us as they want?' (Reuters, 14 October 2015).

There were thus conflicting ideas about what co-benefits could be harnessed from IPOP and palm oil production within the Indonesian Government as well as between nationally operating Indonesian palm oil producers and palm oil producing TFA members from

Indonesia that operate at a global scale and sell to supply chain sustainability front runners and TFA partners such as Mark and Spencer or Nestle.
In the end, the possibility that IPOP might be scrutinised as a potential cartel by Indonesian antitrust authorities for 'negative impact on business competition' has been considered as the last push that ultimately led IPOP members to disband their commitment (Mongabay, 2016). On the IPOP website it is stated: 'Since 1st July 2016, IPOP signatories have decided that recent ground-breaking policy developments in Indonesia have fulfilled the purpose of IPOP to help accelerate and promote this transformation toward sustainability and therefore its presence can be dissolved' (Palm Oil Pledge Website, 2016). It also says that IPOP members would continue to implement their sustainability commitments independently. The disbanding is overall regarded as a setback in the transformation of the palm oil sector and can be considered as an affirmation of business as usual palm oil production methods with the industry's worst performers enabled to gain significant financial advantage over their more progressive competitors. This may trigger global brands to shift away from palm oil and replace it with other edible oils altogether (Mongabay, 2016). In the United States and parts of the European market, there seems to be first signs of this happening (Mongabay, 2016).

Overall, TFA has been successful in pointing out co-benefits and growing a membership base with key representatives from various sectors and world regions pointing to its convening power). Because TFA members are key actors in the focus supply chains, TFA has the potential to function as a forum where these actors come together. On the other hand, TFA's inability to prevent the disbanding of IPOP suggests that co-benefits are not always clearly aligned among TFA members and that TFA is also not always able to facilitate exchange between parties if the stakes are perceived to be high.

5.1.2 'Sourcing out' accountability through external transparency mechanisms

Transparency within a governance initiative can help strengthen both accountability and trust, if governance processes and activities of individual actors are communicated in a transparent manner. (Kok and Ludwig, forthcoming).

TFA itself does not monitor or review the activities of its members or whether they comply with their commitments. According to a Dutch Government official, this was a conscious choice to avoid the financial costs of monitoring and escape potential animosities between partners (interview with member of TFA steering committee 2016). TFA has published annual reports on its activities for 2014, 2015–2016 and 2016–2017 (TFA Annual Report, 2016; TFA Annual Report, 2017). Recently, TFA also published an interactive map of initiatives to which TFA partners can voluntarily submit their initiatives (TFA Website, 2017). The map is not very detailed yet, but is a first step of loosely linking deforestation and restauration with TFA partner initiatives. Information on the specific contributions of its partners and their activities and the progress they make in achieving their commitments is however limited, mostly focusing on countries and regions (see also Cole and Teebken, 2015). In their 2015–2016 annual report, TFA discusses conflicts of interests within TFA partner Indonesia and regarding IPOP (TFA Annual Report, 2016). In this sense, the report does hold Indonesia accountable for its political choices.

Monitoring of partners´ activities can be considered as 'sourced out' as it is implicitly covered out by various civil society organisations and think tanks such as the Forest500, Forest Watch & CDP that work on ZD commitments. However, their monitoring and evaluation efforts do not specifically focus on the TFA and its partners but on ZD commitments more generally or the CGF. TFA co-finances the NYDF Assessment Coalition whose 2016 report on the NYDF focuses on private-sector commitments but does not specially examine TFA member activities. Overall, limited monitoring and overview of partners' activities may not only discourage partners from seriously working on the implementation of their commitment.

Transparency and accountability within TFA as an organisation and towards its stakeholders is not very strong. It is 'sourced out' to think tanks and left to individual partners to monitor their own activities. This can on the one hand help to get less ambitious partners on board but on the other may not encourage partners to take far-reaching action. In the end, limited monitoring and overview of partners' activities also means that TFA is likely to set binding goals and to provide directionality.

5.1.3 Limited directionality in light of a vision dominated by multinational companies

The TFA vision is to convene various stakeholders together in order to combat deforestation by making use of various instruments including business-to-business collaboration along with private public partnerships, voluntary commitments, transparency tools and certification and standard setting (World Economic Forum, 2014). TFA does have convening power (see Sector 5.1.1) and makes use of a number of different political strategies, including diplomatic resources via governmental partners, public pressure via the NGO sector and market pressure through the private sector. However, its ability to provide directionality by creating a common vision and setting more binding goals for its members is limited. This is for instance illustrated by the slow start-up phase of TFA (interview with member of TFA steering committee 2016) and TFA's inability to prevent the failure of IPOP.

The mission of TFA mentions a number of global public goods, including biodiversity, although the emphasis is on reducing greenhouse gas emissions together with improving local livelihoods (TFA Annual Report, 2016). Although agricultural commodities and forests have a strong link to biodiversity, TFA focuses especially on climate and often uses international climate negotiations to generate visibility for its activities. This reflects the broader 'carbonisation' trend in environmental governance in which environmental issues are framed around their relation to climate change because of the political attention the topic receives in contrast to other environmental issues, such as for instance biodiversity loss (Stephan, Rothe and Methmann, 2013). Emphasising the climate benefits of its activities suggests on the one hand that TFA successfully taps into momentum around a climate change framing to achieve political attention. On the other hand, in doing so, TFA de-emphasises other framings of forests; for instance, as a resource base for a number of other global public goods including poverty alleviation, local identity and biodiversity conservation (interview with representatives of Global Forest Coalition 2016). In this way, TFA's vison can

be considered as tailored for climate politics and fora, limiting its attractiveness and inclusiveness for other sustainable development issues and communities.

TFA's vision regarding implementation seems to be especially influenced by key TFA partners such as CGF and frontrunner companies. There are strong ties between founding partner CGF and TFA that overlap in their member base of front-runner companies. For instance, the 2016 TFA Assembly was held back-to-back with a meeting of the CGF's Environmental Sustainability Committee. This shows how two key TFA and CGF members aim to influence the international policy agenda and provide directionality with close links to but not on behalf of TFA.

In sum, TFA has been successfully tapping into the momentum around climate change politics which has helped to raise the initiative's visibility but also led to a narrowed-down vision which de-emphasises other framings of forests and ZD beyond its climate benefits. Several incidents suggest that the ability to provide directionality of TFA itself so far has been limited. One potential explanation for this is, is that TFA's vision has so far been driven by a small number of frontrunner purchasing companies (although not speaking on behalf of TFA) that push their ideas and agendas on sustainable forest governance, leaving less space to producing countries' and companies' visions.

5.1.4 Strategic horizontal scaling potential

Horizontal scaling up refers to governance initiatives that expand coverage and size by becoming a larger platform, covering more beneficiaries and by covering a larger geographical area.

The production of palm oil, soya, cattle, and wood has caused about 40% of total deforestation during the period of 2001–2011 with the most important producing countries being Indonesia, Malaysia and Brazil (Henders et al., 2015; Persson et al., 2014). The supply chains of these commodities provide an opportunity for efficient scaling because the number of supply chains for these commodities is small with few strong and dominant players. Several of these big players, the Indonesian Government and the Brazilian federal state of Mato Grosso are TFA partners. In this sense, TFA holds some scaling potential with its strategic focus on key actors in these major forest risk commodities.

For business to scale up sustainability efforts within global supply chains, the support of governments, civil society, and the financial sector is needed (Climate Focus, 2016). TFA holds potential to facilitate the scaling of supply chain sustainability, as it brings businesses, government and other stakeholders together and aims at providing a forum for public–private cooperation in order to embed supply chain approaches in a governmental support system (TFA Annual Report, 2016).

The example of TFA partners Unilever and palm oil producer and trader Wilmar show how ZD commitments from big players can have an effect on the market (World Economic Forum, 2014). In 2013, Wilmar, which controls about 40% of global trade in palm oil, introduced its 'No Deforestation, No Peat, No Exploitation' policy in order to ensure that Wilmar's own plantations as well as Wilmar's suppliers only source palm oil 'free from links to deforestation

or abuse of human rights and local communities'. Wilmar's commitment followed a pledge by major customer Unilever to source only sustainable palm oil and years of lobbying by environmental activists (Financial Times, 2013). These developments also provided the backdrop for the signing of the in the end less successful IPOP, suggesting that while TFA holds scaling up potential, limited directionality restricted its ability to overcome conflicts of interest within and outside the initiative.

Overall, TFA holds scaling up potential with its focus on a number of strategic commodities and actors. However, its limited directionality restricts TFA's ability to realise its potential.

5.1.5 Conclusion

This section analyses the internal dynamics within TFA by means of four key elements. The fifth element —focused on clumsiness and experimentation— was not considered in the analysis, as this element does not play an important role in the internal workings of TFA. The initiative is rather traditional in its institutional set-up, based on a steering committee, the limited scope it leaves for alternative visions and more clumsy approaches.

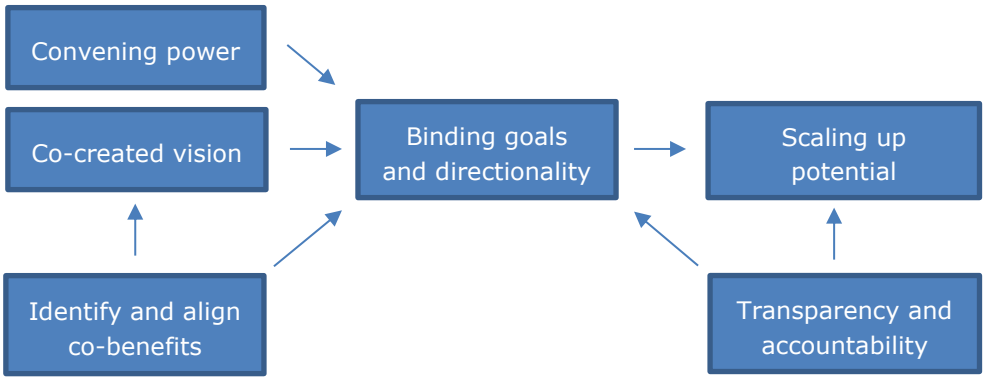
TFA's strong suit is highlighting co-benefits and convening key stakeholders from various sectors. TFA has successfully grown a membership base with key representatives from various sectors and world regions. TFA's cross-sectoral membership base also enables the initiative to make use of a number of different political resources, including diplomatic resources via governmental partners, public pressure via the NGO sector and market pressure through the private sector. Because TFA partners are key actors in the major supply chains with high deforestation risk, TFA has the potential for scaling up and functioning as a strategic interface where actors from government, business and civil society strengthen their individual efforts through cross-sector collaboration.

While there are several co-benefits that enable collaboration within TFA, the long start-up phase of the initiative also points to the time needed to aligning benefits and interests of the diverse group of TFA members. While TFA was set up in 2012, it was only in 2015 that it was fully running and only by 2017, forested developing countries outnumbered donor countries (interview with member of TFA steering committee 2016; TFA Annual Report, 2016; TFA Website, 2017). The disbanding of IPOP also suggests that co-benefits are not always clearly aligned among TFA members and that TFA is also not always able to facilitate exchange between parties if stakes are perceived as high.

TFA has been successfully tapping into the momentum around climate change politics which has helped to raise the initiative's visibility but also led to a narrowed-down vision which de-emphasises other framings of forests and ZD beyond its climate benefits. Several incidents suggest that the ability to provide directionality of TFA itself so far has been limited. One potential explanation for this is, is that TFA's vision has so far been driven by a small number of frontrunner purchasing companies (although not speaking on behalf of TFA) that push their ideas and agendas on sustainable forest governance, leaving less space to producing countries' and companies' visions.

The analysis points to several links between various elements (see Figure 2). Stronger accountability structures are likely to support both TFA's scaling up potential and orchestration efforts. So far, TFA has sourced out accountability mechanisms and established a mostly indirect accountability structure; civil society TFA partners publish reports focused on progress on private-sector commitments but not specifically on TFA partners. Without a monitoring system in place that keeps track of the progress TFA partners make in implementing their commitments, less ambitious partners might be encouraged to join TFA. Lack of accountability can also dis-incentivise partners to scale up commitments and efforts in implementing them.

Figure 2. Links between analytical elements



A lack of overview may also restrict TFA's ability to orchestrate efforts between partners. Despite TFA's scaling potential, its limited directionality and lack of binding goals restrict TFA's ability to realise its potential. The analysis suggests the need for a co-created vision based on aligned co-benefits that also takes into account developing and emerging economies' perspectives in order to develop strong orchestrating power.

Overall, TFA's ability to provide directionality to its partners through binding goals remains uncertain. On the one hand, the initiative was able to bring together key actors of forest risk commodity supply chains. On the other, TFA has not been able to make full use of its strategic interface position and scaling potential in global ZD governance.

5.2 Initiatives' distributed functions in the governance landscape around ZD commitments

International collaborative initiatives such as the TFA usually do not operate in a void but are part of larger governance landscape. Their success therefore also depends upon the functions they fulfil in the broader governance landscape or how 'they interact exogenously with other interventions' (Eberlein et al., 2014). This section looks at the governance landscape around ZD commitments and the functions of and dynamics between various key initiatives and change agents involved.

Figure 3. Governance landscape around ZD commitments

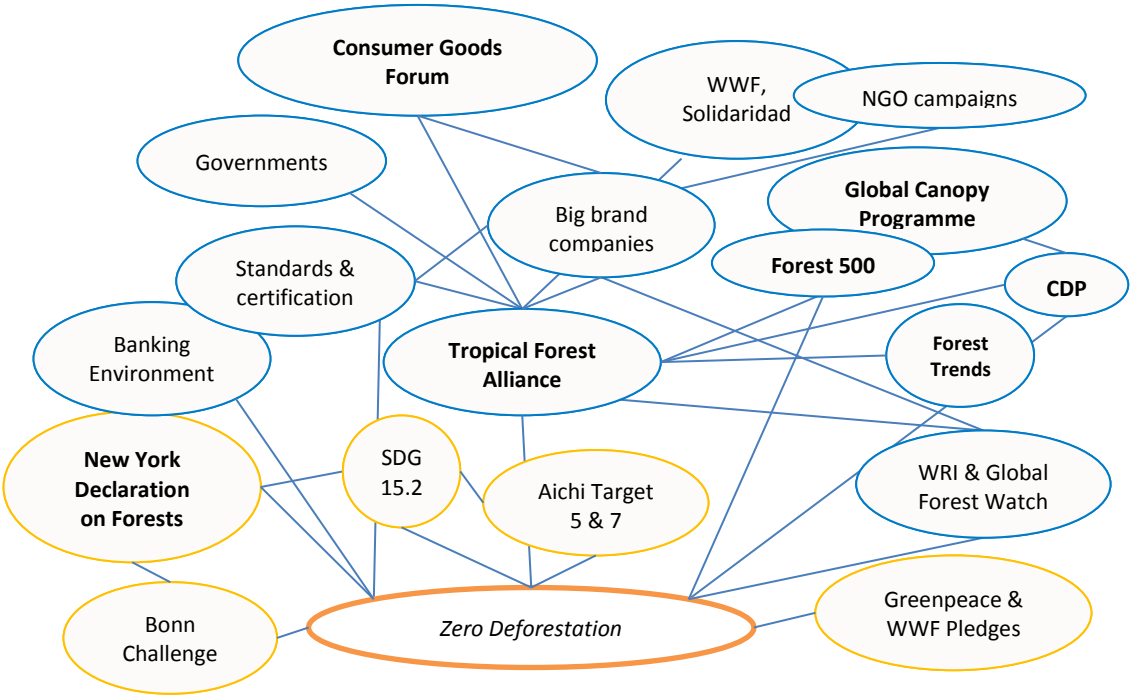


Figure 3 illustrates this governance landscape around ZD commitments. The figure also highlights the intergovernmental goals and targets to which ZD commitments are linked. The initiatives and goals in bold are the focus of the subsequent analysis.

5.2.1 Building partnerships based on networking and co-benefits

In the domain of building partnerships, the CGF has taken on a prominent role, networking and collaborating to support its deforestation commitment. For instance, the CGF created working groups for various commodities and worked with NGOs and governments to develop guidelines for pulp, paper packaging, palm oil and soya. CGF also published an Activation Toolkit in 2013 featuring recommendation on how to address deforestation amongst other things in supply chains. With CGF guidelines based on standard setting and certification, CGF aims to build on existing efforts of the standard setting community instead of doubling them. Furthermore, CGF co-initiated several multi-stakeholder partnerships, such as the TFA and the Soft Commodities Compact together with the Banking Environment Initiative.

Several partnerships and collaborative efforts formed around monitoring and transparency of commitments (see Section 5.2.3 for a discussion of disclosure in the ZD governance landscape). Apart from often being members of CGF and TFA, frontrunner companies have also set up bilateral collaborations with think tanks and civil society. For instance, Unilever is collaborating with WRI's Global Forest Watch on working towards more transparent supply chains in the palm oil sector, leading to the launch of the Palm Risk Tool that allows

companies to identify palm oil mills with historically high deforestation and large potential for future deforestation (WRI Website, 2016).

Moratoria have emerged as another effective form of private-sector collaboration. Companies within a sector setting up a number of moratoria for specific commodities are considered to have contributed to improved land management. For instance, major soybean companies established a Soy Moratorium for Brazil in 2006 and pledged not to trade soya beans produced in deforested areas of the Brazilian Amazon, leading to stark regression of deforestation rates due to soya production over a 5-year period (Newton et al., 2013). In 2009, major Brazilian retailers, slaughterhouses, and distributors established a cattle Moratorium and pledged not to purchase cattle reared on deforested land (Newton et al., 2013). Both moratoria were at least partly the result of public pressures and campaigns by Greenpeace (2006 and 2009) that raised awareness on the role of these commodities in Amazonian deforestation. In consumer countries, the Belgian and Dutch palm oil associations pledged to import only sustainable palm oil into the Belgian and Dutch markets by 2015 (Smit et al., 2015; Newton et al., 2013). Some studies even conclude that moratoria have been more effective in developing ambitious standards to reduce deforestation than certification schemes (see Meijer, 2015).

There are a number of barriers that limit private-sector efforts (Climate Focus, 2016). Weak forest governance and public-sector support are two of them. While countries have taken measures to reduce deforestation, and REDD+ increased political will to advance forest governance, companies voiced that public-private collaboration needs to be improved for achieving sustainability in their supply chains. Climate Focus (2016) identifies lack of co-benefits for suppliers, such as premiums and other incentives to transform business models, as a major barrier to implementation.

In light of the large number of initiatives, TFA has started to emphasise the uniqueness and scale of its activities by presenting itself as 'the only global umbrella partnership to bring governments, private sector, and civil-society organisations together as partners to tackle commodity-driven deforestation' (TFA Website, 2017). At the same time, the Tropical Forest Alliance positions itself not as a competitor to other initiatives but as a coordinator and platform. In bringing together a range of parties, the TFA serves as a broker (interview with TFA steering committee member 2016). At the first TFA meeting in 2013, a Business to Business Partnership was set up between the CGF and the Indonesian Chamber of Commerce and Industry to work together towards implementing the CGF's pulp, paper and packaging sourcing guidelines for the paper sector in Indonesia; supporting the implementation of Asia Pulp and Paper's ZD commitment.

Overall, a number of powerful networks and partnerships have pervaded the ZD governance landscape. CGF, TFA and transparency initiatives have been focal points, building on existent tools such as standard setting. Private-sector collaboration on moratoria for specific commodities has proven effective approach. Also, and despite some barriers, front-runner companies set up bilateral collaborations with civil society and think tanks.

5.2.2 Enabling renewal through experimentation

Several different actors have taken on the role of innovators within in ZD governance. Business has taken on a pioneering role in promoting commitments as a ZD policy instrument, civil society has tapped into the potential of information technology to enhance transparency and the WWF as an acknowledged biodiversity policy innovator has embraced ZD and set up the Markets Institute as a platform to contribute to rethinking the global food system.

GCF and Nestle kick started the momentum for ZD commitments and provided groundwork for multi-stakeholder commitments through the NYDF. In this sense, CGF and Nestle can be seen as innovators within the business community that promoted commitments as a policy instrument for business. They have been joined by a number of other front-runner companies who use their market position, financial and political resources to promote supply chain sustainability approaches within their field.

Several actors have also used new opportunities in information and communication technology to innovate and enhance understanding of supply chains and accountability structures in global forest governance. In recent years a number of monitoring and traceability tools, such as Trase or WRI's PALM Risk Tool in collaboration with Unilever, enable companies to gain a better understanding of their supply chains which is detrimental for working towards ZD (Bregman et al., 2015). Tools such as WRI's Global Forest Watch also have innovated accountability structures by making forest-related information available to a larger group of stakeholders.

In the context of sustainable palm oil, companies like Mars, PepsiCo, General Mills and ConAgra successfully pushed RSPO through the Ceres' Investor Network on Climate Risk for more rigorous standards (Huffington Post, 2015). This shows how frontrunner companies can influence standard setters and contribute to the development of more ambitious standards.

Many of the companies that were involved in pressuring for more rigorous RSPO standards are also active in WWF's Markets Institute, which works with companies who made ZD commitments to explore if these commitments can be used to generate investment in more sustainable production, particularly among smallholders (WWF Website, 2017). The WWF has been actively promoting ZD. According to Humphrey et al. (2016), WWF can be considered a rules entrepreneur that has a history of promoting ambitious targets and international rules that were later adopted by other actors. WWF Senior Vice President and Executive Director of Markets Institute Jason Clay has stressed the need for changing global food production at a 'systemic level over the coming years' (WWF Website, 2016), suggesting that WWF and its Markets Institute may have the potential to function as an innovator in agro-food supply chains.

Overall, a number of different actors have taken on the role of innovators within in ZD governance. CGF, Nestlé and Unilever can be seen as innovators within the business community that promoted commitments as a policy instrument for business. Equally, WWF as a policy innovator has embraced ZD and set up the Markets Institute as a platform to

contribute to rethinking the global food system. Think tanks working on monitoring of commitments have innovated accountability structures by making forest-related information available to a larger group of stakeholders.

5.2.3 Creating new accountability relationships through disclosure

Over the past years, a number of transparency initiatives such as Global Canopy Programme's Forest 500, CDP's forest programme, We Mean Business have specialised in monitoring forest commitments. Another group of initiatives works towards linking supply chains and deforestation, such as Trase or WRI's Global Forest Watch, including the PALM risk tool.

Concerning the monitoring of commitments, there is some overlap in initiatives. The initiatives We Mean Business, Forest 500, Supply Change and CDP all monitor commitments made by the private sector. In some instances, they collaborate, for instance to write reports and evaluations. Considering that key actors in the ZD governance landscape, CGF and TFA, do not have their own monitoring system in place, the multitude of monitoring initiatives may help ensure that commitment makers are being held accountable. The surge in these types of transparency initiatives points to the momentum around ZD commitments that led these initiatives to focus their monitoring capacity on ZD commitments.

Through new technological developments including the broader availability of satellite data, stakeholders can hold companies more directly accountable for deforestation occurring in their supply chains across the globe. Improved monitoring capabilities lead to greater expectations of transparency and strengthen the call for sustainable management of natural resources; although, this link has yet to be fully made (Climate Focus, 2016). Improved monitoring capacities hold potential to further trigger a dynamic race to the top in which business is increasingly pressured to include sustainability concerns into its core business. To date, it has been especially consumer facing companies that feel the pressure to account for deforestation in their supply chains. This pressure to disclose is slowly being passed up the supply chain.

Traceability is an important step towards achieving ZD, giving companies a better understanding of deforestation risks in their supply chains. At the company level, traceability remains a major challenge (Bregman et al., 2015). Traceability is also costly for companies, as it requires upfront investment in process and technology. While large companies often have their own traceability systems in place, others often rely on certification bodies to ensure traceability and sustainability of their product.

Traceability has yet to come a long way. Currently, there is no available data that provides global coverage to determine whether cumulative company efforts are translating into measurable reductions in deforestation. Global Forest Watch's Commodities aims to provide such data within the next couple of years. At the 2016 Marrakesh climate conference, the Stockholm Environmental Institute and Global Canopy Programme launched Trase, which maps global supply chains and, for the first time, links production landscapes to downstream buyers and consumers. In their initial phase, Trase focused on Brazilian soya and aimed to

cover 70% of forest risk commodities and production geographies worldwide, for the coming years. With Trase focusing on soya and Forest Watch focusing on palm oil, both initiatives avoided overlap.

Box 2: traceability in cattle
Compared to the palm oil, wood products and soya, cattle supply chains are more complex. Cattle is sold through auctions, traders or other intermediaries. Cattle and cattle products may also be transferred at any stage in the production process. Within cattle supply chains, traceability systems have been introduced to address deforestation in cattle production. The Brazilian meat company Mafrig has implemented a traceability system, together with Greenpeace, known as the 'Request for Information' tool, through which their direct suppliers voluntarily share the source of their products. In using the tool, a company can check the sources of their cattle against the government's list of unapproved suppliers (Climate Focus, 2017).

Overall, a surge in new information technology tools for disclosure has nurtured new accountability relationships: consumers and civil society have more information available to pressure downstream companies and upstream companies in turn are increasingly working on traceability within their supply chains.

5.2.4 Providing directionality through goal-setting and orchestration

ZD commitments provide a new framing for forest governance which provides some directionality but is also challenged by lack of clarity and disagreement around definitions of zero net deforestation as opposed to ZD (Brown and Zarin, 2013) and the meaning of the term forest itself (WRI Website, 2016).

Goal-setting and orchestration

As goal setting has become a trend in global environmental governance (Kanie and Biermann, 2017), now a multiplicity of intergovernmental, hybrid and private goals exist that all link to forests, including SDG 15, the NYDF, private individual commitments, the CGF commitment, Aichi Target 5 and the Bonn Challenge.

The NYDF mirrors and links to other key forest-related goals and commitments (see Table 2). In doing so, the NYDF performs an orchestrating function. NYDF Goal 2 targets on eliminating deforestation from the production of a number of agricultural commodities by 2020 reflects the CGF pledge. Additional NYDF goals align with other governmental and non-governmental processes, specifically, the Sustainable Development Goals (NYDF Goal 6), the Paris Agreement for climate (NYDF Goal 7), the Bonn Challenge for land restoration (NYDF Goal 5) and the Aichi Biodiversity Targets for biodiversity (NYDF Goal 1).

Table 2: NYDF goals and aligning targets and commitments

NYDF goals	Other processes
Goal 1. At least halve the rate of loss of natural forests globally by 2020 and strive to end natural forest loss by 2030	Aichi Target 5

Goal 2. Support and help meet the private-sector goal of eliminating deforestation from the production of agricultural commodities such as palm oil, soya, paper, and beef products by no later than 2020, recognising that many companies have even more ambitious targets	CGF Pledge and Tropical Forest Alliance 2020
Goal 3. Significantly reduce deforestation derived from other economic sectors by 2020	CBD Mainstreaming agenda
Goal 4. Support alternatives to deforestation driven by basic needs	SDG 15, Aichi Targets 5 and 7
Goal 5. Restore 150 million hectares of degraded landscapes and forestlands by 2020 and significantly increase the rate of global restoration thereafter, which would restore at least an additional 200 million hectares by 2030	Bonn Challenge: restore 150 m ha of degraded land by 2020
Goal 6. Include ambitious, quantitative forest conservation and restoration targets for 2030 (…), as part of new international sustainable development goals	SDGs 15.1 and 15.2
Goal 7. Agree in 2015 to reduce emissions from deforestation and forest degradation as part of a post-2020 global climate agreement	Paris Agreement
Goal 8. Provide support for the development and implementation of strategies to reduce forest emissions	REDD+ Framework
Goal 9. Reward countries and jurisdictions that, by taking action, reduce forest emissions	New CDM+JI
Goal 10. Strengthen forest governance, transparency, and the rule of law, while also empowering communities	SDGs 15, 16 and 17

Although the NYDF does link and orchestrate forest-related global goals and targets, directionality of the NYDF seems limited with unclear follow-up, lacking a strong review mechanism and being overshadowed by the prominent Agenda 2030. Progress on the NYDF is being evaluated through annual reports of the NYDF Assessment Coalition, a consortium of think tanks, financed by TFA and the Climate and Land Use Alliance. The NYDF is also not embedded in any international process and does not have an official UN website.

With the NYDF as a weak goal orchestrator, multiplicity of goals may limit directionality in forest governance. Change agents may find it challenging to find direction amongst the diverse targets and goals. It may be more difficult to catalyse action around one specific goal because they are in competition with several other initiatives that set goals and targets. This way targets may risk losing meaning and momentum.

Directionality from various sources

Several actors in the ZD governance landscape provide directionality. Leadership is shown by various actors including the CGF as a business association, front-runner companies, civil society, international processes (e.g. climate negotiations) and government processes, such as in the Netherlands and Belgium, who established sustainable sourcing policies.

The CGF provided directionality for the private sector and helped create momentum around ZD commitments. The creation of the TFA can be seen as the result of the directionality provided by the CGF pledge. However, the extent to which the TFA, as a public–private partnership focusing on implementation, is able to provide directionality itself is limited.

Front-runner companies have unilaterally made commitments to address deforestation in their supply chains (2013 Greenpeace Tiger Challenge) or established commitments that go beyond the GCF's pledge. For instance, IKEA pledged to safeguard biodiversity by 2020 and ensure a long-term balance between harvest of wood and forest regrowth (The Guardian, 2012). These commitments worked as a signal to the wider market putting pressure on suppliers upstream in the supply chain. The question remains whether commitments from consumer-facing companies will be enough to provide directionality all along the supply chain to the production level.

Apart from the directionality provided by rules entrepreneur WWF (Humphrey et al., 2016), other NGOs also promote and commit to ZD. For instance, through its Net Zero Deforestation Zones project, Rainforest Alliance works with farmers and forest-dependent communities to promote sustainable forest management in three countries in Latin America (Rainforest Alliance, 2016).

Intergovernmental processes also seem to provide a certain extent of directionality. The CGF ZD pledge evolved on the side lines of large intergovernmental conferences, with the pledge being formulate at the 2010 Cancun Summit and the Tropical Forest Alliance being founded in the aftermath of the 2012 Rio Summit. At the 2014 Climate Summit, the Consumer Goods Forum called for leadership from 'Heads of State across the world to (…) secure an ambitious and legally binding global climate deal' (Website Consumer Goods Forum). WWF also stresses and links ZD to international processes, particularly the 2010 Aichi Targets of the Convention on Biological Diversity and the 2014 NYDF to be supportive of ZD objectives, although neither of them directly mention ZD (WWF, 2015). In this sense, intergovernmental processes do seem to provide an arena and some form of directionality for new agents of change.

At the same time, intergovernmental processes increasingly adjust to the more diverse governance landscape and the prominent role of non-state actors. For climate, the Paris Agreement with its nationally determined contributions as well as the Nazca database that came forth out of the Peru climate talks in 2014 are a good example of a new, more flexible and less top-down approach. For forests, the 2014 New York Declaration on Forests signed during the 2014 UN Climate Summit mirrors the CGF's 2010 pledge (Website Global Canopy Forum) and shows how public and private ambitions can be combined in a single UN-led declaration.

Individual governments also provide directionality to commodity markets while at the same time also responding to the new private-sector sustainability commitments. Some countries such as Peru already committed to ZD at the 2008 climate change negotiations and therefore before the 2010 CGF pledge. Furthermore, countries such as the Netherlands and Belgium provide directionality through their sustainable sourcing policies, and sectoral covenants that contain quantitative targets. Inspired by private-sector efforts as well as the Agenda 2030, the Netherlands, Denmark, France, Germany and the United Kingdom signed the Amsterdam Declaration in 2015 and committed to ensure that all palm oil entering their countries by 2020 will be from sustainable sources (Amsterdam Declaration 2015).

Overall, ZD commitments provide some degree of directionality but, through the multitude of commitments and goals, the overlap and number of monitoring platforms, this directionality is limited. The NYDF, although orchestrating relevant public- and private-sector commitments and goals, has limited directionality, lacking a solid review process and being overshadowed by the Agenda 2030. In addition, directionality is also dispersed between different actors within the ZD governance landscape, further limiting directionality from one source overall.

5.2.5 Transformative entrenchment through vertical scaling

The momentum around ZD commitments reflects how the scale at which voluntary forest governance initiatives operate has shifted. While in the early 1990s, voluntary private initiatives addressing deforestation either relied on standards and certification or were rather local and small in scope, commitments by big companies have lifted private voluntary efforts to a global scale with the ambitious aim of ZD.

Most voluntary commitments rely on established standards to implement their commitments. This provides scaling opportunities because commitments may increase uptake. In addition, TFA and other initiatives support landscape and jurisdictional approaches that hold potential to more fruitfully link a standard setting with governmental efforts. In response, certification roundtables on palm oil, soya and beef incorporated commitments to ZD (Lister and Dauvergne, 2014). In this sense, ZD aspects have also become more entrenched in standard setting.

Overall, commitments by big companies have lifted private voluntary efforts to a global scale with the ambitious aim of ZD.

5.2.6 Conclusion

Over a few years, a diversified governance landscape around ZD has emerged with various types of actors fulfilling various functions, covering all five governance functions.

A number of powerful networks and partnerships have pervaded the ZD governance landscape. CGF, TFA and transparency initiatives have been focal points, building on existent tools such as standard setting. Also, and despite some barriers, companies have collaborated on moratoria and especially front-runner companies have set up bilateral collaborations with civil society and think tanks. However, there are also barriers to collaboration including weak forest governance and public–sector support for private–sector efforts.

Various types of actors have taken on the role of innovators within in ZD governance. CGF, Nestle and Unilever can be seen as innovators within the business community that promoted commitments as a policy instrument for business. Equally, WWF as a policy innovator has embraced ZD and set up the Markets Institute as a platform to contribute to rethinking the global food system. Think tanks working on monitoring of commitments have innovated accountability structures by making forest–related information available to a larger group of stakeholders.

A surge in new information technology tools for disclosure has nurtured new accountability relationships: consumers and civil society have more information available to pressure downstream companies and upstream companies in turn are increasingly working on traceability within their supply chains. Transparency initiatives collaborate with each other, but there is also considerable overlap raising questions of efficiency. Traceability initiatives are also proliferating. They seem to aim at avoiding initial competition and overlap by specialising in different commodity supply chains.

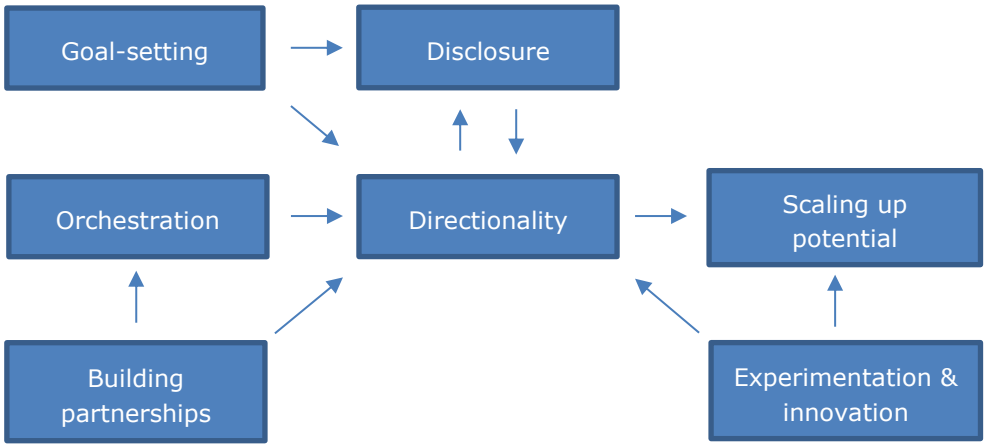
There are different sources of directionality within the ZD governance landscape, ranging from the ZD framing itself, international processes, goals and targets, individual governments, the business community and NGOs. ZD commitments provide only a limited degree of directionality because of the multitude of commitments and goals, overlap and number of monitoring platforms. The NYDF, although orchestrating relevant public- and private–sector commitments and goals, has limited directionality, lacking a solid review process and being overshadowed by the Agenda 2030. In addition, directionality is also dispersed between various actors within the ZD governance landscape, further limiting directionality from one source overall.

ZD efforts build on private–sector scale–up efforts over the past decades. Some entrenchment has taken place as standard setters have incorporated ZD aspects into their standards.

The analysis also reveals a number of links between various governance functions. Directionality appears as a central building block that builds on others. Actors providing directionality often also take over other governance functions within the ZD landscape. For instance, the CGF established several partnerships, including founding TFA suggesting the CGF also functions as an orchestrator within the ZD governance landscape. CGF and WWF appear to be innovators in the field and inspired others to join their efforts. That some innovators such as CGF and WWF were also the ones providing directionality highlights a governance landscape in which innovation is embraced and which is guided by innovative frontrunners.

Directionality and disclosure are linked regarding consumer facing companies. Pledges and disclosure mechanisms work as a signal to the wider market putting pressure on suppliers upstream in the supply chain. The question remains whether commitments and disclosure efforts from consumer-facing companies will be enough to transform global supply chains that face a high deforestation risk.

Figure 4. Links between governance functions



5.3 Conclusion

Chapter 5 examined how ZD initiatives work by looking at the Tropical Forest Alliance (Section 5.1) and what functions various key initiatives fulfil in the larger ZD governance network (Section 5.2).

ZD commitments build on existing tools and processes by often relying on certification schemes and using international negotiations to call on governments for action and to showcase their achievements. ZD mirrors a larger trend of goal setting in global sustainability governance. While ZD is often presented as a private-sector-driven effort, the fact that international negotiations are key events for ZD initiatives and that several partnerships are government-supported suggests that many ZD initiatives operate in the so-called shadow of hierarchy. What stands out are the ZD community´s attempts to make use of new opportunities arising from information technology developments.

ZD commitments are still a relatively new phenomenon with ZD having gained rapid momentum as a framing in global forest governance. The ZD framing seems to serve as a banner under which various major players from business, civil society and government increasingly position their efforts. The new framing has not yet led to a significant degree of orchestration and institutionalisation. ZD should be seen as an aspiration that can be realised by various policies and tools. ZD is not a policy tool itself with a clear methodology. For example, unlike REDD+, ZD does not have a set of rules or safeguards for ZD initiatives.

It is unclear how ZD will evolve in the future. To date, ZD lacks high-level international support, with no international mechanism to coordinate learning and resources (Humphreys et al., 2016). Coordinating roles are taken on by various hybrid initiatives, such as TFA and

GCF, but directionality is limited, because of the multitude of commitments and goals, overlap and number of monitoring platforms. TFA is a key actor in the ZD governance landscape that owes its prominence to the CGF. Its ability to provide directionality is however limited. TFA is especially successful in partnership building, while in the governance landscape as a whole, different functions are adopted by different actors.

6. Performance of ZD commitments

There is ample discussion on whether ZD commitments can indeed relieve pressure on climate and biodiversity (Brown and Zarin, 2013). This section explores the performance of ZD commitments by means of an Input-Output-Outcome-Impact Analysis. The analysis synthesises the results from a number of studies that were published in 2015 and 2016:

Table 3: Studies on performance on ZD commitments

Study	**Study focus**
CDP (2015) Realising zero deforestation: Transforming supply chains for the future. CDP Worldwide.	**CDP database of company commitments**
Climate Focus. 2015. Progress on the New York Declaration on Forests – An Assessment Framework and Initial Report. Prepared by Climate Focus, in collaboration with Environmental Defense Fund, Forest Trends, The Global Alliance for Clean Cookstoves, and The Global Canopy Program.	New York Declaration
Climate Focus. 2016. Progress on the New York Declaration on Forests – An Assessment Framework and Initial Report: Technical Annexes. Goal 2: Support and help meet the private-sector goal of eliminating deforestation from the production of agricultural commodities such as palm oil, soya, paper and beef products by no later than 2020, recognising that many companies have even more ambitious targets. Prepared by Climate Focus, in collaboration with Environmental Defense Fund, Forest Trends, et al.	New York Declaration Goal 2
Supply Change.2016. Tracking Corporate Commitments to Deforestation-free Supply Chains. Washington, DC: Forest Trends.	Deforestation-related commitments registered with Supply Change
Supply Change. 2017. Tracking Corporate Commitments to Deforestation-Free Supply Chains. Washington, DC: Forest Trends.	Deforestation-related commitments registered with Supply Change
Bregman, T.P., McCoy, K., Servent, R., and MacFarquhar, C. 2016. Turning collective commitment into action: Assessing progress by Consumer Goods Forum members towards achieving deforestation-free supply chains. Global Canopy Programme and CDP, United Kingdom.	Consumer Goods Forum pledge

6.1 Input: commitments made

Pledges and commitments range from signing on to high-level commitments, such as those formulated in the NYDF, to individual targets on the production or sourcing of specific commodities. Most companies take a step-wise approach that sets priorities and deadlines for individual commodities. Few make commitments to achieve ZD – as opposed to zero net deforestation (Climate Focus, 2016).

Indicators for inputs used are: recognition of deforestation as a supply chain risk, number of commitments made, the share of commitments within a sector and the type of commitment made.

6.1.1 Recognition of deforestation as a supply chain risk

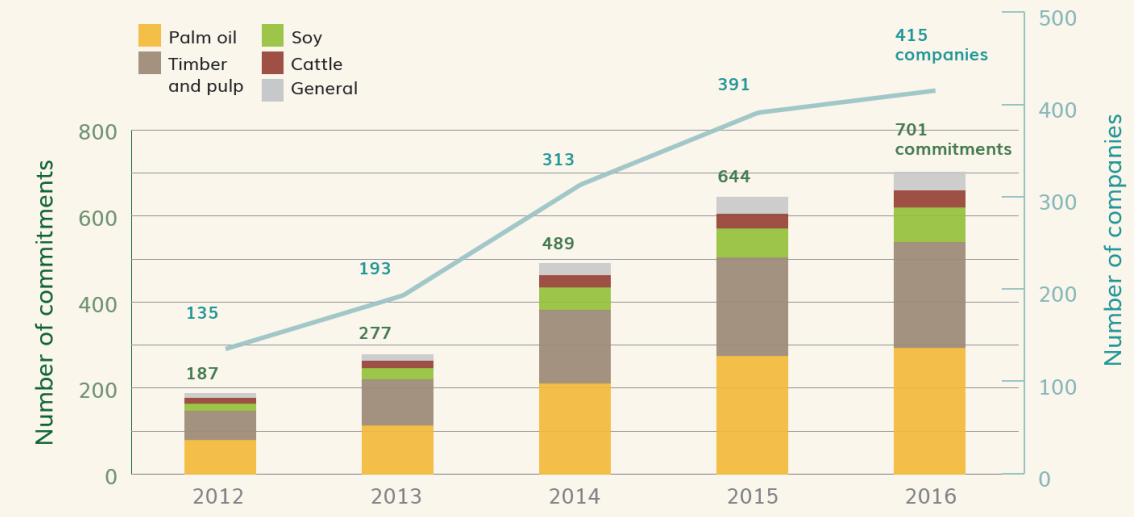
Awareness around deforestation and forest risk commodities is growing but varies widely between CGF members and non-members. Of the 55 CGF members assessed by the Forest 500, over 80% publicly recognise the importance of forests and the ecosystem services they deliver while only 45% of CGF non-members do so (Bregman et al., 2016). In addition, almost 90% of CGF members that disclosed to the CDP's forest programme recognise forest commodities as supply chain risks, with operational and reputational risks being more pronounced compared to regulatory risks (Bregman et al., 2016).

Ninety per cent of companies with commitments are headquartered in Europe, North America, or Australia. This may be starting to change, however with more producer companies announcing commitments, such as palm oil producers in Southeast Asia and meat processing companies headquartered in Brazil (Climate Focus, 2016).

6.1.2 Number of commitments made

Climate Focus identified 629 companies with exposure to deforestation and examined their performance on sustainable sourcing (Climate Focus, 2016). Sixty-six per cent of these companies made at least one public commitment to address deforestation in their supply chains (Figure 5). Almost all NYDF endorsers and TFA 2020 member companies made public deforestation-related commitments (Climate Focus, 2016). New commitments have increased in recent years but peaked in 2014. Currently, the increase in new commitments is slightly slowing down (Climate Focus, 2016).

Figure 5. Company commitments



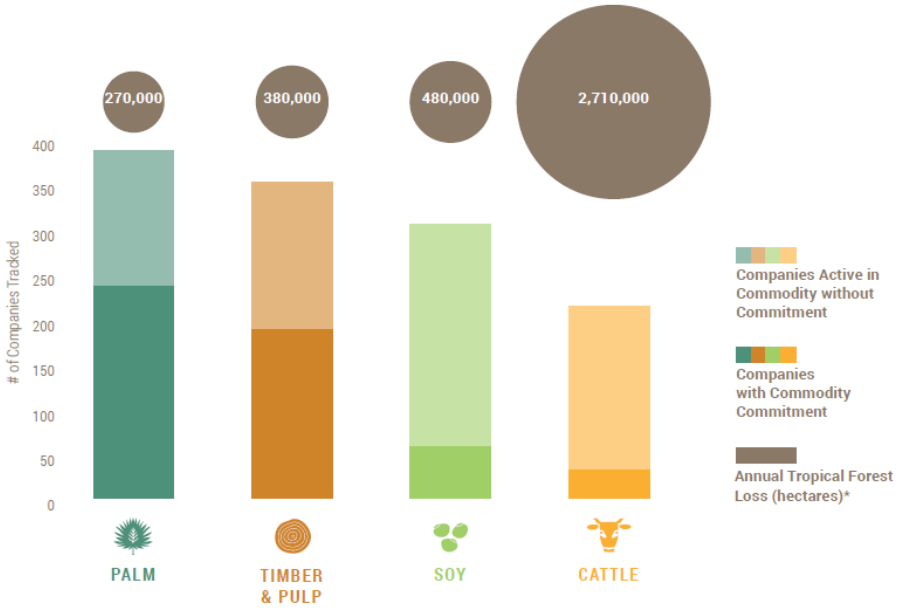
Source: Climate Focus (2016), based on Supply Change (2016).

Forest 500 found that, in 2016, only 34 (14%) out of 250 companies highly exposed to deforestation risks made company-wide zero gross or other no deforestation commitments. Most corporate commitments relate to a particular commodity and many relate to a geographic region, for instance excluding sourcing of soya or beef from the Amazon region.

6.1.3 Differences between commodity supply chains

Commitments vary between commodity supply chains with most commitments targeting sustainable palm, and timber and pulp (see Figure 6; Supply Change, 2017). Fewer commitments address soya and cattle (Supply Change, 2017). Cattle has a deforestation footprint that is nine times larger than the one associated with palm oil. One of the reasons why there are less commitments in cattle supply chains is that compared to soya or palm oil the share of internationally traded beef products is smaller and consequently they are not covered by commitments of downstream multinationals (Climate Focus, 2016). Companies with commitments for cattle are very likely to also have commitments for palm oil (91%), timber and pulp (89%), and soya (81%) if any one of these is also in their supply chain (Supply Change, 2016). Overall, the differences between supply chains reflect the availability and use of certification as a tool to implement supply-chain commitments.

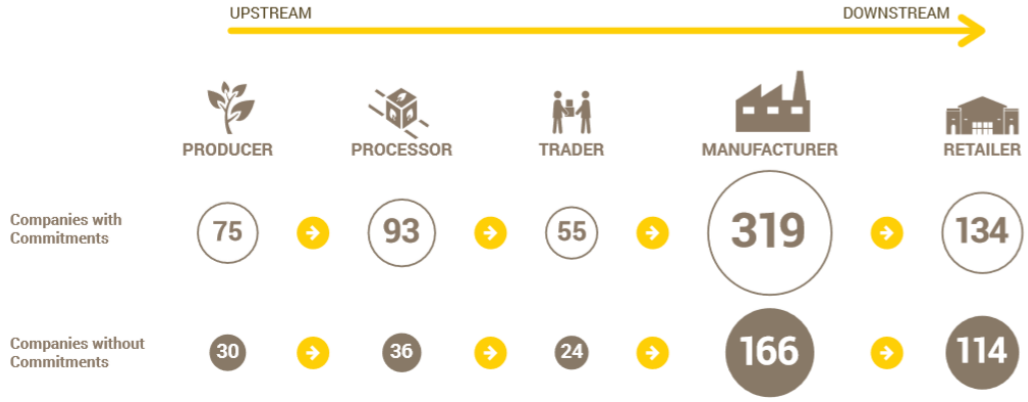
Figure 6. Number of Companies with and without commitment by commodity



Source: Supply Change 2017

Of the 447 companies with commitments identified by Supply Change (2017), the largest proportion was operating downstream, at manufacturer and retailer levels. At the same time, it is also downstream where most companies without commitments are situated (Figure 7).

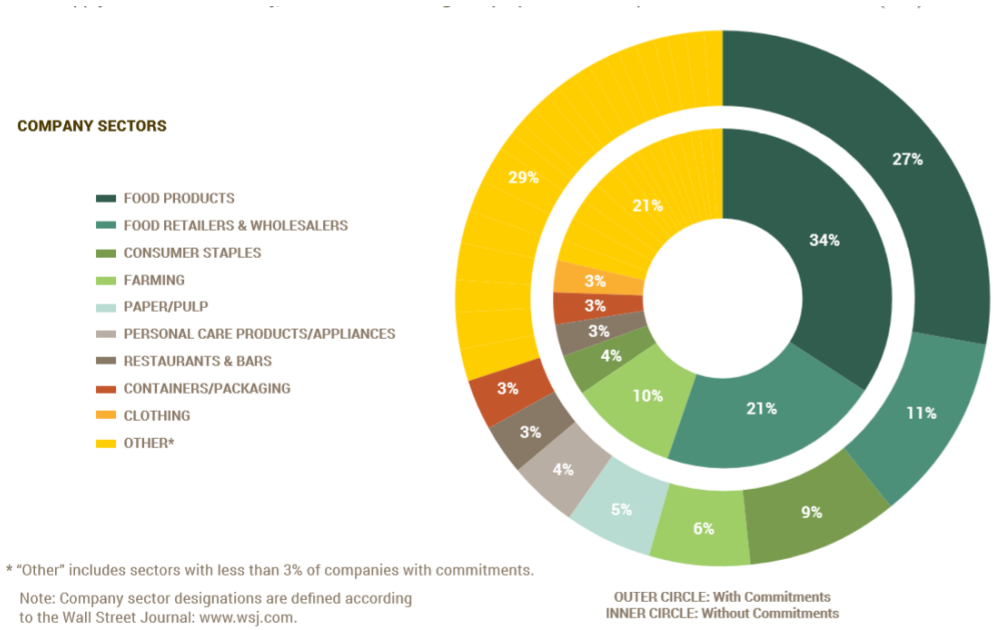
Figure 7. Company commitments per change in supply level



Source: Climate Focus (2016), based on data from Supply-change.org, 2016

Of the companies researched by Supply Change (2017), commitments are especially prominent in the farming and food sector (see Figure 8).

Figure 8. Commitments by industry



Source: Supply Change 2017

6.1.4 Type of commitment

According to Supply Change (2017), most researched commitments have a target date, with 2020 being the most common target year. However, one in five commitments has become dormant and almost one in three companies has at least one dormant commitment. Supply Change (2017) considers a commitment a dormant if (1) the target date has passed, OR the commitment was announced in 2015 or earlier and never had a target date AND (2) the commitment never had any progress reported towards its main goal AND (3) the commitment never had any progress reported towards its milestone.

Supply Change (2016) finds that among all 243 tracked palm commitments, 32% include a reference to peatland protection and 19% to no burning. Even though these numbers may be considered low, they represent an increase from Supply Change 2015 report. The inclusion of 'no burning' in palm commitments increased from 22% (2015 report) to 26% (2016 report), and the inclusion of peatland protection increased from 16% to 37%. In its 2017 report, Supply Change concludes that companies are strengthening their commitments with additional elements that enhance supply chain sustainability (including biodiversity conservation, carbon emissions, water management).

6.1.5 Conclusion

The number of companies pledging to reduce deforestation has grown rapidly in recent years. Overall it is however still a small percentage of companies in the agricultural commodity market. Commitments vary between commodity supply chains with most commitments targeting sustainable palm, and timber and pulp. Cattle specific commitments are the least common although this supply chain has by far the largest deforestation footprint compared to palm, timber and pulp, and soya. Commitments are concentrated with

companies headquartered in industrialised countries, although this is starting to change; and with downstream companies, especially in the consumer goods and services industry.

6.2 Output: policies in place

Outputs can be measured as the share of companies that developed policies to adhere to their commitments, type of policies in place, as well as the overall number of policies developed to implement commitments.

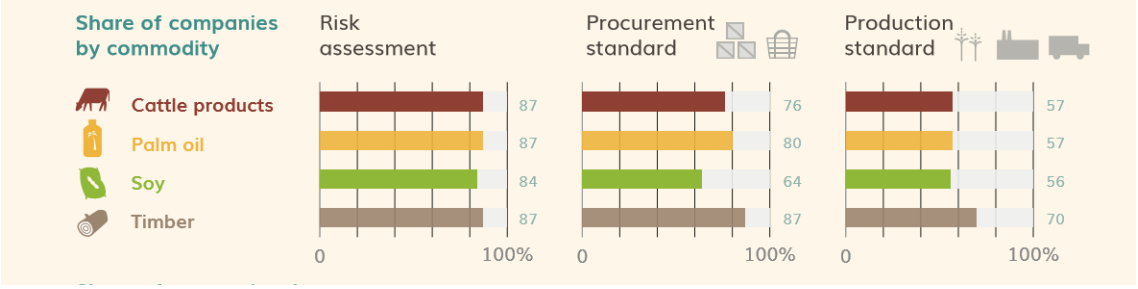
6.2.1 Share of companies that developed policies for their commitments

According the assessment of NYDF Goal 2, Climate Focus (2016) finds that most assessed companies have started to operationalise their commitments.

6.2.2 Type of policies in place

The majority of companies (84%–87%, depending on the commodity) have assessed their deforestation risks and opportunities. The majority of upstream (56%–70%) and downstream companies (64%–87%) have adopted production or procurement policies (Figure 9). Production policies refer to company-defined environmental standards for how raw materials are produced for a commodity. Procurement policies define quality standards for commodities purchased from suppliers. Policies can include positive (e.g. preferential sourcing of certified products) or negative (e.g. moratoria) criteria.

Figure 9. Companies that have adopted specific forest-related policies/strategies



Source: Climate Focus 2016, based on Supply Change 2016.

Supply Change (2016) observed an increasing convergence among commitments around the themes human rights protection, High Conservation Value area protection, and legality. This demonstrates a convergence on the factors that civil society considers important, and a recognition that deforestation commodity issues go beyond environmental impacts.

However, policies often remain general and do not provide adequate guidance for those tasked with implementing said policies (Climate Focus, 2016). Of the CGF members that disclosed supply chain information to the CDP's forest programme, 36% use certification as a basis for their procurement standards (GCF, 2016). However, of this 36%, 69% encourage, 13% prefer and 19% require their suppliers to provide certified palm oil (GCF, 2016).

Many CGF members use their procurement standards to choose and engage with suppliers. The extent to which procurement standards influence choice and engagement with suppliers

depends on the commodity. For palm oil, 85% of CGF members disclosing to the CDP's forest program, procurement standards were pivotal. While for soya, this was only the case for 67% of assessed CGF members.

6.2.3 Conclusion

Most assessed companies have started to operationalise their commitments. 36% of CGF members disclosing to the CDP's forest program use certification as a basis for their procurement standards. Overall, however, policies often remain general and do not provide adequate guidance for those tasked with implementing said policies.

6.3 Outcome: policies implemented

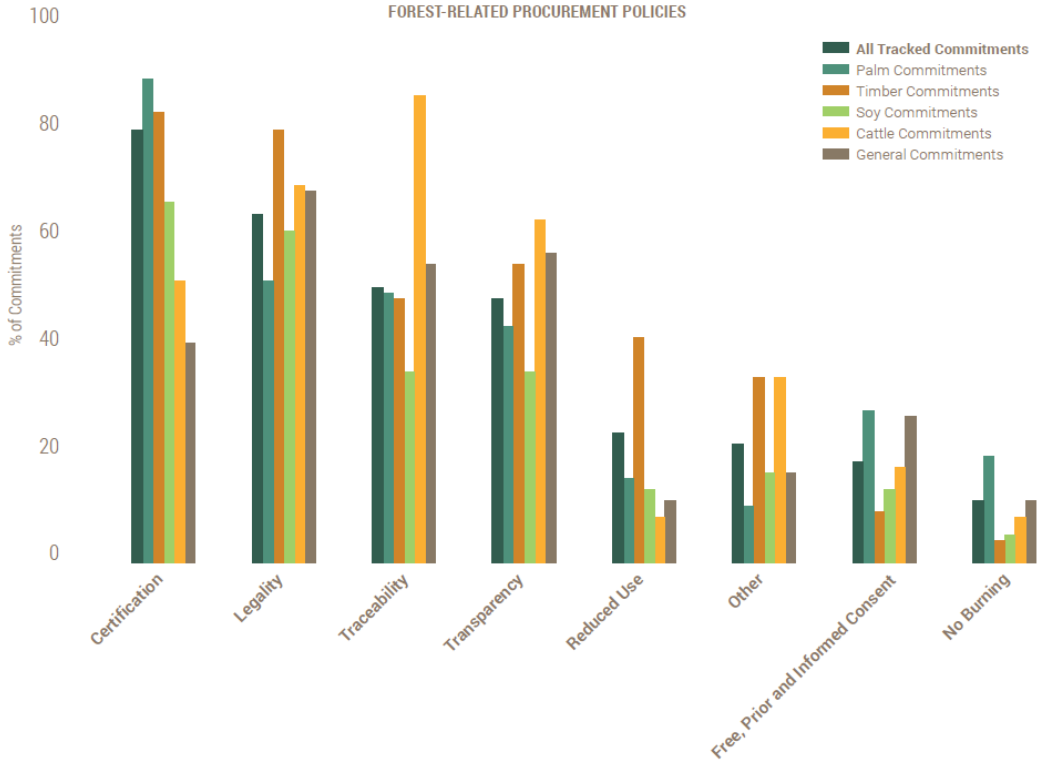
Outcomes can be measured as ZD policy implementation rates and the share of commodities compliant with certification standards or internal standards. Less than half of the companies make quantitative information on their progress available (Supply Change, 2016). Even among commitments for which target dates already passed, companies have disclosed progress on fewer than half (Supply Change, 2016). This suggests that companies are still struggling to implement and monitor their commitments. However, companies that do disclose information report high levels of compliance (Supply Change, 2016).

6.3.1 ZD policy implementation rate

Companies increasingly report progress on the implementation status of their commitments, with progress information for over half of all commitments being available (Supply Change, 2017).

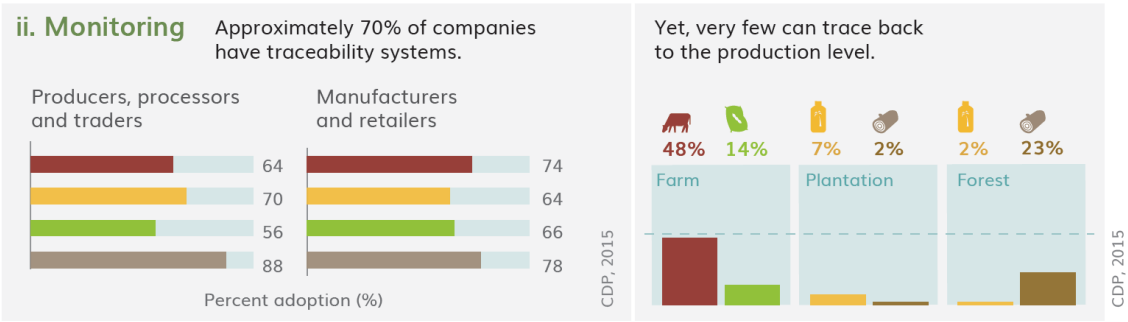
Certification is the most common policy to implement commitments, especially for palm, and timber and pulp. While certification serves as a clear baseline for commitments, many companies go further than the requirements set by standard bodies and establish additional policies. Traceability is an important contributor to full implementation of deforestation-free commitments, and this policy approach is among the most frequently cited (Supply Change, 2016; Figure 10).

Figure 10. Forest-related procurement policies



Based on CDP data, a majority of companies has traceability systems in place with higher shares for timber and cattle products while soya and palm oil face barriers to trace until the farm level (Climate Focus, 2016; Figure 11). Some front runners are however also making progress. For instance, Unilever achieved 72% traceability for its palm oil in 2016 (World Economic Forum Website, 2016). Few systems allow companies to trace commodities back to the local level of production. Another barrier is that suppliers are often reluctant to share commercially sensitive information and companies consequently often miss information on suppliers' sources of commodities. In interviews with TFA 2020 and NYDF members, companies stressed the need for a global traceability database to facilitate sourcing decisions and monitoring (Climate Focus, 2016). New technological developments are expected to enhance traceability further upstream and link them to local forest impact (Climate Focus, 2016).

Figure 11. Traceability systems

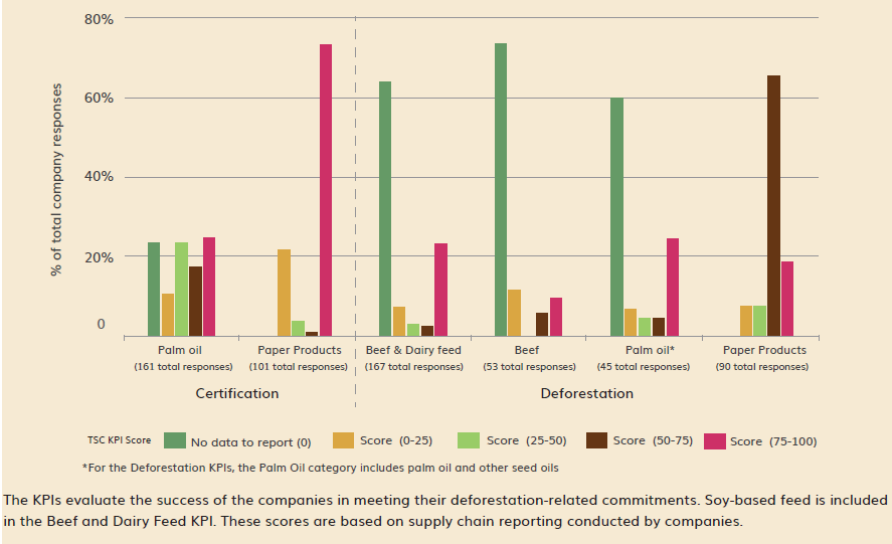


Source: Climate Focus, 2016

Reflecting traceability challenges associated with palm oil and soya, CDP's 2015 report indicates that half the companies with commitments to source certified soya and over a quarter of companies with commitments to source certified palm oil have yet to implement their commitments.

The Sustainability Consortium developed key performance indicators to score companies and evaluate to what extent companies are meeting their commitments. While commitments for paper products are best implemented, there are large data gaps for cattle, palm oil and soya (calculated as part of cattle products) (Climate Focus, 2015; Figure 12).

Figure 12. Retail supplier responses and scores on The Sustainability Consortium Key Performance Indicators



Source: Climate Focus 2015

The question remains to what extent reported progress is believable. Disclosed information is almost always self-reported (Climate Focus, 2016). Only few companies like Proctor & Gamble and Unilever are contracting third-party verifiers such as KPMG to conduct in-field verifications. Companies may have their sustainability report desk-audited. Overall, progress reported against ZD commitments invites scrutiny, as there is no unified and verifiable framework to ensure that a company's operations do not contribute to deforestation.

6.3.2 Market share of certified products

Market shares of certified products are increasing but vary across commodities (Climate Focus 2016). Certified coffee (40%), cacao (22%), and palm oil (22%) already make up considerable shares of global markets (Lernoud et al., 2015; Pots et al., 2014). The global market share of certified timber and pulp (11%), sugar (3%), and soya beans (2%) have however remained relatively low (Lernoud et al., 2015). For palm oil and soya, most certification is through sustainability offsets rather than on-site certification (Climate Focus, 2016). Small volumes of beef are being certified by Rainforest Alliance. The Global Roundtable on Sustainable Beef does not have a global certification standard but instead

promotes regional initiatives (Climate Focus, 2016). Since 2008, major standard setters (Roundtable on Sustainable Palm Oil, Sustainable Agriculture Network and UTZ) experienced a significant increase in compliance (Lernoud et al., 2015).

In 2015, 94% of disclosing CGF members reported sourcing certified palm oil, while only 46% sourced certified soya, and 14% sourced certified cattle products (Bregman et al., 2016). Of the CGF retailers and manufacturers disclosing to the CDPs forest programme, 56% audit the suppliers in their timber supply chain and 33% do so for their palm oil supply chain. Less than 20% audit their cattle farmers and soya suppliers (Bregman et al., 2016).

Box 3: Can certification achieve deforestation-free supply chains?
One major question is whether certification can address initial forest conversion and ensure no additional deforestation in supply chains. While certification schemes play an important role in improving the sustainability of global supply chains, they also face a number of limitations relevant for ZD commitments. First, traceability remains a major concern. While first steps have been taken, most certification schemes do not have sufficiently robust traceability systems to prove deforestation free supply chains. For instance, for palm oil traceability is a challenge because products can be mixed throughout the supply chain.
Second, the accessibility of certification schemes for smallholders is still a challenge. Smallholders are major producers of agricultural commodities. Yet, certification demands financial resources and training that is often not available to small rural farmers.
Third, there is a risk that only farms far away from forests may be able to meet certification criteria with deforestation continuing at the forest frontier.

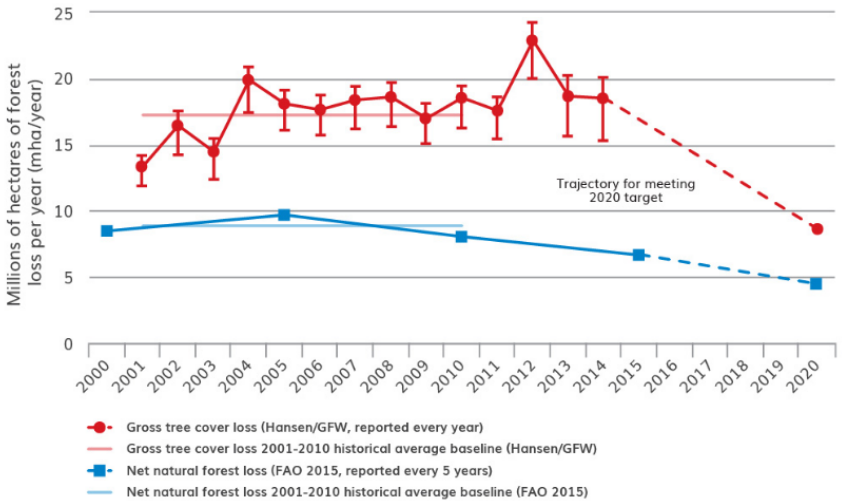
6.4 Impacts: ZD commitments' real effects on forests

Indicators for impacts include the amount of avoided deforestation. However, data establishing a clear link between commitments and avoided deforestation is still rare. As a proxy, the rate of global deforestation serves as rough indicator of overall development, recognising that deforestation has many drivers and that that global deforestation trends are not necessarily correlated with the number of commitments and their implementation.

The impacts that commitments are having in reality, the global market share for each commodity or land area used by each company, and the portion of a company's revenue that is represented by each commodity are still uncertain. Additionally, the entire number of companies that are active in and/or have commitments for these commodities is unknown (Supply Change, 2016).

When looking at overall biophysical trends, using NYDF Goal 1 indicator for gross and net global forest loss, gross tree cover loss is still high, net natural forest loss has been slowing down in the 2001–2015 period (see Figure 13).

Figure 13. Gross and net global forest loss estimates



Source: Climate Focus, 2016

The 2016 NYDF report concludes that in the absence of global data sets that link commitments to real deforestation, the overall impact on forests is currently impossible to assess. The newly launched platform Trase and Global Forest Watch Commodities can be considered first steps into this direction.

6.5 Conclusion

Moving from commitment to implementation poses a hurdle, and companies are often unable to report compliance to their deforestation policies (Climate Focus, 2016). Most companies remain unable to trace commodities to the farm level and very few have geo-spatial information on their supplying farms. Only 13% of 179 manufacturers and retailers tracked by CDP work directly with their suppliers to implement sustainability requirements (CDP, 2015). This lack of communication and coordination perpetuates a disconnect along the supply chain that is preventing commitments – primarily made by companies headquartered in North America and Europe – from being translated to action where they would make most impact, which is engagement with those companies that are directly involved in production (Climate Focus, 2016).

The considerable difference in performance between CGF members and non-members in terms of internalised commitments, risks identified, policies and auditing suggests that the CGF pledge did make a difference and has at least encouraged members to engage more closely in the deforestation risks within their supply chains. Climate Focus (2016) finds also that NYDF endorsers and TFA 2020 member companies have made more progress across all supply chains—in terms of adopting commitments and implementing them.

There are large differences between supply chains. For commitments (input) as well as their implementation (outcome) certified production and sourcing has made good progress for wood products and palm oil, but less so for soya and beef. The fact that the number of commitments for soya and cattle is considerably lower is also related to the lower market

share of certified products for these supply chains, making commitments more difficult to implement. The fact that cattle commodities are the largest driver of deforestation suggests an implementation gap between the NYDF goal 2 and current efforts (Climate Focus, 2016).

If commitments are translated into policies, these mostly rely on certification, complying with legal standards and traceability. Commitments thus often are translated into already existent policy options, rather than defining own standards (Climate Focus, 2016). Therefore, there is a lot of consolidation around standards, which makes the improvement of their credibility and performance even more urgent.

While frontrunner companies, investors and governments are making progress towards achieving their commitments, the majority still lags behind in adopting and strengthening their policies and practices (Website Global Canopy Forum). This suggests that scaling up so far has been limited.

On the other hand, several reports indicate that companies are increasingly aware of their exposure to supply-chain-related deforestation risks. This is also mirrored in the fact that companies active in deforestation hotspots are more advanced in formulating policies than those with less exposure (Climate Focus, 2016). The efforts by companies sourcing or producing in deforestation hotspots suggest that commitments can contribute to address supply-chain-related deforestation.

Finally, pressure on global forests is rising as total consumption continues to rise (Lister and Dauvergne 2014, p.72). There is still much progress to be made (Bregman et al., 2016). Both for those companies that already have commitments and policies in place and for those that have to yet formulate commitments.

7. Conclusion

ZD commitments are made by high level, powerful actors at a global scale. Yet, as a relatively new phenomenon that has yet to develop clearer sets of rules and approaches, the emerging governance landscape is dispersed with different actors taking on leadership roles and with several initiatives overlapping in governance functions. Companies making use of existent policy tools such as certification and compliance with legal minimums rather than developing their own company standards circumvents duplication and transaction costs. At the same time reliance on certification might also inhibit more ambitious actions and policies.

Within less than a decade, ZD has to some degree become entrenched in global forest governance. For instance, in response to the momentum around ZD commitments, certification roundtables on palm oil, soya and beef incorporated ZD commitments (Lister and Dauvergne, 2014). The ZD framing is also reflected in the NYDF and in some Nationally Determined Contributions (e.g. INDC Mexico 2015).

Chapter 6 indicates that the step from commitment to implementation still requires significant additional action. The results also reflect a general trend in corporate sustainability governance: despite some front runners, the majority of businesses still has to live up to its sustainability claims suggesting that the transition to sustainable commodity sourcing is still at an early stage.

Numbers of ZD commitments often peaked in the context of high level climate change events suggesting that companies committing to ZD commitments, operate in 'the shadow of hierarchy'. The failure of IPOP also points to the powerful role of government, in that case undermining more sustainable practices. Although most commitments are private-sector driven intergovernmental and national level decision-making arguably provides an important frame of references for companies to articulate expectations towards governments and promote their sustainability efforts.

The trend of new commitments has been slowing down in the 2015–2016 period. This could have several reasons. First, the Paris Agreement might have signalled to companies that governments, having made their own nationally determined contributions or commitments, are now taking a stronger lead with respect to forests. Second, the controversies and finally disbandment of IPOP in mid-2016 might be seen as a setback and may have discouraged companies to make additional commitments. Finally, global governance is characterised by the rise and fall of new framings and concepts. Perhaps the time of ZD commitments has already peaked and in response to the risks of leakage associated with commitments and the need for more spatial approaches, the policy debate seems to now be shifting towards jurisdictional approaches and financial-sector engagement.

With most commitments having 2020 as target date, including TFA, there is still some time left to achieve the targets that companies have set for themselves. New technological developments and greater traceability in supply chains can give ZD commitments an

additional boost. Alone this will not be enough, however. Bregman et al. (2015) identify factors crucial for achieving ZD pledges: traceability, social inclusion and free prior informed consent, maintaining environmental integrity, using a landscape approach and preventing leakage to avoid displacement of forest loss. How companies perform with respect to most of these crucial factors is still unclear. They provide a good focus for companies, policy makers and think tanks to focus future efforts on.

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Annex

List of interviews

Interview on the TFA and the role of governments with a representative of the Dutch Ministry of Foreign Affairs and member of TFA steering committee	June 2016
Interview on the implications of ZD pledges for local communities with a representative of Global Forest Coalition	June 2016
Interview on forest governance with a representative of the Dutch Ministry of Economic Affairs	July 2016
Interview with a representative of the NYDF Assessment Coalition	October 2016

List of workshops

Workshop on innovative biodiversity governance initiatives with TFA as one of seven case studies discussed	April 2016
Workshop on the role of governments in changing governance context, special focus on TFA	August 2016