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# “Embodied Deforestation” as a New EU Policy Debate to Tackle Tropical Forest Loss: Assessing Implications for REDD+ Performance

Janice Weatherley-Singh <sup>1,2,\*</sup> and Aarti Gupta <sup>1</sup> 

<sup>1</sup> Wildlife Conservation Society, 1040 Brussels, Belgium; aarti.gupta@wur.nl

<sup>2</sup> Environmental Policy Group, Wageningen University, 6700 EW Wageningen, The Netherlands

\* Correspondence: jweatherleysingh@wcs.org; Tel.: +32-(0)-2739-3008

Received: 12 September 2018; Accepted: 27 November 2018; Published: 1 December 2018



**Abstract:** The need to tackle international drivers of deforestation has long been acknowledged; but remains little addressed via policy measures. In the European Union (EU), a new policy debate is emerging around the concept of “embodied deforestation”, which targets EU agricultural commodity imports as drivers of deforestation. The notion views deforestation as an externality generated by EU imports associated with tropical deforestation. Our article examines whether this concept represents a shift in tackling international-level drivers of tropical deforestation within EU policy. We also examine, from a networked governance perspective, whether this new debate fuels further fragmentation or rather a move towards a more integrated approach to combating tropical forest loss within EU policy, and what the implications are for other initiatives, such as the climate change related “reducing emissions from deforestation and forest degradation” (REDD+). Our analysis draws on an extensive analysis of EU policy documents and semi-structured interviews with stakeholders and EU decision-makers. We find that, despite growing debate around the concept of embodied deforestation, policy measures necessary to reduce the impact of EU consumption of agricultural commodities associated with tropical deforestation have not yet been developed. We conclude that “embodied deforestation” remains more an idea than reality within EU policy to date, with the burden of responsibility for addressing international deforestation drivers still largely remaining on developing countries. There is still potential, however, for this debate to lead to a more integrated approach to tackling tropical deforestation within EU policy, if it comes to be seen, together with REDD+, as one of a number of linked approaches to EU efforts to combat deforestation.

**Keywords:** REDD+; European Union; forest policy; deforestation drivers; tropical forests

## 1. Introduction

The need to tackle drivers of deforestation and forest degradation operating at the international level has long been recognized [1], but has thus far largely been overlooked by national environmental policy-makers [2]. However, the issue is now beginning to be actively taken up in policy debates, including within the European Union (EU), as global trade in agricultural products becomes a more prominent driver of deforestation [3]. More than half of all deforestation and forest degradation worldwide is now estimated to be due to the conversion of forestland for commercial agriculture to meet global demand for food, fuel, and fibre [4]. Global demand for commodities is a major driver of deforestation in Latin America and Asia in particular, and a significant component of this global demand originates from within the EU [5]. How developed countries contribute to deforestation in tropical countries, particularly through importing agricultural commodities, is thus garnering increased attention, including within the EU.

A study produced for the European Commission in 2013 [6] (p.iv) estimated, for example, that the EU is responsible for 10% of global “embodied deforestation”, i.e., deforestation as an externality in the production, trade or consumption of a good, commodity, or service. Recent declarations at the international level to reduce or end deforestation, such as the 2014 United Nations (UN) New York Declaration on Forests, and the Amsterdam Declaration by a number of European governments, as well as commitments by multinational companies to promote deforestation-free supply chains and certification schemes, such as the Roundtable on Sustainable Palm Oil (RSPO), are giving further impetus to policymakers seeking to tackle international consumption patterns that fuel tropical deforestation. Arguably, one of the first attempts by the EU to decrease the negative impacts of its consumption on tropical forests was through its 2009 Renewable Energy Directive, which required the introduction of sustainability criteria [7] to ensure biofuel production did not impact biodiverse primary forests [8]. The development of EU sustainability criteria was influenced by voluntary certification schemes, such as the RSPO [9], but both have been criticised for their limited ability to achieve sustainability in practice [10,11]. These efforts are now increasing, most recently, with adoption of a European Parliament resolution in 2017, which advocated restrictions on palm oil imports because of their negative environmental impacts, including adverse impacts on forests [12].

While the sustainability of commodity supply chains is increasingly the focus of both academic and policy scrutiny, our article analyses how these issues land within an increasingly fragmented global and EU-level forest governance architecture, with a wide array of initiatives spearheaded by both state and non-state actors to address tropical deforestation. Another highly visible such initiative is REDD+ (REDD+ stands for: Reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries) under the United Nations Framework Convention on Climate Change (UNFCCC), which financially compensates developing countries for reducing greenhouse gas emissions associated with deforestation and forest degradation [13]. REDD+ has been understood and implemented in a variety of ways by a range of state and non-state actors [14,15]. These include project-level initiatives, aiming to deliver co-benefits for biodiversity and communities in specific local contexts [16]; performance-based carbon payments [17,18]; and, more recently, sustainable landscape approaches that often involve the private sector [19,20].

REDD+ projects and sub-national initiatives have been shown to be responsive to some drivers operating at local and national levels, but are largely unable to tackle drivers of tropical forest loss operating at the international level [21,22], particularly those linked to agricultural production [23]. In addition to its focus on local as opposed to national or international drivers, REDD+ has also been criticised because of negative socio-economic impacts, such as fuelling inequality through restrictions on access to forests and the commodification of carbon [24,25]. In general, commentators see REDD+ as having failed to live up to the initial high expectations following its introduction in international climate change policy discussions in 2005, especially in terms of finance flowing to developing countries to combat tropical deforestation [15]. Notwithstanding such criticisms, recent research points to a reconceptualization of REDD+ in which it is viewed as a conservation and development measure, with more realistic expectations with regard to its performance, rather than being seen as “the” answer to tropical deforestation [26–28]. Furthermore, there is also expectation in both policy circles and academic literature that newer REDD+ landscape approaches, particularly those that involve the agri-business sector, will be better able to tackle drivers of deforestation linked to the expansion of large-scale agricultural commodities for export [29], even if their impact on drivers operating at the global level is limited [30]. The new interest in tackling international drivers linked to consumption in developed countries (i.e., the concept of embodied deforestation), combined with newly emerging REDD+ initiatives involving the private sector, may thus signal a new and more integrated approach to combating tropical forest loss, one that prioritizes tackling drivers of deforestation and forest degradation operating at the international level.

Yet whether this potential is being realized remains little analysed. The concept of embodied deforestation has not yet been discussed in the scholarly literature, given its very recent emergence within the EU policy arena. How the concept is understood, and the extent to which it is gaining traction from policy-makers, requires further examination. It is also unclear what role, if any, is foreseen for REDD+ by those engaged in this new discussion. Will a focus on embodied deforestation marginalise REDD+ or give it fresh relevance? How is REDD+ performance, particularly in relation to tackling international drivers, related to this new approach, if at all? And, finally, will tackling embodied deforestation become one of many initiatives aiming to address tropical deforestation within the EU, contributing to further fragmentation, or will it facilitate a more integrated approach?

This article analyses these timely questions. We proceed as follows: Section 2 reviews the concepts of fragmented and networked forest governance architectures, as the conceptual lens through which we analyse the nature and implications of the new notion of embodied deforestation. Section 3 outlines our methodology and methods of data generation and analysis. Section 4 maps the existing fragmented approach to forest policy-making in the EU, and how the embodied deforestation debate is emerging within this policy context. Section 5 presents our analysis of whether and how this new notion is being translated into EU policy. We conclude with considering whether it represents a move towards a more fragmented or integrated forest policy, and with what implications for REDD+.

## 2. From Fragmented to Networked Forest Governance: A Conceptual Shift

Forest governance arrangements, both globally and within the EU, have long been considered fragmented, insofar as multiple sites of governance authority co-exist. In recent years, there has been a shift from analysing causes and consequences of fragmentation to analysing the networked nature of forest governance [13,31]. Networked forest governance involves bringing together a wide range of actors representing different interests from the private and public spheres [32], with coordination and negotiation between independent stakeholders interacting horizontally (rather than vertically) [33]. In this context, forest governance by formal political administrative structures is replaced by diffuse and complex networks that involve a wide range of actors, [34], including from the private sector [35]. Although networked forest governance scenarios often describe a retreating of the state to make way for other actors, recent studies highlight that the state still imposes limits on the involvement of other actors [33] and often continues to exert considerable influence over the policy process [36].

As production and consumption of forest and agricultural products becomes increasingly globalised, with complex supply chains, it becomes increasingly difficult for states to regulate and govern the sustainability of production, leading to an emergence of hybrid forms of state and private governance [37]. Within globalised commodity chains, highly complex horizontal and vertical chains and networks emerge, with interactions between actors at different points of transactions. As such, networked governance can be “... conceived as a mosaic of both formal and informal networks, interconnecting production practices in the space of place to the space of flows of global trade” [38]. In terms of action to tackle deforestation drivers linked to global commodity chains, the intervention points in such networked contexts are thus often located in developed countries (such as the EU), and therefore are outside the sphere of policy action that can be taken by governments in developing countries. The globalisation of commodity chains is increasingly impacting the effectiveness of REDD+ implementation, which is being adopted in a fragmented manner at sub-national or national levels [39]. This has meant, in some cases, a displacement of deforestation from early to late adopters of REDD+ [40].

It has been observed, however, that governance of some global value chains is also becoming more coordinated between concerned public and private actors at different scales [41]. Few studies, however, have analysed diverse EU forest policies from a networked forest governance perspective, with little analysis of the implications of emerging and new policy discourses for future EU action on, *inter alia*, REDD+. Some forest governance studies have been conducted in relation to the EU Forest Law Enforcement Governance and Trade (FLEGT) [42], but these have tended to focus on its impacts in

partner (i.e., developing) countries (for example, [43,44]). Studies have also been undertaken with regard to regional European forest policy, which indicate a long-recognised lack of policy integration within the EU itself [45], and an increasing trend of influence by economic state interests over environmental interests [46]. It is therefore timely to analyse whether the emerging EU “embodied deforestation” debate represents an actual shift in responsibility to address deforestation drivers from developing countries (via supply-side measures) to developed countries (via demand-side measures), whether it signals a shift from a fragmented to a more integrated approach, and what the implications for REDD+ are.

### 3. Methodology and Methods of Analysis

This analysis relies on qualitative methodologies of document analysis and interviews. Given that there is little published secondary literature on the concept of embodied deforestation, our sources of data have been almost exclusively primary documents, as well as semi-structured interviews with those involved in this very new, emerging debate. Our analysis is thus based on detailed primary document analysis of 55 recent policy documents (generated during the period of January 2014 to December 2017) developed by or for the EU, which we identified as being of relevance to EU tropical forest policy (for a complete list of analysed documents, see Appendix A). We selected these according to the following procedure: With regard to European Parliament documents, a search was conducted on the Parliament website for documents containing a reference to the word “forest”. Any documents found were then included in the analysis, if they concerned global or tropical forests (as opposed to only being concerned with European forests). No equivalent search function exists on the European Commission website, so documents were instead searched for on the webpages of relevant Directorate-Generals covering policy areas considered to be relevant to the issue of international tropical forest policy, namely: climate change, energy, trade, sustainable development, agriculture, foreign policy, environment, development, and the general future direction of EU strategy and budget. Again, documents were only included in the analysis if they referred to forests globally or outside of the EU (with the exception being a few overarching documents that set out the general direction of future EU policies, which were included for their relevance to all EU policy areas).

Once the documents had been selected, the document analysis consisted of mining these documents to distil answers to a number of questions, through close reading of each. The questions related to, *inter alia*, what new policy measures were being proposed/advocated; what drivers of deforestation or forest degradation were sought to be addressed, if any; whether the emphasis was on tackling consumption in the EU, or on support for measures in developing countries; whether REDD+ was mentioned and if so, how; and whether new policies or funding for REDD+ implementation were being proposed, also in conjunction with efforts to tackle international drivers.

In addition to the document analysis, 15 semi-structured interviews were conducted with stakeholders and policy-makers involved in discussions on embodied deforestation in the EU, during the period of February–August 2018. These were intended to verify the findings of the document analysis. Stakeholders were mainly selected based on their participation in two conferences organised by the European Commission on tropical deforestation in 2014 and 2017 [47] and because they were known to be actively involved in EU tropical forest policy debates. A stakeholder mapping was undertaken to select a range of participants working in different organisations. There was, however, a lower response rate from those working in EU institutions and national governments than from those working for NGOs and research institutes. A list of interviewees is provided in Appendix B, and includes five policy-makers from EU institutions and national governments, five representatives of environmental NGOs, four independent experts and researchers, and one staff member from a UN agency. The questions posed included: Whether stakeholders saw the embodied deforestation concept as useful and why; whether they saw a change in the balance between EU support for demand-side measures (to be implemented by the EU) versus supply-side measures (to be undertaken by developing countries) to tackle tropical deforestation; what outcomes they hoped for; and what role they envisaged for REDD+ in evolving EU policies targeting deforestation.

#### 4. Mapping the Fragmented Evolution of EU Tropical Forest Policy

Since there is no single international treaty dealing with tropical deforestation, the issue has been dealt with globally in a fragmented manner, through a range of diverse policy instruments and agreements on related topics, such as biodiversity or climate change [48]. EU policy instruments dealing with tropical forests have generally developed in response to participation in such international United Nations (UN) conventions and agreements. Thus, tropical forests have been dealt with across a range of EU policy instruments, mirroring the situation at the global-level where forests are addressed within international agreements on biodiversity, trade in endangered species, climate change, etc. EU forest policy is thus spread across various EU-level institutions, such as Directorates-General for climate change, development cooperation, environment, and trade. Each of these have their own perspectives on forest issues, with a similar situation prevailing at the level of individual EU Member States as well, where different dimensions of forest policy, whether climate, trade or biodiversity related, are usually addressed by different national-level ministries [49].

External EU policy-making on forests has been largely aligned with the goals of specific, existing UN Conventions and international agreements. Thus, policies on biodiversity have sought to find a balance between biodiversity conservation and its sustainable economic use [50], with a stated aim of achieving and supporting sustainable forest management in this context [49]. The EU Biodiversity Strategy [51] sets out actions to implement the UN Convention on Biological Diversity (CBD) and promote the conservation and sustainable use of biodiversity, including forests. Similarly, EU wildlife trade legislation [52] was adopted to implement rules under the Convention on the International Trade in Endangered Species (CITES) in order to protect species (including timber species) threatened by international trade. The EU also participates in the UN International Tropical Timber Organisation (ITTO), which was established from a commercial viewpoint to reconcile sustainable forest management with expansion of the tropical timber trade [53], and the UN Forum on Forests (UNFF), which emphasises the need to combat deforestation through expansion of sustainable forest management (SFM) [5]. Arguably, the EU policy instrument that has gained the most traction, political attention, and funding in relation to tropical forests is its Forest Law, Enforcement, Governance, and Trade (FLEGT) initiative developed in the context of the 2002 World Summit on Sustainable Development [54]. FLEGT aims to reduce imports of illegally logged timber into the EU, including by supporting action in developing countries to strengthen sustainable forest management and improve governance [55].

The EU and its Member States are also parties to the UN Framework Convention on Climate Change (UNFCCC) and have together contributed about 30% of global finance for REDD+. A large proportion of this has, however, been in the form of bilateral aid from Germany and the UK [56]. The EU established its REDD facility in 2010, but has also donated to existing multilateral initiatives, such as the World Bank Forest Carbon Partnership Facility (FCPF) and UN-REDD programme [57], rather than choosing to become a major player in its own right within global REDD+ discussions. The introduction of REDD+ in the UNFCCC discussions in 2005 represented a significant shift in the objectives of international forest policies, including at the EU level [58], with the focus on reducing carbon emissions from deforestation and forest degradation [59]. This new focus on carbon as the main service provided by forests contrasted to previous approaches [60] that aimed to find a balance between biodiversity conservation and logging for timber. The development of REDD+ was highly influenced by a growing narrative on “payments for ecosystem services” (PES) [61], which explored new funding sources for the conservation of ecosystems based on their utilitarian socio-economic values [62,63]. The PES approach was also promoted by EU policy-makers who, for example, funded ecosystem valuation studies such as the 2009 “The Economics of Ecosystems and Biodiversity” report [64]. Although widely endorsed within policy, the PES approach has also drawn criticism from those who highlighted concerns about the commodification of forests for their carbon values, and the potentially negative ecological [65,66] and social [67,68] impacts of this shift in focus.

Concerns have also been expressed that REDD+ unfairly burdens developing countries, with some suggesting it has been used as a distraction to cover up the lack of action by developed countries to



tackle their own greenhouse gas emissions [69]. In terms of external forest policy, EU policy processes have, like other international policymaking fora, historically focused more on supply-side rather than demand-side measures. They have done so by supporting actions taking place in partner (developing) countries, including through REDD+. The evolution of FLEGT, however, did signal a recognition that the EU needed both supply and demand-side measures to tackle illegal timber imports. Thus, the EU has been working to reduce the negative impacts of its tropical timber imports through engagement in the ITTO and CITES, and the adoption of its FLEGT Action Plan on combating illegal logging. It is now also beginning to develop policies to decrease the wider environmental impacts of consumption patterns, and its greenhouse gas emissions, and has adopted a Circular Economy Action Plan in 2015 to help transition to a sustainable, low carbon, resource efficient, and competitive economy [70].

Similarly, there has been an apparent shift in the implementation of development aid policies and programmes, with developed countries moving away from simply acting as donors to also committing to change their own policies. The adoption of the UN Sustainable Development Goals (SDGs) in 2015, for example, represented a significant change in focus from their predecessor, the Millennium Development Goals (MDGs), due to their universal applicability, with goals applying to both developed and developing countries. The European Commission is also considering whether to propose an EU Action Plan to Combat Tropical Deforestation, and in 2018, published a study [71] outlining the feasibility of policy options to tackle the drivers of tropical deforestation linked to EU imports of so-called “forest-risk” commodities, a new term gaining traction within this policy debate, which appears to refer to globally traded agricultural commodities that are associated with significant tropical deforestation. However, the European Commission has not yet decided which, if any, option to pursue. We turn next to whether this emerging discussion represents a real shift in EU policies dealing with tropical forests, by presenting the findings from our document analysis and interviews.

## 5. Tackling EU Embodied Deforestation: A New Approach to Addressing Drivers?

This section addresses whether and how the new debate on embodied deforestation is poised to address demand-side, international deforestation drivers, through specific adjustments to EU forest policy. It does so by analysing three aspects of this broad question: First, how the notion of embodied deforestation is conceptualized, and what new policy measures, if any, are advocated by policy-makers and stakeholders to tackle it; second, whether these debates and developments signal a real shift towards tackling deforestation drivers linked to EU consumption (i.e., demand side drivers); and third, whether these new debates and developments signal a move towards a less fragmented and more integrated approach to EU forest policy, and what role remains for REDD+ herein.

### 5.1. Conceptualising Embodied Deforestation: Emerging Policy Narratives

Our study of EU policy documents reveals a high level of EU support for implementing the SDGs (a central focus of 20 of the policy documents we analysed) and, to a lesser extent, climate action (a central focus of 10 documents), as illustrated in Table 1. EU policies across a range of subject areas are being shaped to reflect the aims of the SDGs. Those relating to climate, energy, and environment are all being tailored to tackle climate change, relating both to the EU’s own emissions and to supporting actions in developing countries. In accordance with a realignment of its development policies to reflect the SDGs, the EU increasingly views its role less as a donor and more as a partner with developing countries. For example, the European Consensus document sets out the EU’s development aid priorities, but also includes action on EU consumption patterns. The EU is also now encouraging other countries to address their own consumption patterns to become more sustainable, for example, through the EU-funded Switch Asia programme (Switch Asia is an EU funding programme to support sustainable production and consumption in Asia, <http://www.switch-asia.eu/>).

**Table 1.** Emphasis given to action on climate change, the SDGs and REDD+, in relevant EU policy documents.

	<b>Climate and Energy</b>	<b>Trade</b>	<b>Sustainable Development</b>	<b>Agriculture</b>	<b>Foreign Policy</b>	<b>Environment</b>	<b>Development</b>	<b>Overall Policy Direction</b>	<b>Total</b>
Total number of documents analyzed	12	2	4	2	2	19	7	7	55
Number of documents in which climate is a dominant focus	10	0	0	0	0	0	0	0	10
Number of documents in which SDGs are a dominant focus	2	1	4	0	0	6	6	1	20
Number of documents in which REDD is a dominant focus	1	0	0	0	0	1	0	0	2

Somewhat surprisingly, however, tackling global deforestation and REDD+ are low priorities within wider policy discussions on climate and the SDGs, and the relevance of forests and land use, in particular, to the climate debate is largely missed. Instead, EU climate action appears to focus more on tackling EU greenhouse gas emissions and how this can lead to innovation and new jobs within the EU, rather than on reducing negative environmental impacts elsewhere, caused by EU consumption. The Eurostat report on monitoring EU action to achieving the SDGs demonstrates the strong shift towards supporting action within the EU rather than in developing countries. Although the need to halt global deforestation is mentioned [72] (p. 299), the proposed indicators to monitor progress only cover forests in the EU. A key finding of our analysis is that REDD+, in particular, has a very low profile within analysed policy documents. It is the dominant theme of only two EU policy documents, both of which are reports on EU activities undertaken in the past. Of the 55 policy documents we analysed, only 16 mention REDD+ in passing. Even reports and documents that are very supportive of policy measures to conserve tropical forests, such as the European Parliament report calling for EU action for sustainability (which highlights the need to address deforestation drivers and expresses support for afforestation for mitigation), do not mention REDD+ specifically.

Whilst some support was expressed for “embodied deforestation” as a conceptual approach in our stakeholder interviews, it is unclear whether sufficient momentum is behind it to signal a change of approach in external EU forest policy. Around half of those interviewed consider the “embodied deforestation” concept to signal a useful approach, whilst identifying a number of limitations (Interviews with: EU policy-maker in Brussels, 1 February 2018; NGO representative by skype, 16 March 2018; EU agency representative by skype, 12 April 2018; independent expert by skype, 18 April 2018; researcher in Brussels, 26 April 2018; NGO representative by skype, 18 May 2018; EU policy-maker in Brussels, 24 May 2018; independent expert by skype, 17 August 2018). Interviewees noted, for example, that various terms are being used to express similar concepts, which is confusing. For example, the French government refers to “imported deforestation” [73], Sweden refers to reducing its ecological footprint (Interview with UN agency staff member by skype, 2 February 2018), and the recent European Commission feasibility study refers to “embedded deforestation” [71] (p. 31). Second, it was observed that the term has to be explained each time it is used, which limits its usage to policy-makers rather than being broadly understandable to a wider public. Others noted that all imports of a particular commodity are treated, within this simplified concept, as having the same deforestation impacts, which limits its accuracy. One interviewee commented that alternative concepts, such as “sustainable supply chains”, are more likely to be understood and supported by a wider audience (Interview with EU policy-maker in Brussels, 1 February 2018). Despite the limitations of the approach, we next turn to considering whether the EU is moving towards a greater emphasis on demand-side measures to be adopted by developed countries, thereby sharing responsibility for tackling deforestation drivers more evenly than previous initiatives focusing on supply-side actions by developing countries.

### *5.2. Shifting Responsibility from South to North: Targeting Demand?*

In terms of whether there has been a shift in the balance of responsibility for tackling deforestation drivers from developing to developed countries, with a corresponding shift in the balance between demand and supply-side measures in EU external forest policy, there appears to be a shift in rhetoric, at least. This is demonstrated, for example, by the European Parliament report on palm oil [12], which advocates restricting imports of palm oil to the EU to prevent deforestation. It should be noted, however, that this is just a policy recommendation by the European Parliament, with no proposals from the Commission to implement it, partly because this report was met with strong political opposition from Indonesia and Malaysia, who want to protect their export markets, as widely reported in the media, for example, [74]. More generally, in our analysis of policy documents, we identified various supply-side and demand-side measures being advocated within EU policies relevant to forests (see Table 2 for the list of suggested new policy measures), with a higher number of actions relating to the



demand-side. As in the case of palm oil, however, very few of the suggested demand-side measures are mentioned in official policy documents. Instead, they are mainly mentioned in the draft of a feasibility study undertaken by consultants for the European Commission. If enacted, however, these suggested new policy measures would help to address a number of international drivers of deforestation and forest degradation. These include illegal logging and the international trade in timber (building on existing EU efforts under FLEGT and the EUTR), agricultural conversion linked to the global export of commodities and imports, as well as international financial transfers associated with deforestation.

Interviewees expressed strong support, for example, for the EU Timber Regulation (EUTR) as a model for tackling demand, despite well documented implementation challenges [49,75]. At least six interviewees noted that the EU needs to take a regulatory approach to tackling deforestation, along the lines of an EUTR for agricultural commodities (Interviews with: EU policy-maker in Brussels, 1 February 2018; NGO representative by skype, 23 February 2018; and NGO representative by skype, 16 March 2018; an EU agency member by skype, 12 April 2018; independent expert by skype 15 April 2018; independent expert by skype, 17 August 2018). Two of the interviewees also stated that the EU should develop a policy instrument that provides transparency in financial reporting by companies on deforestation risks (Interviews with an EU policy-maker in Brussels, 1 February 2018; an NGO representative by skype 12 April 2018). The only recent EU legislative proposal to actually tackle a driver of tropical deforestation or forest degradation is a proposal from the European Commission to decrease competition for land between biofuels, agriculture, and forests through changes to the Renewable Energy Directive. This was developed in response to considerable criticism of the EU's biofuels policy, see, for example [76]. As revealed in one of our interviews, however, the proposal was watered down considerably in early 2018 before being adopted (Interview with EU policy advisor in Brussels, 28 June 2018). Therefore, despite the rhetoric and the growing number of new suggested policy measures to tackle embodied deforestation, there is very little in the way of actual new legal or policy proposals to address EU consumption impacts. As summed up by one of our interviewees, in general, the European Commission is mostly interested in developing voluntary rather than regulatory measures to tackle demand and "expects more from partner countries than they are willing to do themselves" (Interview with an NGO representative by skype, 23 February 2018).

Our interviews with stakeholders involved in the EU policy debate also reveal differing views as to whether the EU should go beyond achieving legality to also mandating sustainability standards that imports should meet or aim for "zero deforestation" targets for commodity imports. This emerging discussion is building on experiences in relation to FLEGT, which currently only covers legality but could, in theory, be expanded to include sustainability criteria [42,44]. Four of the interviewees (Interviews with an EU policy-maker in Brussels, 1 February 2018; an NGO representative by skype, 16 March 2018; an NGO representative by skype, 12 April 2018; independent expert by skype, 17 August 2018) consider that a new policy tool to deal with deforestation should be based on sustainability rather than legality standards, although they recognised the challenges this posed in terms of gaining acceptance from partner developing countries. They also expressed concern that the EU would be imposing its sustainability standards and governing beyond its borders, although it should be noted that none of our interviewees recognised that in some cases, partner countries may have higher standards in place than the EU would like to impose for example [7]. Differing views were also expressed as to whether partner countries have adequate legal frameworks in place through which to implement a sustainability approach, or whether these would need to be updated or developed first.

**Table 2.** New suggested policy measures to combat tropical deforestation within documents published by or for EU policy-makers.

Suggested New Supply-Side Measures	Suggested New Demand-Side Measures	Suggested Measures Mentioning REDD+	Direct and Indirect Drivers of Deforestation and Forest Degraded that Would be Impacted
<p><b>Climate change and energy</b> -Measures to reduce impact of biofuels &amp; indirect land-use change (ILUC)</p> <p><b>Trade</b> -Support the conservation and sustainable use of natural resources -Support reductions in illegal logging</p> <p><b>Sustainable development</b> -Financial support to partner countries</p> <p><b>Environment</b> -Increased support to partner countries to protect forests, including for FLEGT -Incentives for Sustainable Forest Management (SFM) -Support synergies between REDD and FLEGT -Request for finance for global biodiversity -Support to reduce timber trafficking -Support to smallholder producers -Support to jurisdictions to prepare for REDD+ -Incentives for sustainably produced commodities</p> <p><b>Development</b> -EU support for REDD+ in Key Landscape Areas</p>	<p><b>Trade</b> -Increase supply chain transparency and due diligence</p> <p><b>Sustainable development</b> -Measures to reduce consumption impacts on tropical forests-Improve sustainability of global supply chains</p> <p><b>Agriculture</b> -Promote use of local rather than internationally-sourced timber</p> <p><b>Environment</b> -Restrictions on oil palm imports -Support for commodity certification schemes -Support local rather than internationally-sourced biofuels -Certification schemes for commodity imports -Encourage China to adopt FLEGT-type measures -Demand-side measures to reduce illegal timber imports -Reduce consumption impacts on global biodiversity -Reduce impact of biofuel production on forests e.g., through sustainability criteria -Include sustainable forest trade in free trade agreements (FTAs) -Closure of EU markets to products linked to deforestation -Due diligence for forest risk commodities -Transparency initiatives and consumer information on agricultural commodities -Disclosure of financial information for forest risk commodities -Promotion of sustainable finance</p>	<p><b>Environment</b> -Support synergies between REDD and FLEGT -Support to jurisdictions to prepare for REDD+</p> <p><b>Development</b> -EU support for REDD+ in Key Landscape Areas</p>	<p><b>Climate change and energy</b> -Conversion for biofuels or ILUC</p> <p><b>Trade</b> -Illegal logging -Conversion for global commodity imports</p> <p><b>Sustainable development</b> -Conversion for global commodity imports -Lack of finance in partner countries</p> <p><b>Agriculture</b> -Unsustainable timber logging</p> <p><b>Environment</b> -Conversion for oil palm -Lack of finance in partner countries -Illegal logging and timber trafficking -Conversion for biofuels or ILUC -Unsustainable forest management -Conversion for smallholder agriculture -Lack of capacity at jurisdictional level -Lack of market incentives for sustainably produced commodities</p> <p><b>Development</b> -Lack of finance for REDD+</p>

### 5.3. From Fragmentation to Integration in Networked EU Forest Governance: What Role for REDD+?

Currently, EU external forest policy-making is highly fragmented, inconsistently applied, and contains gaps, or as one interviewee put it “efforts are all over the place so an overarching approach is needed” (Interview with EU policy-maker in Brussels, 1 February 2018). Another interviewee outlined the challenges as including contradictory policies proposed by different Commission Directorate-Generals; a lack of coherent planning as to how the EU will achieve its international forest policy commitments; and no standardised EU definition or understanding of key concepts, such as Sustainable Forest Management (SFM), REDD+, or even forests (Interview with NGO representative by skype, 18 May 2018). As pointed out by one interviewee, “the EU needs a deforestation policy and a REDD+ policy as it’s not clear what it’s trying to achieve in either sphere” and “the Member States all have divergent views” (Interview with an EU agency staff member by skype, 12 April 2018), thereby demonstrating a challenge of multilevel governance.

These views are reflected in a report from the EU REDD+ facility that outlines the REDD+ activities the EU is now supporting to address tropical deforestation, which includes several initiatives that are not generally thought of as being “REDD+”, such as, for example, demand-side measures. This could either be interpreted as REDD+ evolving into a new conceptual approach or becoming increasingly irrelevant or side-lined in funding priorities. Those we interviewed gave differing views regarding the potential of REDD+ and its performance, also in terms of addressing deforestation drivers. One interviewee noted that “REDD+ has got so complex it’s stuck and should go back to being an offsetting mechanism” (Interview with NGO representative by skype, 15 February 2018), whereas another was of the opposite view that “REDD+ is an umbrella which also encompasses sustainable supply chain approaches” (Interview with EU agency staff member by skype, 12 April 2018).

Looking ahead, as shown in Table 2, very little is actually suggested within documents published by or for EU policy-makers in relation to new REDD+ policies or funding. Divergent views were expressed in our interviews regarding the continuing role of the EU as a donor to REDD+. In theory, the EU target of 20% of budgetary spending for climate objectives (with a proposed increase to 25% in the European Commission’s proposal for the new EU budget post-2020) [77] should make way for significant funding to be made available for REDD+. Large-scale European Commission funding has not been forthcoming in practice, however, although some individual EU countries, such as Germany and the UK, have provided substantial bilateral support for REDD+ [57]. Three interviewees (Interview with UN agency staff member by skype, 2 February 2018; NGO representative by skype, 15 February 2018; EU agency staff member by skype, 12 April 2018) were of the view that REDD+ finance from donors, such as the EU, has been helpful in creating enabling conditions to combat deforestation, even as the readiness process has created expectations within partner (developing) countries of continued finance (as also mentioned by Hein et al [78]). This would need to be followed through, for example, by funding REDD+ landscape/jurisdictional approaches, yet our analysis suggests that such increasing funding is not necessarily envisioned.

Skepticism was also expressed regarding the proper establishment of a functioning carbon market and the lack of interest in this by the private sector, who seem to be more attracted to the idea of sustainable supply chains (Interviews with UN staff member by skype, 2 February 2018; NGO representative by skype, 15 February 2018; NGO representative by skype, on 16 March 2018; and EU agency staff member by skype, 12 April 2018), although it was also noted that international aviation carbon offsets schemes could provide a new way forward, as also commented by Golub [79]. A Commission-funded study published in March 2018 outlines potential EU policy options for tackling tropical deforestation and includes a recommendation for the EU to support “jurisdictional REDD+ projects to promote sustainable and deforestation-free agriculture production” [80] (p. 75), which, if implemented, could provide a new way forward for EU support for REDD+ initiatives that combines jurisdictional REDD+ with supply chain approaches. Furthermore, EU development aid policies are increasingly looking to partner with the private sector to deliver policy goals through public-private-partnerships (PPPs), which may open new opportunities and lead to novel networked

forest governance arrangements in partner developing countries [81], but also risks watering down forest conservation objectives.

Several interviewees mentioned the need for the EU to contribute to global dialogues on REDD+ or other multilateral processes that can link demand and supply-side measures, and suggested that the SDGs could provide a helpful framework for this process (potential synergies between REDD+ and the SDGs have also been noted by others, such as [82]). However, it was noted that there is no obvious existing UN fora where such a dialogue could take place, with little confidence expressed in the UNFF (in line with previous criticism, for example, [83]). It was therefore suggested that in practice it may be more workable for the EU to encourage further dialogue on this issue (Interviews with UN staff member by skype, 2 February 2018, NGO representative by skype, 15 February 2018, NGO representative by skype, 23 February 2018 and EU agency staff member by skype, 12 April 2018). One interviewee noted that the UNFCCC is now turning its attention to decreasing greenhouse gas emissions linked to agriculture. This could be an area in which the EU could envisage playing a leading role, both by tackling emissions linked to its own domestic agriculture as well as through promoting sustainable supply chains and responsible consumption, partially through existing REDD+ approaches. Others note, however, that there is limited potential to build synergies between LULUCF accounting and REDD+ (see, for example, [84]) and from the perspective of one interviewee, the EU's own rules on LULUCF accounting lack credibility and environmental integrity (Interview with an EU agency staff member by skype, 12 April 2018).

Our analysis reveals, furthermore, several calls from different stakeholders for an EU Action Plan to Combat Tropical Deforestation (mentioned in five documents from the European Parliament and one from a research agency), and in two interviews (Interview with NGO representative by skype, 16 March 2018 and independent expert by skype, 18 April 2018). An Action Plan could provide a new comprehensive approach to external EU forest policy, with an overarching policy framework that includes both demand-side and supply-side measures. It could also place current support for REDD+ within a more integrated approach, as one of a number of measures to tackle deforestation rather than as the sole solution to tackling tropical deforestation. EU action plans can be effective tools for increasing political and financial support to tackle an issue. The publication of the EU FLEGT Action Plan in 2003, for example, garnered significant support for preventing the imports of illegal logged timber into the EU [85], thereby tackling one important driver of forest degradation. The publication of an EU Action Plan against Wildlife Trafficking in 2016 similarly gave considerable impetus to addressing wildlife trafficking. Action plans can, however, also remain weak, non-binding documents if they do not include legislative proposals. Thus, they may fail to achieve inter-sectoral integration, as was reportedly the case for the EU's domestic forest strategy and associated action plan [45,86]. So far, the European Commission is yet to come forward with a proposal for an action plan in relation to tropical deforestation.

## 6. Conclusions

Our analysis has shown that there is growing momentum within the EU to implement the SDGs and act on climate change, but tackling tropical deforestation or supporting REDD+ remain relatively low priorities for policy-makers within these wider debates. There has been a genuine shift in emphasis within policy debates towards addressing greenhouse gas emissions and negative impacts of consumption at the EU level. However, a gap remains between such rhetoric and specific policy measures being proposed to tackle EU consumption in relation to tropical deforestation. Despite several calls for an EU Action Plan against Tropical Deforestation that contains regulatory measures on EU imports of forest-risk commodities, and suggested new policy measures included in several documents, the European Commission has not yet acted. This may be because economic interests are now dominating strongly over environmental ones, as has happened in the case of domestic EU forest policies [87], although there are indications that some private companies are actually supportive of greater EU action on tropical forests [71].

With regard to REDD+, very little is being proposed in terms of new policies or funding. This could be because of the perception that the private sector is more interested in “sustainable supply chain” approaches, despite limited evidence that they can deliver on social sustainability objectives and reduce deforestation [78,88]. It is currently unclear whether supply-chain approaches will give further impetus to jurisdictional REDD+, whether they will replace or be a substitute for REDD+ initiatives, or whether new networked governance arrangements will emerge with partner (developing) countries. If the European Commission does decide to develop an overarching action plan that includes both demand- and supply-side measures, this could indeed signal a new integrated EU approach to tackling deforestation, which replaces the current range of fragmented approaches. Under this scenario, REDD+ could become one of a number of linked policy approaches, rather than being burdened with the expectation that it can solve tropical deforestation (and all associated issues) on its own. This would also spread the burden of responsibility more evenly between developed and developing countries. Embedding REDD+ within the framework of an initiative, such as an EU Action Plan, could also contribute to overcoming two major challenges, namely the lack of REDD+ finance and the need to address international drivers of deforestation and forest degradation [89]. However, in the absence of actual EU legislative proposals to tackle drivers linked to global consumption and new commitments to REDD+ finance, the interest in tackling embodied deforestation is unlikely to signify major policy change, with the burden of responsibility to combat deforestation continuing to fall on developing countries.

**Author Contributions:** Conceptualization, J.W.-S. and A.G.; Data curation, J.W.-S.; Formal analysis, J.W.-S.; Investigation, J.W.-S.; Methodology, J.W.-S.; Supervision, A.G.; Writing—original draft, J.W.-S.; Writing—review & editing, A.G.

**Funding:** This research received no external funding. Wageningen University will cover the cost of publication (open access fee).

**Conflicts of Interest:** The authors declare no conflict of interest. The lead author is employed by the Wildlife Conservation Society (WCS) which works to advise on and advocate for EU policy action in favour of wildlife conservation. This research was undertaken independently in a personal capacity as part of a PhD programme at Wageningen University and was not funded by WCS.



**Appendix A. List of EU Policy Documents Included in the Analysis**

	Policy Area and Document Title	Date	Institution	Document Type
<b>Climate Change &amp; Energy</b>				
1	On the proposal for a regulation on the inclusions of GHG emissions and LULUCF	3 May 2017	EP DEV Committee	Opinion
2	On the proposal for a regulation on the inclusions of GHG emissions and LULUCF	4 May 2017	EP AGRI Committee	Opinion
3	A policy framework for climate and energy in the period from 2020 to 2030	22 January 2014	EC	Communication
4	A policy framework for climate and energy in the period from 2020 to 2030—impact assessment	22 January 2014	EC	Staff working paper
5	on Towards a new international agreement in Paris	30 September 2015	EP ENV Committee (plenary)	report
6	on Towards a new international agreement in Paris	30 September 2015	EP Industry & research committee	opinion
7	on Towards a new international agreement in Paris	30 September 2015	EP DEV Committee	opinion
8	The Paris Protocol—A blueprint for tackling global climate change beyond 2020—staff working document	25 February 2015	EC	Staff working paper accompanying a communication
9	European Union. (2015). Forests, Climate and People: EU support to combat tropical deforestation (REDD+) 2006–2014.	2015	EC DG Clima	Brochure
10	Directive amending Directives on petrol and diesel fuels and renewable energy	15 September 2015	EC	Directive
11	Proposal for a Directive on the promotion of renewable energy use	23 February 2017	EC	Proposed directive
12	DG Clima Strategic Plan 2016–2020	26 April 2016	EC DG Clima	Strategic plan
<b>Trade</b>				
13	On the impact of international trade and the EU's trade policies on global value chains	10 May 2017	EP Trade Committee	Draft report
14	Trade for all: towards a more responsible trade and investment policy	2014	EC	Strategy
<b>Sustainable development</b>				
15	On EU action for sustainability	27 June 2017	EP ENV Committee (plenary)	Report
16	On EU action for sustainability	27 June 2017	EP DEV report	Report
17	Next steps for a sustainable European future: European action for sustainability	22 November 2016	EC	Communication
18	Key European action supporting the 2030 agenda and SDGs	22 November 2016	EC	Staff working paper
<b>Agriculture</b>				
19	On a new EU forest strategy: for forests and the forest-based sector	25 February 2015	EP ENV Committee	Opinion
20	On a new EU forest strategy: for forests and the forest-based sector	1 April 2015	EP AGRI Committee (plenary)	Report
<b>Foreign policy</b>				
21	On EU political relations with Latin America	31 May 2017	EP DEV Committee	Opinion
22	A strategic approach to resilience in the EU's external action	7 June 2017	EC	Communication
<b>Environment</b>				
23	On palm oil and deforestation of rainforests	17 March 2017	EP ENV Committee (plenary)	Report
24	On palm oil and deforestation of rainforests	2 March 2017	EP DEV Committee	Report
25	On palm oil and deforestation of rainforests	24 January 2017	EP INTA Committee	Opinion
26	On palm oil and deforestation of rainforests	2 March 2017	EP AGRI Committee	Opinion

	Policy Area and Document Title	Date	Institution	Document Type
27	Transparency and accountable management of natural resources in developing countries: the case of forests	May 2017	DG for external policies for the EP Dev Committee	Study
28	Analysis and evidence in support of the EU Action Plan against Wildlife Trafficking	26 February 2016	EC	Staff working paper
29	EU Action Plan against Wildlife Trafficking COM (2016) 87	26 February 2016	EC	Communication
30	Evaluation of the EU FLEGT Action Plan	27 April 2016		Independent consultancy report
31	Evaluation of the EU FLEGT Action Plan	2 August 2016	EC	Staff working paper
32	EU REDD Facility: Highlights and insights from 2016	3 March 2017	EU REDD Facility	Report
33	On the mid-term review of the EU's biodiversity strategy	8 December 2015	EP DEV Committee	Opinion
34	On the mid-term review of the EU's biodiversity strategy	7 January 2016	EP ENV Committee (plenary)	Report
35	The mid-term review of the biodiversity strategy to 2020	2 October 2015	EC	Report
36	EU assessment of progress in implementing the EU biodiversity strategy to 2020	2 October 2015	EC	Staff working paper
37	DG Environment strategic plan 2016–2020	23 March 2016	EC	Strategic plan
38	Environmental indicator report 2017	13 November 2017	EEA	Monitoring report
39	Mid-term review of the 7th EAP	November 2017	EPRS	Research report
40	Draft feasibility study on options to step up EU action against deforestation part I	June 2017	COWI (for DG ENV)	Independent consultancy report
41	Draft feasibility study on options to step up EU action against deforestation part II	June 2017	COWI (for DG ENV)	Independent consultancy report
<b>Development aid</b>				
42	The new European Consensus on Development “Our world, our dignity, our future”	7 June 2017	EC, EP, Council	Joint statement
43	Collect more—spend better—achieving development in an inclusive and sustainable way	October 2015	EC	Staff working paper
44	DG Development strategic plan 2016–2020	1 May 2016	EC	Strategic plan
45	Monitoring report on progress towards the SDGs in an EU context	20 November 2017	Eurostat	Monitoring report
46	Larger than elephants—synthesis	2015		Consultant's report
47	A global partnership for poverty alleviation and sustainable development	5 February 2015	EC	Communication
48	A global partnership for poverty alleviation and sustainable development—annex	5 February 2015	EC	annex to a communication
<b>General EU strategy/budget</b>				
49	White Paper on the Future of Europe	1 March 2017	EC	White paper
50	Reflection paper on the social dimension of Europe	17 April 2017	EC	White paper
51	Reflection paper on harnessing globalization	10 May 2017	EC	White paper
52	Reflection paper on the future of EU finances	28 June 2017	EC	White paper
53	Future Financing of the EU: Final report and recommendations of the High Level Group on Own Resources	December 2016	High level group	Report
54	EP report on the post electoral revision of the MFF 2014–2020	30 June 2016	EP	Report
55	Strengthening European Investments for jobs and growth: Towards a second phase of the European Fund for Strategic Investments and a new European External Investment Plan	14 September 2016	EC	Communication

**Appendix B. List of Interviewees**

<b>Job Function</b>	<b>Institution Type</b>	<b>Date of Interview</b>	<b>Location</b>
Policy-maker	European Commission	1 February 2018	Brussels, Belgium
Forest Expert	UN agency	2 February 2018	Skype
Policy Manager (former)	Environmental NGO	15 February 2018	Skype
Lawyer	Environmental NGO	23 February 2018	Skype
Campaigner	Environmental NGO	16 March 2018	Skype
Campaigner	Environmental NGO	12 April 2018	Skype
Forest Expert	EU agency	12 April 2018	Skype
Forest Expert	Freelance consultant	18 April 2018	Skype
PhD Student	University	26 April 2018	Brussels, Belgium
Senior Policy Officer	Environmental NGO	18 May 2018	Skype
Negotiator	National government	24 May 2018	Skype
Policy-maker	European Commission	24 May 2018	Brussels, Belgium
Senior Researcher	Research institute	24 May 2018	Skype
Policy Advisor	European Parliament	28 June 2018	Brussels, Belgium
Forest Policy Expert	Independent consultant	17 August 2018	Skype

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