

REQUEST FOR INTERNAL REVIEW
UNDER TITLE IV OF THE AARHUS REGULATION

OF

Commission DELEGATED REGULATION (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives

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TO

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Pursuant to Article 10 of Regulation 1367/2006, as amended by Regulation (EU) 2021/1767, on the application of the provisions of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters in Community Institutions and Bodies, and Commission Decision 2008/50/EC of 13 December 2007

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I. SCOPE OF THE REQUEST FOR INTERNAL REVIEW AND REGULATORY BACKGROUND

A. Scope of the Request for Internal Review

1. The present request for internal review (the “**Request**”) is made by the Applicants under Regulation (EC) 1367/2006¹ as amended by Regulation (EU) 2021/1767² (the “**Aarhus Regulation**”) to request the European Commission (the “**Commission**”) to review several provisions of the Delegated Regulation (EU) 2021/2139³ (the “**Delegated Regulation**”) that contravene environmental laws.
2. The Request focuses on the provisions of Annex I and II of the Delegated Regulation relating to:
 - (i) **forest management** (section 1.3 of Annex I and II of the Delegated Regulation); and
 - (ii) the following bioenergy and biofuel activities (hereafter the “**Relevant bioenergy activities**”) insofar as, and to the extent that, they apply to activities using woody biomass, focusing mostly but not exclusively on use of forest biomass (hereafter either “**woody biomass bioenergy and biofuel**” or “**forest biomass bioenergy and biofuel**” activities):
 - Electricity generation from renewable non-fossil gaseous and liquid fuels (section 4.7 of Annex I and II of the Delegated Regulation);
 - Electricity generation from bioenergy (section 4.8 of Annex I and II of the Delegated Regulation);
 - Manufacture of biogas and biofuels for use in transport and of bioliquids (section 4.13 of Annex I and II of the Delegated Regulation);
 - Cogeneration of heat/cool and power from renewable non-fossil gaseous and liquid fuels (section 4.19 of Annex I and II of the Delegated Regulation);
 - Cogeneration of heat/cool and power from bioenergy (section 4.20 of Annex I and II of the Delegated Regulation);
 - Production of heat/cool from renewable non-fossil gaseous and liquid fuels (section 4.23 of Annex I and II of the Delegated Regulation); and
 - Production of heat/cool from bioenergy (section 4.24 of Annex I and II of the Delegated Regulation).
3. The Applicants purport that the technical screening criteria set for forest management and the Relevant bioenergy activities breach various provisions of Regulation (EU) 2020/852⁴ (the so-called “**Taxonomy Regulation**”) and several higher-ranking provisions of environmental law for the reasons detailed hereafter.

¹ Regulation (EC) No 1367/2006 on the application of the provisions of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters to Community institutions and bodies [2006] OJ L264/13.

² Regulation (EU) 2021/1767 of the European Parliament and of the Council of 6 October 2021 amending Regulation (EC) No 1367/2006 on the application of the provisions of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters to Community institutions and bodies [2021] OJ L356/1.

³ Delegated Regulation (EU) 2021/2139 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation [2021] OJ L442/1.

⁴ Regulation (EU) 2020/852 of 18 June 2020 of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 [2020] OJ L198/13.

B. Regulatory Background

4. The Taxonomy Regulation was adopted with the aim of establishing a classification system for sustainable activities to provoke “*a shift of capital flows towards more sustainable economic activities*”.⁵ It is presented as “*a key step towards the objective of achieving a climate-neutral Union by 2050*”⁶ and is at **the heart of the EU sustainable finance strategy**. As such the Commission has presented it as “*the most important and urgent action*” of its Action Plan on Sustainable Finance.⁷
5. As laid out in its preamble, the Taxonomy Regulation aims “*to enhance investor confidence and awareness of the environmental impact of those financial products or corporate bonds, to create visibility and to address concerns about ‘greenwashing’*”.⁸
6. Article 1 of the Taxonomy Regulation provides that it “*establishes the criteria for determining whether an economic activity qualifies as environmentally sustainable for the purposes of establishing the degree to which an investment is environmentally sustainable*”. These criteria apply not only to EU activities, but to all economic activities around the world, including in places where national rules and enforcement systems are weak or lacking.
7. Under Article 3 of the Taxonomy Regulation, an economic activity shall qualify as “environmentally sustainable” where it:
 - (a) **contributes substantially to one or more of the environmental objectives** set out in Article 9 (*i.e.* climate change mitigation, climate change adaptation, water and biodiversity protection, pollution control and circular economy – the “**Environmental Objectives**”) in accordance with Articles 10 to 16 which lay down the conditions under which an economic activity shall be considered to substantially contribute to each of the Environmental Objectives;
 - (b) **does not significantly harm any of the Environmental Objectives** in accordance with Article 17 which lays down the conditions under which an economic activity shall be considered to significantly harm each of the Environmental Objectives;
 - (c) is carried out in compliance with the **minimum safeguards** laid down in Article 18 which requires that undertakings implement procedures to ensure alignment with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights; and
 - (d) **complies with the relevant technical screening criteria** to be established by the Commission pursuant to Articles 10(3), 11(3), 12(2), 13(2), 14(2) or 15(2).
8. Those articles provide that, for each of the six Environmental Objectives, the Commission shall adopt delegated acts to **supplement the criteria already listed by the Taxonomy Regulation** by establishing “**technical screening criteria**” for each relevant Environmental Objective:
 - (a) for determining the conditions under which a specific economic activity qualifies as contributing substantially to each of the Environmental Objectives; and
 - (b) for determining whether such activity causes significant harm to one or more of those objectives (“**DNSH criteria**”).

⁵ Communication from the European Commission, *Action Plan: Financing Sustainable Growth* (2018), COM(2018) 97 final, p. 4, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0097&from=EN>.

⁶ Taxonomy Regulation, Recital 3.

⁷ *Action Plan: Financing Sustainable Growth*, p. 4. The establishment of a taxonomy is identified as ‘Action 1’.

⁸ Taxonomy Regulation, Recital 11.

9. In particular, Articles 10(3) and 11(3) of the Taxonomy Regulation set out specific **procedural and substantive requirements** that the Commission shall satisfy when laying down, respectively:
- (a) The criteria under which an economic activity shall be considered to substantially contribute to climate change mitigation (the “**climate change mitigation criteria**”) and the associated DNSH criteria; and
 - (b) The criteria under which an activity shall be considered to substantially contribute to climate change adaptation (the “**climate change adaptation criteria**”) and the associated DNSH criteria.
10. Finally, Article 19 of the Taxonomy Regulation lists a number of requirements that all the technical screening criteria shall comply with.

II. ADMISSIBILITY OF THE REQUEST

A. The Applicants’ eligibility to request internal review pursuant to Article 10 of the Aarhus Regulation

11. According to Article 11 of the Aarhus Regulation, a non-governmental organisation shall be entitled to make a request for internal review in accordance with Article 10, provided that:
- (a) it is an independent non-profit-making legal person in accordance with a Member State’s national law or practice;
 - (b) it has the primary stated objective of promoting environmental protection in the context of environmental law;
 - (c) it has existed for more than two years and is actively pursuing the objective referred to under (b); and
 - (d) the subject matter in respect of which the request for internal review is made is covered by its objective and activities.
12. Each if the Applicants fulfils the criteria set out in Article 11 of the Aarhus Regulation.⁹

1. Eligibility of Protect the Forest

13. Protect the Forest is an association registered in Sweden in accordance with Swedish law (Annex 1c). Protect the Forest pursues only non-profit activities, with no economic nor commercial purposes in its activities. It thus acts without profit, within the meaning of Article 11(1) of the Aarhus Regulation.
14. Protect the Forest has, as a primary objective, the promotion of environmental protection. Indeed, according to Article 3 of its Statutes (Annex 1a), Protect the Forest pursues three relevant goals:

“(a) Conservation and the promotion of biodiversity in forest and tree environments.

(b) Protection of old-growth forests and other forests with high natural values.

(c) Reform of forestry to a long-term ecologically and socially sustainable multi-use, where care for the environment is superior to production.”

⁹ SEF’s official registration with the Estonian authorities was effective on 27 February 2020, but its statutes were approved on 21 January 2020.

15. Protect the Forest was founded in 2009. Since then, it has been actively pursuing the above-mentioned goals. In particular, it appears from its annual reports (Annex 1b), that Protect the Forest has strongly contributed to environmental advocacy at national level, through contacts with politicians, and entities of interest. The organisation has published several articles in the media, filed appeals against logging, and engaged locally through advocacy initiatives and by completing forest inventories. The organisation has worked with international partners to raise awareness of the forestry problems in Sweden, and it has advocated for compliance by Sweden with European and international laws. Protect the Forest has partnered with several national, European, and international environmental NGOs in advocacy initiatives, social media campaigns, and cultural events with a focus on environmental issues, with a specific focus on forestry.
16. Finally, the subject matter of this Request falls under the above-mentioned objective and activities as the Request aims at reviewing the Delegated Regulation, inter alia, so that it does not breach environmental law and does not promote as “green” activities which harm forests. This Request thus pursues an objective of promoting environmental protection which, as explained above, is covered by Protect the Forest’s objective and activities.

2. Eligibility of ZERO-Associação Sistema Terrestre Sustentável (ZERO)

17. ZERO is an association registered in Portugal in accordance with Portuguese law (Annex 2c). ZERO pursues only non-profit activities, with no economic nor commercial purposes in its activities. It thus acts without profit, within the meaning of Article 11(1) of the Aarhus Regulation.
18. ZERO has, as a primary objective, the promotion of environmental protection. Indeed, according to Article 2 of its Statutes (Annex 2a), ZERO pursues a number of relevant goals including:
 - a) To foster reflection and lead its intervention aiming at contributing to a set of goals of sustainability, where the principle of zero is the fundamental aspect to drive action, particularly regarding the use of zero fossil fuels, zero pollution, zero waste, or zero destruction of ecosystems and biodiversity.*
 - b) To promote actions that may contribute to halting and reversing environmental degradation and unsustainable use of natural resources, fostering a sustainable development based on principles of consumption reduction, promotion of renewable energies and the circular economy, to respect the limits of the planet and to promote equity and social cohesion.*
 - c) To strive for an increase in the provision of ecosystem services through the regeneration of ecological infrastructures and enhancement of biodiversity.”*
19. ZERO was founded in 2015. Since then, it has been actively pursuing the above-mentioned goals. In particular, it appears from its annual reports (Annex 2b), that ZERO has strongly contributed to the environmental advocacy both at national and European levels, as well as investing in environmental education with schools of all grades, training teachers, and the public in general via conferences, materials available on its website, and even podcasts, and live sessions on social media. ZERO has supported the People’s Climate Case by providing the legal team with expert opinions. ZERO has also followed the transposition of the Renewable Energy Directive II (“**RED II**”)¹⁰ to national legislation by advising decision-makers and informing the public of the implications of the Directive. ZERO has partnered with several national, European, and international environmental NGOs and civic movements to promote environmental education and awareness, and it has participated in several initiatives. ZERO has also monitored several agricultural and forestry projects that are being developed near sensitive natural sites, having published statements and press-releases on its findings.

¹⁰ Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast) [2018] OJ L328/82.

20. Finally, the subject matter of this Request falls under the above-mentioned objective and activities as the Request aims at reviewing the Delegated Regulation, inter alia, so that it does not breach environmental law. It thus pursues an objective of promoting environmental protection which, as explained above, is covered by ZERO's objective and activities.

3. Eligibility of Association Workshop for All Beings (Association Workshop)

21. Association Workshop is an association registered in Poland in accordance with Polish law (Annex 3c). Association Workshop pursues only non-profit activities, with no economic nor commercial purposes in its activities. It thus acts without profit, within the meaning of Article 11(1) of the Aarhus Regulation.

22. Association Workshop has, as a primary objective, the promotion of environmental protection. Indeed, according to Article 9 of its Statutes (Annex 3a), Association Workshop pursues a number of relevant goals including:

“(a) to preserve, protect and restore the natural environment;

(c) to preserve, protect and restore spatial order, natural landscape and cultural landscape;

(...)

(e) to propagate and expand the knowledge about the functioning of the natural environment, including its existing and potential threats and the mechanisms of its degradation;

(...)

(g) to facilitate and develop pro-environmental consciousness and pro-environmental societal attitudes, including the promotion and organization of volunteering;

(...)

(i) to cooperate with organizations having impact on natural and cultural environment;

(k) to prevent human-induced climate change and to minimize its environmental and social effects.”

23. Association Workshop was founded in 2002. Since then, it has been actively pursuing the above-mentioned goals. In particular, it appears from its annual reports (Annex 3b), that Association Workshop has initiated proceedings, submitted evidence and participated in meetings on nature conservation at the level of the European institutions: the European Commission, the Petitions Committee of the European Parliament, the European Investment Bank and the Aarhus Convention Committee. The activity covered proceedings concerning violations of law and threats to nature during realization of road infrastructure improvements, amendments to the act on forests as regards the protection of nature and access to justice in environmental matters, amendments to the Act on Renewable Energy Sources (“RES Act”, Dz.U.2015 poz. 478) as regards combustion of forest biomass and its impact on nature and climate, participation in consultations of EU strategic documents as regards management and protection of forests and biodiversity.

24. Finally, the subject matter of this Request falls under the above-mentioned objective and activities as the Request aims at reviewing the Delegated Regulation, inter alia, so that it does not breach environmental law. It thus pursues an objective of promoting environmental protection which, as explained above, is covered by Association Workshop's objective and activities.

4. Eligibility of Robin Wood – Non-violent Action Group for Nature and Environment e.V. (Robin Wood)

25. Robin Wood is an association registered in Germany in accordance with German law (Annex 4c). Robin Wood pursues only non-profit activities, with no economic nor commercial purposes in its activities. It thus acts without profit, within the meaning of Article 11(1) of the Aarhus Regulation.
26. Robin Wood has, as a primary objective, the promotion of environmental protection. Indeed, according to Article 2 of its Statutes (Annex 4a), Robin Wood pursues a number of relevant goals including:
- “a) Nature conservation: the association aims to protect and care for nature and the environment as a basis for human life, especially by fighting against dangers to life caused by pollution of water, soil, air and threats to food. The association pursues these goals, among other things, by informing the public and publishing statements, and by direct, non-violent action to raise environmental awareness and defence against dangers to nature, people and the environment [...].”*
27. Robin Wood was founded in 1982. Since then, it has been actively pursuing the above-mentioned goals. In particular, it appears from its annual reports (Annex 4b), that Robin Wood has undertaken and published extensive research on sustainable energy, forest protection, and mobility, and has strongly contributed to environmental advocacy both at national and European levels, for the protection of European and international forests. Robin Wood has also organized and participated in peaceful demonstrations advocating for a sustainable and climate-friendly energy system. The organisation has partnered with several national, European, and international environmental NGOs and civic movements to promote environmental campaigns against deforestation and loss of biodiversity, particularly with regards to primeval forests. Robin Wood has launched a specific campaign against the burning of woody biomass.
28. Finally, the subject matter of this Request falls under the above-mentioned objective and activities as the Request aims at reviewing the Delegated Regulation, inter alia, so that it does not breach environmental law. It thus pursues an objective of promoting environmental protection which, as explained above, is covered by Robin Wood’s objective and activities.

5. Eligibility of Save Estonia’s Forests (SEF)

29. SEF is an association registered in Estonia in accordance with Estonian law (Annex 5c). SEF pursues only non-profit activities, with no economic nor commercial purposes in its activities. It thus acts without profit, within the meaning of Article 11(1) of the Aarhus Regulation.
30. SEF has, as a primary objective, the promotion of environmental protection. Indeed, according to Article 1.2 of its Statutes (Annex 5a), SEF pursues a number of relevant goals including:
- “(a) to promote the protection of nature, environment and cultural heritage in the Republic of Estonia;*
- (b) to promote the sustainable use of nature and protection of the environment;*
- (c) to support and promote the conservation of valuable natural populations and the smart use of natural resources;*
- (d) to participate in solving the issues of conservation and protection of the environment;*
- (e) to participate in decision-making processes concerning living environment, natural environment and heritage culture, with the aim of promoting spatial development respecting the quality and sustainability of cultural heritage, and the natural and living environment.”*

31. SEF was founded in January 2020.¹¹ Since then, it has been actively pursuing the above-mentioned goals. In particular, it appears from its annual reports (Annex 5b),¹² that SEF has strongly contributed to the environmental advocacy at national and international levels, as well as investing in environmental education, especially with regards to the protection of forests and their ecosystems. SEF has strongly contributed to environmental advocacy in Estonia, for the protection of its forests, via meetings with local communities, petitions, meetings with politicians, and events on social media and podcasts. SEF has also organized and participated in peaceful demonstrations, promoted environmental campaigns against deforestation and loss of biodiversity. SEF has partnered with other NGOs to create forest inventories, to litigate for logging bans during breeding season, in community forests, and Natura 2000 sites or close to them without the proper environmental impact assessment.
32. Finally, the subject matter of this Request falls under the above-mentioned objective and activities as the Request aims at reviewing the Delegated Regulation, inter alia, so that it does not breach environmental law. It thus pursues an objective of promoting environmental protection which, as explained above, is covered by SEF's objective and activities.

6. Eligibility of The Clean Air Committee (The Committee)

33. The Committee is a foundation registered in the Netherlands in accordance with Dutch law (Annex 6c). Clean Air Committee pursues only non-profit activities, with no economic nor commercial purposes in its activities. It thus acts without profit, within the meaning of Article 11(1) of the Aarhus Regulation.
34. The Committee has, as a primary objective, the promotion of environmental protection. Indeed, according to Article 2 of its Statutes (Annex 6a), The Committee pursues a number of relevant goals including:
- a) *to make the basic need for clean air a fundamental right;*
 - b) *to combat the emission of nitrogen and other highly polluting substances by means of public-friendly actions, campaigns, information distribution and lobbying activities.*
35. The Committee was founded in 2019. Since then, it has been actively pursuing the above-mentioned goals. In particular, it appears from its annual reports (Annex 6b), that Clean Air Committee has led various initiatives and campaigns with the aim of achieving clean air in collaboration with social, scientific, political and business partners. In recent years, The Committee has become known for its campaigns against, among other things, one of the largest planned biomass power stations in the Netherlands in Diemen/Amsterdam. The organisation also campaigns against biomass combustion at European and global level on behalf of residents (organisations), scientists and forest protection organizations from home and abroad. It has engaged in national and European advocacy initiatives against biomass, and it has partnered with other European and international NGOs to launch campaigns addressing the danger of burning woody biomass for energy production and to inform and raise awareness of policy and decision makers, civil society, and media about the need to reshape bioenergy policies to ensure sustainability.
36. Finally, the subject matter of this Request falls under the above-mentioned objective and activities as the Request aims at reviewing the Delegated Regulation, inter alia, so that it does not breach environmental law. It thus pursues an objective of promoting environmental protection which, as explained above, is covered by The Committee's objective and activities.

¹¹ As indicated above in footnote 9, SEF's official registration with the Estonian authorities was effective on 27 February 2020, but its statutes were approved on 21 January 2020.

¹² The 2021 annual report is still pending publication. It will be sent to the Commission services once it is finalised.

7. Eligibility of 2Celsius (2C)

37. 2C is an association registered in Romania in accordance with Romanian law (Annex 7c). 2C pursues only non-profit activities, with no economic nor commercial purposes in its activities. It thus acts without profit, within the meaning of Article 11(1) of the Aarhus Regulation.
38. 2C has, as a primary objective, the promotion of environmental protection. Indeed, according to Article 7 of its Statutes (Annex 7a), 2C pursues a number of relevant goals including:
- c) *the promotion, initiation, consulting, charity and training in the field of ecology or environmental protection, climate change, environmental journalism, participation in domestic and international events, as well as other related activities;*
 - d) *the creation of complex online documentation and consulting centres and databases to facilitate access to any type of information in the field of climate change and the green economy;*
 - e) *the facilitation of the access to environmental information by creating journalistic, multimedia and online materials.*
39. 2C was founded in 2010. Since then, it has been actively pursuing the above-mentioned goals. In particular, it appears from its annual reports (Annex 7b), that 2C has strongly contributed to environmental advocacy at national and international levels, as well as investing in environmental education, especially with regards to the dangers of forest biomass energy. 2C has partnered with other European and international NGOs to launch campaigns addressing climate change in terms of energy transition, and to inform and raise awareness of policy and decision makers, civil society, and media about the need to reshape bioenergy policies to ensure sustainability. 2C has supported the People's Climate Case by spearheading comms, advocacy, and support for the families involved in the case.
40. Finally, the subject matter of this Request falls under the above-mentioned objective and activities as the Request aims at reviewing the Delegated Regulation, inter alia, so that it does not breach environmental law. It thus pursues an objective of promoting environmental protection which, as explained above, is covered by 2C's objective and activities.

B. The Delegated Regulation is an “administrative act” within the meaning of the Aarhus Regulation

41. Under Article 2(1)(g) of the amended Aarhus Regulation, an administrative act is defined as “*any non-legislative act adopted by a Union institution or body, which has legal and external effects and contains provisions that may contravene environmental law*”.¹³ ‘Environmental law’ is defined by Article 2(1)(f) as “*EU legislation which, irrespective of its legal basis, contributes to the pursuit of the objectives of EU policy on the environment as set out in the TFEU*”.
42. The contested Delegated Regulation falls within the scope of this definition.
43. First, the Delegated Regulation is a **non-legislative act** as it was adopted by the Commission on the basis of its delegated power under the Taxonomy Regulation.¹⁴ As such, it is included in the “Non-legislative acts” section of the Official Journal.¹⁵
44. Second, the Delegated Regulation has **legal and external effects**. Specifically, the Delegated Regulation sets out criteria under which certain economic activities might qualify as “*environmentally*

¹³ See Regulation (EU) 2021/1767, Article 1(1).

¹⁴ In this regard, see Case T-18/10, Order of 6 September 2011, para. 65.

¹⁵ See <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R2139&from=EN>.

sustainable’ under the Taxonomy Regulation. Such qualification will result in important consequences in terms of financing both from the private and public sectors.

45. Third, as demonstrated below, the Delegated Regulation contains provisions that breach higher ranking norms aiming at protecting the environment so that it **contravenes environmental law** within the meaning of Article 2(1)(f) of the amended Aarhus Regulation.
46. It follows from the foregoing that the Request is admissible under the amended Aarhus Regulation.

III. FACTUAL OVERVIEW ON FORESTS AND BIOENERGY

47. The Taxonomy Regulation is intended to apply globally, but it was written from a Euro-centric point of view and includes references to many European standards and laws. Accordingly, the following section on the science behind forestry, bioenergy and biofuels also references European examples and draws on text from EU sources.

The Paris Agreement and the role of forests in meeting its temperature goal

48. The Paris Agreement lays down the goals of “[h]olding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels”¹⁶ and of “[m]aking finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development”.¹⁷ The Paris Agreement is working towards achieving these targets by mid-century. This translates into the need to reduce global emissions as fast as possible in order to be able to reach carbon neutrality by 2050, which is inseparable from long term temperature goals. The urgent need for action has been repeatedly recalled by the Intergovernmental Panel on Climate Change (“IPCC”).¹⁸
49. Article 4 of the Paris Agreement calls for achieving “a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century,” an objective that is reflected in the Taxonomy Regulation’s references to and its incorporation of the Paris Agreement’s temperature goals.¹⁹ All scenarios for climate change stabilisation identified by the IPCC require increasing the carbon sink,²⁰ with the need for ‘negative emissions’ increasing the longer action is delayed.
50. The only carbon sinks currently under human control to any degree²¹ are natural systems, especially, forests. Indeed, Article 5 of the Paris Agreement states “[p]arties should take action to conserve and

¹⁶ The Paris Agreement (2015), Article 2(1)(a), https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

¹⁷ Paris Agreement, Article 2(1)(c).

¹⁸ See e.g. IPCC, Special Report on Global Warming of 1.5°C (2018). At https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_Low_Res.pdf, p. vi: “Without increased and urgent mitigation ambition in the coming years, leading to a sharp decline in greenhouse gas emissions by 2030, global warming will surpass 1.5°C in the following decades, leading to irreversible loss of the most fragile ecosystems, and crisis after crisis for the most vulnerable people and societies”; p. 15: “Pathways limiting global warming to 1.5°C with no or limited overshoot would require rapid and far-reaching transitions in energy, land, urban and infrastructure (including transport and buildings), and industrial systems”.

¹⁹ See e.g. Recital 24 which states that an economic activity under the Taxonomy Regulation “should be consistent with the long-term temperature goal of the Paris Agreement”. See also the definition of “climate change mitigation” in Article 2(5) and Article 10(1) stating that substantial contribution to climate mitigation requires the activity to contribute to the stabilisation of GHGs in atmosphere at levels consistent with temperature goal of the Paris Agreement. See also Article 19(2) that directly sets a requirement of consistency with a pathway to limit the warming to 1.5°C.

²⁰ IPCC, Special Report on Global Warming of 1.5°C (2018).

²¹ Some projections anticipate a need for development of bioenergy with carbon capture and storage (BECCS), by which plant growth can be used to capture CO₂ from the atmosphere and when the biomass is then burned for energy, the CO₂ is then pumped below ground into geological storage. However, deployment of this unproven

enhance, as appropriate, sinks and reservoirs of greenhouse gases as referred to in Article 4, paragraph 1 (d), of the Convention, including forests.” It urges signatories to protect and expand forests and to “take action to implement and support [...] activities relating to reducing emissions from deforestation and forest degradation”.

51. The EU Forest Strategy states, “[f]orests are a natural ally in adapting to and fighting against climate change and will play a vital role in making Europe the first climate neutral continent by 2050.”²²
52. Achieving a balance in sources and removals by 2050 will require massive reductions in emissions and huge increases in carbon uptake (“removals”) by the land sector, mostly provided by forests. Harvesting and burning forest biomass, or using it as a feedstock for liquid biofuels, presents a direct threat to both these objectives as it decreases net forest carbon uptake. Harvesting forests reduces the amount of carbon held in trees and soils (forest carbon stocks) and thus can decrease the net amount of CO₂ removed from the atmosphere by forests (the forest carbon sink, which is measured as the difference between forest carbon stocks year-to-year).
53. To achieve the goal of carbon neutrality by mid-century, the EU needs to drastically increase the magnitude of the forest carbon sink. However, the EU’s forest carbon sink and land sink overall are becoming weaker, in part due to harvesting for biomass. This means the sinks are trending less negative (because carbon flux is represented from the atmosphere’s point of view, forest CO₂ uptake from the atmosphere is represented by negative numbers).
54. Rather than supporting the increase in the carbon sink required to achieve the Paris Agreement temperature goal, biomass harvesting has been implicated as a driver in an abrupt increase in harvested forest area, including as clearcutting, and an increase in biomass loss over Europe for the period of 2016–2018 relative to 2011–2015.^{23,24}
55. The central role of forests in addressing global climate change is therefore vital context when considering the criteria established in the Delegated Regulation for forestry and Relevant bioenergy and biofuel activities which will actively increase biomass harvesting and the resulting reduction in carbon uptake by forests.

Bioenergy impacts on greenhouse gas emissions

56. While biomass can in principle be nearly any plant or animal-derived material, most biomass burned for heat and power is forest wood or a wood-derived by-product, such as sawdust or black liquor (a waste product from the pulp and paper industry).
57. The EC’s Joint Research Centre (“**JRC**”) characterized biomass burned in the EU in a 2021 report.²⁵ The report states that in 2016, renewable energy provided 17% of gross final energy consumption in the EU, with bioenergy constituting 59.2% of all renewable sources. It concludes that 60% of

technology would entail disruption and expense and would not be assured of delivering net storage, given the energetic costs and associated emissions. See Field, C. B. and M. K.J, “Rightsizing carbon dioxide removal” (2017) *Science* 356(6339), 706-707. See also IPCC 6th Assessment Report, Chapter 5 at 5-108, https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter_05.pdf: “*wood-based BECCS may not be carbon negative in the first decades, initially emitting more CO₂ than sequestering*”.

²² New EU Forest Strategy for 2030, p. 1. At https://eur-lex.europa.eu/resource.html?uri=cellar:0d918e07-e610-11eb-a1a5-01aa75ed71a1.0001.02/DOC_1&format=PDF.

²³ Ceccherini, G. *et al.*, “Abrupt increase in harvested forest area over Europe after 2015” (2020) *Nature* 583(7814), 72-77. At https://www.researchgate.net/publication/342615330_Abrupt_increase_in_harvested_forest_area_over_Europe_after_2015.

²⁴ Ceccherini, G. *et al.*, “Reply to Wernick, I. K. et al.; Palahí, M. et al.” (2021) *Nature* 592(7856), E18-E23. At <https://doi.org/10.1038/s41586-021-03294-9>.

²⁵ Camia, A., *et al.* (JRC), *The use of woody biomass for energy production in the EU* (Publications Office of the European Union, 2020), EUR 30548 EN, JRC122719. At <https://publications.jrc.ec.europa.eu/repository/handle/JRC122719>.

EU domestic biomass is wood-based. Of total wood used for energy, the report concludes that at least 37% is of primary origin, meaning sourced directly from forests. A further 14% of wood used for energy is of unknown origin, but the report states that it is most likely also sourced directly from forests, meaning that in total 51% of wood burned for energy comes directly from forests.²⁶ Of this primary biomass, the report estimates that 47% is “stemwood” and 53% is branches and tops. About half the wood harvested in the EU is burned for energy, with the largest share going to residential heating.

58. Biomass harvesting for fuel has increased in recent years in response to incentives for burning wood for heat and power, including a portion of the approximately €17 billion the EU spends on biomass subsidies. Such incentives stem from biomass certification schemes and many renewable energy policies, including the RED II, which treats burning biomass as having zero biogenic emissions.
59. While renewable energy schemes such as the RED II do usually count the CO₂ emitted from fossil fuels burned during biomass harvesting, processing, and transport, no biogenic CO₂ is attributed to biomass manufacturing and combustion, even though large amounts of wood may be burned for process heat during pellet manufacture, and emissions from combustion of the fuel itself are greater per unit energy than emissions from fossil fuels.
60. Various reasons are invoked for the treatment of biomass as having zero biogenic emissions, but one common one is that if wood is “sustainably” harvested, meaning there is more wood grown each year than is harvested, then burning this wood will have zero effect on the atmosphere’s concentration of CO₂. Provisions in the RED II qualifying criteria for forest biomass, which are mirrored in the Delegated Regulation, suggest that this rationale is employed as a justification for treating biomass as having zero carbon emissions in the RED II. The provision referring to the balance of harvesting and growth appears in Article 29(7)(a)(iii) RED II, which requires a country to have “*national or sub-national laws in place, in accordance with Article 5 of the Paris Agreement, applicable in the area of harvest, to conserve and enhance carbon stocks and sinks, and providing evidence that reported LULUCF-sector emissions do not exceed removals*”.
61. However, as the 2016 Impact Assessment for the revision of the 2009 Renewable Energy Directive (which culminated in RED II) concluded,²⁷ “[c]ertain forest management practices can enhance the carbon sink, but **ensuring that the harvest level stays below the growth rate of the forest is not sufficient to ensure climate change mitigation.**” Accordingly, the idea that burning forest biomass has zero impact on the concentration of CO₂ in the atmosphere as long as forests are harvested sustainably is a fallacy that violates the law of the conservation of mass.
62. To show why, imagine a forest under a giant glass jar that has an atmosphere containing 100 tonnes of CO₂. Imagine that the forest grows (adds) ten tonnes of wood, and each tonne of wood represents one tonne of CO₂. The forest will thus remove ten tonnes of CO₂ from the atmosphere, meaning now there are now 90 tonnes of CO₂ in the atmosphere. If one tonne of wood is harvested and burned, this adds one tonne of CO₂ back into the atmosphere, making the forest’s net removal only 9 tonnes – and now there are 91 tonnes of CO₂ in the atmosphere. If another 5 tonnes of wood are harvested and burned for a total of 6 tonnes, the net removal from the atmosphere is now only 4 tonnes, and now there are 96 tonnes of CO₂ in the atmosphere. These scenarios represent “sustainable” harvesting, because the forest is growing more wood (10 tonnes) than is being harvested (1 tonne, then another 5 for a total of 6 tonnes), so they would be treated as having zero impact on atmospheric CO₂ by renewable energy schemes that consider “sustainably”

²⁶ *Ibid.*, p. 7.

²⁷ Commission Staff Working Document, Impact Assessment: Sustainability of Bioenergy – Accompanying the document Proposal for a Directive of the European Parliament and of the Council on the promotion of the use of energy from renewable sources (recast) (2016) (“**2016 Impact Assessment**”), 107. At https://eur-lex.europa.eu/resource.html?uri=cellar:1bdc63bd-b7e9-11e6-9e3c-01aa75ed71a1.0001.02/DOC_1&format=PDF.

harvested biomass to have zero net emissions. However, the scenarios have different impacts on the amount of CO₂ in the atmosphere of the jar, showing that it is fallacious to treat “sustainably harvested” biomass as having zero net emissions. While it is possible to maintain a constant amount of carbon in the forest by burning trees to match the growth rate of the forest, there will always be more CO₂ in the atmosphere than if the trees had not been burned.

63. Burning wood in fact emits around 320 grams of CO₂ per kWh on an energy input basis,²⁸ and depending on the efficiency of conversion of heat input to energy output (electricity or useful heat) **burning wood can emit in the range of 400 to 1600 grams CO₂ per kWh on an energy output basis**. Even at the lower end of this scale, this means that burning wood emits around as much or more CO₂ per unit energy than fossil fuels.
64. Various studies by the Commission staff and the JRC acknowledge that burning forest biomass increases emissions over long timeframes. The Commission’s 2016 Impact Assessment was underpinned by two major reviews of greenhouse gas (“GHG”) emissions from forest biomass, one by the JRC, and one from a UK entity, Forest Research. Points taken from the impact assessment’s overview of those studies provide a succinct summation of why harvesting and burning forest biomass can undermine climate objectives including the Paris Agreement temperature goal:²⁹

‘The assumption of ‘carbon neutrality’ of bioenergy is not generally valid when considering forest biomass used for energy

Lifecycle assessments of greenhouse gas emissions from bioenergy often consider the emissions of biomass combustion as zero and considers supply chain emissions as equal to (or a proxy of) the total CO₂ impact of bioenergy. This assumes that the CO₂ emitted by the production and use of bioenergy (combustion emissions, soil C loss, etc.) is fully and immediately compensated by the land use benefits (regrowth of the plant).

...this assumption is not generally valid in the case of forest biomass and that biogenic emissions must be considered in the assessment of climate impacts of forest.

This conclusion is also backed for example by the US EPA and the European Environmental Agency Scientific Committee. The IPCC also supports the view that biomass used for energy is not automatically carbon neutral.

The combustion of woody biomass releases, in most cases, more CO₂ in the atmosphere, per unit of delivered energy, than the fossil fuels they replace. This is mostly because biomass normally has less energy per kg of carbon and also lower conversion efficiency.

Therefore, the bulk of the scientific literature suggests that all together these phenomena create an emission of biogenic-CO₂ from forest bioenergy which may be higher than the emissions from a reference fossil system in the short term. If the forest productivity increases because of the bioenergy production, the continuous substitution of fossil fuels may, in time, recover the additional emissions of bioenergy production.

(...)

²⁸ US Environmental Protection Agency, Emission Factors for Greenhouse Gas Inventories (15 September 2021). At <https://www.epa.gov/climateleadership/ghg-emission-factors-hub>; download page for file at <https://www.epa.gov/sites/default/files/2020-04/ghg-emission-factors-hub.xlsx?VersionId=w2cRopnkvxhjjUXAdfgVJVt54mQboCmK>.

²⁹ 2016 Impact Assessment, p. 103 and 106.

Biogenic emissions from forest bioenergy vary depending on the time horizon considered

...biogenic emissions vary over time and different results are obtained for GHG emissions depending on the time horizon considered. An immediate increase in GHG emissions compared to using fossil fuels is almost inevitable, as combustion emissions of biomass are higher than those of fossil alternatives, eventually leading to reductions in GHG emissions. The initial period of increased GHG emissions can vary from less than one year to hundreds of years (or even to infinity in the worst cases, if no savings can be realised), depending on the type of forest bioenergy pathway.”

65. Burning mill residues and waste wood also increases the net amount of CO₂ emitted compared to burning fossil fuels, but because such materials would decompose and emit CO₂ in any case, the timeframes over which emissions from using such fuels are considered to exceed fossil fuel emissions tends to be shorter than in the case of trees deliberately harvested for fuel. However, even in the case of forestry residues that would in any case decompose (tops, branches and other wood left over after harvesting), the net emissions impact can exceed that of fossil fuels for long periods. In its 2021 report, the JRC compared 24 scenarios for sourcing biomass and concluded that 23 of them had net emissions impacts exceeding those from fossil fuels for decades to more than a century.³⁰ The use of “coarse woody debris,” which describes a large proportion of biomass burned in the EU, was found to have net emissions exceeding those of fossil fuels for decades to more than a century, as well as large impacts on ecosystem function and biodiversity, as discussed below.³¹
66. Affirming these conclusions, a variety of scientific studies³² conclude that cumulative net CO₂ emissions from burning forest biomass tend to be very high for decades to centuries. For example,

³⁰ JRC, *The use of woody biomass for energy purposes in the EU* (2021).

³¹ *Ibid*, Figure 42, p. 146.

³² Bernier, Pierre, and David Paré, “Using ecosystem CO₂ measurements to estimate the timing and magnitude of greenhouse gas mitigation potential of forest bioenergy” (2013) *GCB Bioenergy* 5(1), 67-72. At <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1757-1707.2012.01197>;

Booth, Mary S., “Not carbon neutral: Assessing the net emissions impact of residues burned for bioenergy” (2018) *Environmental Research Letters* 13(3), 035001. At <https://iopscience.iop.org/article/10.1088/1748-9326/aaac88>;

Haberl, Helmut, *et al.*, “Correcting a fundamental error in greenhouse gas accounting related to bioenergy” (2012) *Energy Policy* 45, 18-23. At <https://www.sciencedirect.com/science/article/pii/S0301421512001681>;

Laganière, Jérôme, *et al.*, “Range and uncertainties in estimating delays in greenhouse gas mitigation potential of forest bioenergy sourced from Canadian forests” (2017) *GCB Bioenergy* 9(2), 358-369. Interactive model at <https://apps-scf-cfs.mcan.gc.ca/calc/en/bioenergy-calculator>;

McKechnie, Jon, *et al.*, “Forest Bioenergy or Forest Carbon? Assessing Trade-Offs in Greenhouse Gas Mitigation with Wood-Based Fuels” (2011) *Environmental Science & Technology* 45(2), 789-795. At <https://pubs.acs.org/doi/abs/10.1021/es1024004>;

Mitchell, Stephen R., *et al.*, “Carbon debt and carbon sequestration parity in forest bioenergy production” (2012) *GCB Bioenergy* 4(6), 818-827. At <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1757-1707.2012.01173.x>;

Repo, Anna, *et al.*, “Sustainability of forest bioenergy in Europe: land-use-related carbon dioxide emissions of forest harvest residues” (2015) *GCB Bioenergy* 7(4), 877-887. At <https://www.onlinelibrary.wiley.com/doi/full/10.1111/gcbb.12179>;

Stephenson, A. L. and D. J. C. MacKay, *Life Cycle Impacts of Biomass Electricity in 2020* (2014), UK Department of Energy and Climate Change, 154. At <https://www.gov.uk/government/publications/life-cycle-impacts-of-biomass-electricity-in-2020>;

Ter-Mikaelian, Michael T., *et al.*, “The Burning Question: Does Forest Bioenergy Reduce Carbon Emissions? A Review of Common Misconceptions about Forest Carbon Accounting” (2015) *Journal of Forestry* 113(1), 57-68. At <https://academic.oup.com/jof/article/113/1/57/4599732>;

a study of Norwegian forests found that increasing the use of wood from a boreal forest to replace coal in power plants requires almost two centuries of forest regrowth to offset the excess emissions from burning wood.³³

67. The IPCC warns, “*The combustion of biomass generates gross GHG emissions roughly equivalent to the combustion of fossil fuels. If bioenergy production is to generate a net reduction in emissions, it must do so by offsetting those emissions through increased net carbon uptake of biota and soils.*”³⁴ In other words, there is no immediate offsetting of emissions – if there is a new additional emission of CO₂, there needs to be a new additional addition of sequestration to offset that, or else there is a net addition of CO₂ to the atmosphere.
68. The IPCC also warns that it is inaccurate to “*automatically consider or assume biomass used for energy [is] ‘carbon neutral,’ even in cases where the biomass is thought to be produced sustainably.*”³⁵
69. The European Academies Science Advisory Council (EASAC), which serves as an advisory body to the EU, explains that not only slow forest regrowth but also forgone sequestration increases the net carbon impact: “*The net climate effects of harvesting a forested area for bioenergy will thus be a combination of the emissions from burning and the loss of carbon absorption potential after harvest.*”³⁶
70. In 2018 EASAC wrote directly to the President of the European Commission in relation to the inclusion of forest biomass in the RED II to warn, “*The legal mandate to record forest biomass-fired energy as contributing to the EU’s renewable energy targets has had the perverse effect of creating a demand for trees to be felled in Europe or elsewhere in order to burn them for energy, thus releasing the carbon into the atmosphere which would otherwise stay locked up in the forest, and simultaneously drastically reducing the carbon sink strength of the forest ecosystems... The potentially very long payback periods for forest biomass raise important issues given the UNFCCC’s aspiration of limiting warming to 1.5 °C above preindustrial levels to ‘significantly reduce the risks and impacts of climate change’. On current trends, this may be exceeded in around a decade. Relying on forest biomass for the EU’s renewable energy, with its associated initial increase in atmospheric carbon dioxide levels, increases the risk of overshooting the 1.5°C target if payback periods are longer than this.*”³⁷

Walker, Thomas, *et al.*, “Carbon Accounting for Woody Biomass from Massachusetts (USA) Managed Forests: A Framework for Determining the Temporal Impacts of Wood Biomass Energy on Atmospheric Greenhouse Gas Levels” (2013) *Journal of Sustainable Forestry* 32(1-2), 130-158. At <https://www.tandfonline.com/doi/abs/10.1080/10549811.2011.652019>;

T. Buchholz *et al.*, “When Biomass Electricity Demand Prompts Thinnings in Southern US Pine Plantations: A Forest Sector Greenhouse Gas Emissions Case Study” (2021), *Front. For. Glob. Change* 10. At <https://www.frontiersin.org/articles/10.3389/ffgc.2021.642569/full>;

Chatham House, Greenhouse gas emissions from burning US-sourced woody biomass in the EU and UK (October 2021). At https://www.chathamhouse.org/sites/default/files/2021-10/2021-10-14-woody-biomass-us-eu-uk-research-paper_0.pdf.

³³ Holtsmark, Bjart, “Harvesting in boreal forests and the biofuel carbon debt” (2012) *Climatic Change* 112, 415-428. At https://www.researchgate.net/publication/227584033_Harvesting_in_boreal_forests_and_the_biofuel_carbon_debt.

³⁴ Edenhofer, O., *et al.* (eds), *Climate Change 2014: Mitigation of Climate Change – Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (CUP, 2014), 877. At https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_full.pdf.

³⁵ See IPCC FAQ, Section 2-10. At <https://www.ipcc-nggip.iges.or.jp/faq/faq.html>.

³⁶ EASAC, Multi-functionality and sustainability in the European Union’s forests. German National Academy of Sciences. Germany, European Academies Science Advisory Council (2017). At https://easac.eu/fileadmin/PDF_s/reports_statements/Forests/EASAC_Forests_web_complete.pdf.

³⁷ The letter and President Juncker’s response is posted at <https://easac.eu/news/details/easacs-correspondence-with-the-president-of-the-european-commission-on-the-role-of-biomass-energy/>.

71. The JRC also evaluated carbon accounting for woody biomass for the EU in 2014. The report warns that harvesting trees (‘stemwood’) for bioenergy can lead to a long-lasting transfer of forest carbon to the atmosphere: “*In the case of dedicated harvest of stemwood for bioenergy purposes and short term GHG reduction policy objectives (e.g. 2020) the assumption of “carbon neutrality” is not valid since harvest of wood for bioenergy causes a decrease of the forest carbon stock, which may not be recovered in short time, leading to a temporary increase in atmospheric CO₂ and, hence, increased radiative forcing and global warming. At the local scale or stand level, the additional harvest of wood for bioenergy creates a temporary decrease of the carbon stock, compared to what would otherwise happen without harvesting. However, at the landscape or national level the mosaic of stands where forest biomass is removed for bioenergy has to be considered, and the continuous rate of wood removals **could translate into a permanent decrease of carbon stock (or a lower increase compared to the reference fossil scenario)***.”³⁸
72. As well as the biogenic CO₂ released at the point of combustion, collecting logging residues for biomass fuel can contribute to depleting soil carbon (and nutrient) stocks.³⁹ Because forests tend to hold more carbon in soils than in vegetation. Even relatively small percentage losses can add up to significant emissions that add to the total emissions impact of forest biomass harvesting and combustion.

Biomass harvesting impacts on biodiversity and forest ecosystem function

73. Forest biomass harvesting differs from other types of harvesting because even if it does not utilize stemwood, it collects all forms of post-harvesting woody residues from forests that would likely be left behind during traditional harvesting. This means that smaller branches, tops, roots and stumps are all removed from the forest ecosystem as well as dead or decaying trees. Not only does the removal of roots and stumps intensify soil carbon losses but the removal of such forestry residues can deplete soil nutrient status, leading to loss of site productivity and the forest’s ability to regrow.⁴⁰ This was recognised in the 2016 Impact Assessment which points out that “*an excessive removal of harvest residues, or the removal of stumps, can harm soil productivity, biodiversity, and water flows.*”⁴¹
74. Removing dead and decaying wood also removes materials from the base of the food chain that support complex fungi and invertebrate communities. Dead and decaying wood is also used by insects, birds and mammal species for nesting.⁴²
75. The 2021 JRC report also exhaustively catalogued a large number of peer-reviewed papers on the biodiversity and ecosystem impacts of biomass harvesting, finding a preponderance of negative impacts to ecological community composition, species populations, and soil carbon status from removal of logging residues.⁴³ For example, in a study in boreal forests in Sweden, 20% of red-listed species were found on tree stumps and that more than 50% of the population for 20 rare

³⁸ Agostini, A., *et al.*, *Carbon accounting of forest bioenergy* (2014) JRC Scientific and Policy Reports. At http://publications.jrc.ec.europa.eu/repository/bitstream/JRC70663/eur25354en_online.pdf.

³⁹ Hamburg, S. P., *et al.*, “Losses of mineral soil carbon largely offset biomass accumulation 15 years after whole-tree harvest in a northern hardwood forest” (2019) *Biogeochemistry* 144(1), 1-14. At <https://doi.org/10.1007/s10533-019-00568-3>; Achat, D. L., *et al.*, “Quantifying consequences of removing harvesting residues on forest soils and tree growth – A meta-analysis” (2015) *Forest Ecology and Management* 348(Supplement C), 124-141. At <http://www.sciencedirect.com/science/article/pii/S0378112715001814>; Achat, D. L., *et al.*, “Forest soil carbon is threatened by intensive biomass harvesting” (2015) *Scientific Reports* 5, 15991. At <https://doi.org/10.1038/srep15991>; Mayer, M., *et al.*, “Tamm Review: Influence of forest management activities on soil organic carbon stocks: A knowledge synthesis” (2020) *Forest Ecology and Management* 466, 118127. At <https://www.sciencedirect.com/science/article/pii/S0378112720300268>.

⁴⁰ Federer, C. A., *et al.*, “Long-term depletion of calcium and other nutrients in eastern US forests” (1989) *Environmental Management* 13(5), 593-601. At <https://link.springer.com/article/10.1007/BF01874965>.

⁴¹ 2016 Impact Assessment, p. 18.

⁴² JRC, *The use of woody biomass for energy purposes in the EU* (2021), p. 109.

⁴³ *Ibid.*, chapter 5.

species were found on stumps.⁴⁴ Such stumps are often removed as part of biomass harvesting, thereby denying this habitat to those species. More generally, the peer-reviewed papers presented a clear consensus that the removal of coarse woody debris (including snags, standing dead trees and high stumps) “*has a negative impact both on species richness and abundance of saproxylic species*” and causes a significant decrease in the diversity and abundance of birds, demonstrating the importance of coarse woody debris for species higher on the trophic web.⁴⁵

76. In addition to removing forest residues, biomass harvesting removes “low value” wood which has no economic value as sawn wood. This might be because a specific species of trees cannot be used for sawn wood or because it has “flaws” such as holes or twisted trunks. However, it is these trees that are the most valuable for biodiversity. Removing such trees significantly reduces habitat for cavity-dwelling animals such as owls and squirrels.
77. The economic incentive offered by bioenergy to harvest such “low value” wood can increase both the area and intensity of forest harvesting which leads to more forest road-building, more soil disturbance, more forest fragmentation, and more degradation of water resources and quality.

Bioenergy impacts on air pollution

78. EU data reveal that that fine particulate matter (PM_{2.5}) alone was responsible for up to 379,000 deaths in the EU-28 in 2018. The majority of PM_{2.5} (54%) was emitted by households and other establishments that burn solid fuels for heat,⁴⁶ mostly consisting of wood.⁴⁷ Wood burning for energy at sawmills, paper mills, and power plants can be a large local source of pollution. Wood-burning is also a significant source of mercury re-emissions and other toxic pollutants.⁴⁸ Air pollution is likely to become an issue of increasing concern because in addition to all its other health effects on asthma, heart disease, cancer, and a host of other afflictions, it exacerbates covid impacts.⁴⁹
79. Wood pellet manufacturing is also a large source of emissions. A report by the Environmental Integrity Project⁵⁰ surveyed emissions from large pellet-manufacturing plants exporting pellets to Europe. The principle pollutant of concern from these plants is volatile organic compounds, which are emitted during the wood chip drying and pellet cooling phases. These plants are each emitting several hundred tonnes of these pollutants per year as evidenced in the \$2,500,000 fine issued to the Drax Amite wood pellet facility in south-western Mississippi for exceeding volatile organic compound limits.⁵¹

⁴⁴ *Ibid.*, p. 113, citing Hiron, M., *et al.*, “Consequences of bioenergy wood extraction for landscape-level availability of habitat for dead wood dependent organisms” (2017) *J. Environ. Manage.* 198, 33-42. At <https://doi.org/10.1016/j.jenvman.2017.04.039>.

⁴⁵ *Ibid.*, p. 113.

⁴⁶ European Environment Agency, *Air quality in Europe – 2020 report* [2020] EEA Report No 09/2020 (Publications Office of the European Union, 2020). At <https://www.eea.europa.eu/publications/air-quality-in-europe-2020-report>.

⁴⁷ Bertelsen, Nis, and Brian Mathiesen, “EU-28 Residential Heat Supply and Consumption: Historical Development and Status” (2020) *Energies* 13, 1894. At <https://www.mdpi.com/1996-1073/13/8/1894/htm>.

⁴⁸ Huang, Jiaoyan, *et al.*, “Mercury (Hg) emissions from domestic biomass combustion for space heating” (2011) *Chemosphere* 84(11), 1694-1699. At <http://www.sciencedirect.com/science/article/pii/S0045653511005091>.

⁴⁹ Bourdrel, T., *et al.*, “The impact of outdoor air pollution on COVID-19: a review of evidence from in vitro, animal, and human studies” (2021) *European Respiratory Review* 30(159), 200242. At <https://err.ersjournals.com/content/errev/30/159/200242.full.pdf>.

⁵⁰ Environmental Integrity Project, “Dirty Deception: How the Wood Pellet Industry Skirts the Clean Air Act” (26 April 2018). At <http://www.environmentalintegrity.org/news/biomass-report/>.

⁵¹ “Drax Amite pellet production facility fined \$2.5m” (Bioenergy Insights, 22 February 2021). At <https://www.bioenergy-news.com/news/drax-amite-pellet-production-facility-fined-2-5m/>.

80. Recent reporting on wood pellet plants in the United States have found they are significantly impacting health in local communities.⁵²
81. Biomass power plants can also be very noisy. A review of several new biomass power plants in the United States found that noise is a common complaint.⁵³ Pellet manufacturing plants are also noisy – a resident living near one of a large pellet plant in North Carolina complained of “non-stop pollution, dust, noise, and truck traffic.”⁵⁴

IV. GENERAL GROUNDS OF REVIEW: INFRINGEMENT OF ARTICLE 20 OF THE TAXONOMY REGULATION AND MISUSE OF POWER

82. The Applicants consider that the Commission, in adopting the Delegated Regulation, has infringed an essential procedural requirement established by Article 20 of the Taxonomy Regulation and misused the delegated powers granted therein.

A. Infringement of an Essential Procedural Requirement Under Article 20 of the Taxonomy Regulation on the Establishment of the Platform on Sustainable Finance

83. Article 20(1) of the Taxonomy Regulation requires the Commission to establish the Platform on Sustainable Finance (the “**Platform**”), an expert group which must assist the Commission in the development of the technical screening criteria.⁵⁵
84. As stated in Recital 52 of the Taxonomy Regulation, the Platform “*should advise the Commission on the development, analysis and review of technical screening criteria*”. Article 20(2) further informs the role of the Platform by listing its obligations, which include:

“(a) [to] advise the Commission on the technical screening criteria referred to in Article 19, as well as on the possible need to update those criteria;

(b) [to] analyse the impact of the technical screening criteria in terms of potential costs and benefits of their application;

(c) [to] assist the Commission in analysing requests from stakeholders to develop or revise technical screening criteria for a given economic activity [...]”

85. In addition, Articles 10(4) and 11(4) set a clear obligation for the Commission to consult the Platform before the adoption of the delegated act to specify the conditions under which activities are deemed to contribute to climate change mitigation and climate change adaptation as well as the DNSH criteria. Both provisions explicitly provide that “*[p]rior to adopting the delegated act*”, “*the Commission shall consult the Platform referred to in Article 20 regarding the technical screening criteria*”.
86. Accordingly, the Commission was under an obligation to set up the Platform *before* adopting the Delegated Regulation, in order to be able to consult it during the development of its technical

⁵² CNN, “How the American South is paying the price for Europe's 'green' energy” (9 July 2021). At <https://edition.cnn.com/interactive/2021/07/us/american-south-biomass-energy-invs/>;

Huffington Post, “A ‘Green’ Energy Project Leaves A Mississippi Town Gasping For Air” (20 December 2021). At https://www.huffpost.com/entry/biomass-energy-power-plants_n_61bcb6cae4b0a3722477d16a.

⁵³ Booth, M.S, “The bioenergy boom from the federal stimulus: outcomes and lessons”, Partnership for Policy Integrity (October 2018). At <http://www.pfpi.net/wp-content/uploads/2018/10/PFPI-Bioenergy-and-the-Stimulus-Oct-24.pdf>.

⁵⁴ Environmental Integrity Project, Press Release: Report Finds Rapidly Growing “Green” Energy Industry Releases Dangerous Air Pollution (April 2018). At <http://www.environmentalintegrity.org/news/biomass-report/>.

⁵⁵ Taxonomy Regulation, Recital 50.

- screening criteria. This obligation (both to set up and to consult) qualifies as an “essential procedural requirement” within the meaning of Article 263 TFEU.
87. According to case-law, the breach of such a requirement can lead to the annulment of an act if, but for that defect, the procedure may have had a different outcome and the act might have been substantively different.⁵⁶
88. Here, the Commission failed to establish the Platform in time and thus could not rely on its assistance, as required by the Taxonomy Regulation.
89. The Platform was created at the end of 2020, when the final draft of the Delegated Regulation was already issued. Thus, this final draft, and the Delegated Regulation, did not benefit from the consultation of the Platform. Instead it relied on conclusions of the Technical Expert Group (the “TEG”), an informal expert group created by the Commission in 2018 *i.e.* before the adoption of the Taxonomy Regulation. The TEG was originally meant to advise on the overall structure of the Taxonomy and to address issues linked to climate in several ongoing legislative and regulatory projects. Assistance regarding the development of the criteria was not part of its tasks, as this role is specifically assigned to the Platform.
90. However, the TEG also advised the Commission on the specifics of the technical screening criteria for climate change mitigation and adaptation, in a separate Technical Annex to its 2020 report.⁵⁷ The Commission also indicates several times in the 2021 Impact Assessment that the Delegated Regulation and the accompanying criteria were based on the TEG’s work.⁵⁸
91. In other words, the TEG performed the official function of the Platform for the purposes of the Delegated Regulation.
92. Yet, the TEG has not been officially mandated to exercise this new role, nor has this role been formalized in any way.
93. The establishment and composition of the Platform are subject to strict rules, which require that it is constituted “*in accordance with the horizontal rules on the creation and operation of Commission expert groups*”.⁵⁹ Conversely, the TEG initially operated as an informal gathering of experts not subject to any specific rules.
94. As set out below, the Commission did not base the technical screening criteria on scientific evidence nor did it properly exercise its delegated powers.
95. Thus, if such a procedural irregularity had not occurred and the Platform had been set up within the timeline provided by the Taxonomy Regulation, there is a likelihood that proper consultation of the Platform rather than the TEG in relation to the technical screening criteria established in the Delegated Regulation, might have led to a different outcome. As a result, the Delegated Regulation should be reviewed on this ground.

⁵⁶ Case C-209/78 *Van Landewyck v Commission* [1980] EU:C:1980:248, para. 47; Case T-443/11 *Gold East Paper and Gold Huasheng Paper v Council* [2014] EU:T:2014:774, para. 113; Case C-109/10 *P Solvay v Commission* [2011] EU:C:2011:686, para. 57.

⁵⁷ TEG, Taxonomy Report: Technical Annex (March 2020).

⁵⁸ Commission, Impact Assessment Report SWD(2021) 152 final of 4.6.2021 (“**2021 Impact Assessment**”), p. 21.

⁵⁹ Taxonomy Regulation, Article 20(4).

B. Misuse of Powers: Failure of the Commission to Appropriately Exercise its Delegated Powers

96. Pursuant to Articles 10(3) and 11(3) of the Taxonomy Regulation, the Commission was entrusted with the task of adopting delegated acts to establish the technical screening criteria regarding climate change mitigation and adaptation as well as the associated DNSH criteria. These technical screening criteria determine whether an economic activity is “environmentally sustainable” under Article 3 of the Taxonomy Regulation.
97. However, the Commission misused its powers granted by these provisions.
98. According to settled case-law, an act of an EU institution is vitiated on the basis of a misuse of powers if it appears to have been adopted either (i) with the exclusive or main purpose of achieving an end other than that stated; or (ii) by evading a procedure specifically prescribed by the Treaty for making such an act.⁶⁰
99. As clearly specified in the Taxonomy Regulation⁶¹ and in the title of the Delegated Regulation itself, the “technical screening criteria” are supposed to determine the “*conditions under which a specific economic activity qualifies as substantially contributing to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives*”.
100. Articles 10(1), 11(1), 17 and 19 of the Taxonomy Regulation provide for the mandatory framework within which these criteria must be established. These provisions constitute the essential elements of the Taxonomy Regulation which define the scope of the powers delegated to the Commission. Therefore, the Commission “*when it exercises delegated or implementing powers*”, “*must fully respect the essential elements of the enabling act*”.⁶²
101. Accordingly, the technical screening criteria **are not meant to be a substitute** for the criteria already contained in the Taxonomy Regulation, but to *supplement* them:
- “The Commission shall adopt a delegated act in accordance with Article 23 to:*
- (a) supplement paragraphs 1 and 2 of this Article by establishing technical screening criteria for determining the conditions under which a specific economic activity qualifies as contributing substantially to climate change mitigation; and*
- (b) supplement Article 17 by establishing, for each relevant environmental objective, technical screening criteria for determining whether an economic activity in respect of which technical screening criteria have been established pursuant to point (a) of this paragraph causes significant harm to one or more of those objectives.”⁶³*
102. Thus, for each economic activity included in the Delegated Regulation the Commission had to lay down **additional criteria** supplementing those already included in the Taxonomy Regulation.
103. In this context, the Commission was required to identify – both for the forestry management and the Relevant bioenergy activities, and based on conclusive scientific evidence and the precautionary principle, the conditions under which the goals of the Regulation could be met.

⁶⁰ Case C-310/04 Spain v Council [2006] ECR I-7285, para. 69 and the case-law cited.

⁶¹ See e.g. Taxonomy Regulation, Article 10(3)(a), Article 11(3)(a) and Recital 38.

⁶² Non-Binding Criteria for the application of Articles 290 and 291 of the TFEU – 18 June 2019 (OJ C 223, 3.7.2019, p. 1–4), para. I(5). See also the ECJ case law: cases C-355/10, Parliament v Council, EU:C:2012:516, paras 64–65 and 76; C-44/16 P, Dyson v Commission, EU:C:2017:357, paras 61–62 and 65.

⁶³ Taxonomy Regulation, Article 10(3). See also Article 11(3) for climate change mitigation criteria.

104. However, as regards the climate change mitigation criteria for the Relevant bioenergy activities, far from setting real criteria allowing such distinction to be made, the Delegated Regulation merely refers to existing legislation to which the relevant activities are already subject in the EU.
105. As a result, any type of woody biomass bioenergy and biofuel activities meeting existing EU standards⁶⁴ will now automatically qualify as “substantially contributing to climate change mitigation”, and thus “environmentally sustainable” within the meaning of Article 3 of the Taxonomy Regulation, even if the activity does not meet the overarching conditions set by Articles 10(1), 11(1), 17 and 19 of the Taxonomy Regulation.
106. As regards the climate change adaptation criteria, this is all the more blatant. Indeed, Annex II of the Delegated Regulation simply replicates the exact same list of activities as Annex I which seems to indicate that the Commission merely assumed that economic activities listed in the mitigation section of the Delegated Regulation would automatically make a significant contribution to climate change adaptation. Nothing in the Taxonomy Regulation allowed the Commission to make such an assumption.
107. Besides, the climate change adaptation criteria refer to a single set of criteria which apply to *all* the listed activities, which merely require the operators to carry out a climate risk assessment and adopt weak solutions (see Section VI.D). By no means could such criteria allow an accurate assessment of the impact of an economic activity on climate change adaptation nor distinguish between the impact of similar activities.
108. This same issue also applies to the DNSH criteria set both in Annex I (activities substantially contributing to climate change mitigation) and Annex II (activities substantially contributing to climate change adaptation) as they are no true “criteria” but mere cross-references to existing regulations or, at best, generic and unverifiable due diligence requirements.⁶⁵
109. It follows from the above that, at least as regards forest management and the Relevant bioenergy activities, instead of further clarifying the criteria for each economic activity, the Commission manifestly failed to comply with the prescriptions of Articles 10(1), 11(1), 17 and 19 of the Taxonomy Regulation and deviated from the framework imposed upon it by these provisions, as suggested in greater detail in Sections V and VI. In doing so, the Commission contravened its delegated powers under the Taxonomy Regulation: it did not seek to supplement or implement the general criteria laid down in these provisions with regard to forest management and woody biomass bioenergy and biofuel. The evidence provided in Section VI.A, especially with respect to the reasons motivating the Commission’s departure from the scientific conclusions, supports this point.
110. Hence, the Commission misused the delegated powers conferred upon it by Articles 10(1), 11(1) and 17 of the Taxonomy Regulation and the Delegated Regulation should also be reviewed on this ground.

⁶⁴ The only « specific » condition is the requirement that undertakings implement procedures to ensure the alignment with OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights. However this requirement is not relevant for assessing whether an economic activity contributes to climate change mitigation or adaptation, nor whether it DNSH to other Environmental Objectives.

⁶⁵ See more specifically, Sections V and VI on the infringements of Articles 10, 11 and 19.

V. GROUNDS OF REVIEW AS REGARDS FOREST MANAGEMENT

111. The technical screening criteria for Forestry, contained in Section 1 of both Annex I and Annex II of the Delegated Regulation breach the Taxonomy Regulation in at least the six ways described below. In all cases, references are to the criteria for Forest Management (Section 1.3 in both Annex I and Annex II), but the same legal errors occur in the criteria for other forestry activities:

In relation to Annex I of the Delegated Regulation - Climate Change Mitigation Criteria and Associated DNSH Criteria:

- a) The criteria for determining when an activity makes a substantial contribution to climate change mitigation:
- Do not conform to the requirements of Article 10(1)(f), because they only require some improvement against a business-as-usual baseline (which could itself be highly damaging to the climate). Thus even a very small improvement to a high-emission baseline scenario would qualify. Accordingly, there is no requirement for the activity to make a substantial contribution, as required by Article 10(1); nor any requirement for it to contribute substantially to achieving the goals of the Paris Agreement, as required by Article 10(1);
 - Are not expressed in quantitative terms, despite there being scientific information available concerning the extent to which it will be necessary to strengthen forest carbon sinks in order to achieve the goals of the Paris Agreement, and accordingly are in breach of Article 19(1)(c), which requires quantitative thresholds to the extent possible; and
 - Are not based on conclusive (or indeed any) scientific evidence, or the precautionary principle, contrary to Article 19(1)(f).
- b) The criteria for determining when an activity makes a substantial contribution to climate change mitigation are based upon a climate benefit analysis, but forest holdings under 13 hectares (“ha”) are exempt from the obligation to prepare such an analysis (Annex I, section 1.3, paragraph 2.4), which:
- Exempts activities in forest holdings within its scope from any requirement at all to demonstrate the effect of the activity on GHG emissions, thus wholly failing to give effect to Article 10(1) and 10(3)(a) in relation to such activities;
 - Is not based on any scientific evidence, contrary to Article 19(1)(f); and
 - Was adopted very late in the legislative process by the Commission, and was not the product of any consultation with the TEG or the Platform, contrary to Article 10(4).
- c) The criteria for determining that an activity does no significant harm to climate change adaptation do not require that the activity should avoid causing an increased impact of the current or future climate on people, nature or assets (or even that any such potential impact be assessed). Since Article 17(1)(b) defines significant harm to climate change adaptation as being where the activity leads to an increased adverse impact of the current climate and the expected future climate, on the activity itself or on people, nature or assets, avoidance of such effects is a necessary part of the DNSH criteria for climate change adaptation, but is absent from the criteria set out in Appendix A to Annex I of the Delegated Regulation, contrary to Article 19(1)(b). For the same reasons, the criteria also fail to identify the most relevant potential contributions to the adaptation objective, contrary to Article 19(1)(a).
- d) The criterion for determining that an activity does no significant harm to the transition to a circular economy (Annex I, Section 1.3, DNSH point (4)):

- Requires that the supply of primary forest wood to the market not be reduced. Maintaining supply at current levels works contrary to the objective of transitioning to a circular economy, since it reduces the incentive to re-use or recycle wood products. These criteria are therefore nonsensical and contrary to Article 10(3)(b) and Article 17(1)(d);
- Allows operators to demonstrate compliance with the criterion by way of a climate benefit analysis, which is an exercise that has no conceivable relevance to the matters to be demonstrated. This provision is accordingly illogical and/or not based on any scientific evidence, contrary to Article 19(1)(f); and
- Was adopted very late in the Commission's legislative process, and was not the product of any consultation with the TEG or the Platform, contrary to Article 10(4).

In relation to Annex II of the Delegated Regulation - Climate Change Adaption Criteria and Associated DNSH Criteria:

- e) The criteria for determining that an activity does no significant harm to climate change mitigation do not require any assessment of the net GHG impacts of the activity; nor do they contain any requirement that carbon sinks are at least maintained at their current levels. Therefore they cannot possibly serve to identify and screen out activities that cause significant harm to climate change mitigation, which by Article 17(1)(a) is deemed to occur “*where that activity leads to significant greenhouse gas emissions*”. Accordingly, they do not conform to Article 19(1)(b), which requires the criteria to “*specify the minimum requirements that need to be met to avoid significant harm*”.

In relation to both Annex I and Annex II of the Delegated Regulation - DNSH Criteria in relation to the protection and restoration of biodiversity and ecosystems:

- f) The criteria for determining that an activity does no significant harm to the protection and restoration of biodiversity and ecosystems (Annex I and Annex II, Section 1.3, point (6) of the DNSH table):
- Require only that economic operators include information relating to biodiversity and ecosystems in their forest management plans, but fail to require any minimum level of protection or restoration actually be achieved. These criteria, therefore, are incompatible with the definition of significant harm to the protection and restoration of biodiversity and ecosystems in Article 17(1)(f); and
 - Consist only of high-level statements of desirable outcomes in relation to the protection and restoration of biodiversity and ecosystems, do not include any measurable standards or outcomes, and in particular, fail to set any requirements for avoiding significant harm:
 - To primary and old-growth forests, despite the need, acknowledged in EU policy, to prevent logging in these areas in order to protect biodiversity;
 - To biodiversity from pesticide use, despite the existence of EU policy targets for reducing pesticide use; and
 - To pollinators, despite the need acknowledged in EU policy to protect them.
- The criteria are therefore contrary to the requirements for the technical screening criteria in Article 19(1)(a), (b), (c) and (d).

112. The grounds for review of each of the criteria identified above are explored in more detail below.

Annex I of the Delegated Regulation - Climate Change Mitigation Criteria and Associated DNSH Criteria

A. Illegality and inadequacy of the criteria for determining when an activity makes a substantial contribution to climate change mitigation

113. Insofar as relevant to forestry, Article 10(1) of the Taxonomy Regulation specifies a substantial contribution to climate change mitigation as follows (underlining added):

“1. An economic activity shall qualify as contributing substantially to climate change mitigation where that activity contributes substantially to the stabilisation of greenhouse gas concentrations in the atmosphere at a level which prevents dangerous anthropogenic interference with the climate system consistent with the long-term temperature goal of the Paris Agreement through the avoidance or reduction of greenhouse gas emissions or the increase of greenhouse gas removals, including through process innovations or product innovations, by: ...

(f) strengthening land carbon sinks, including through avoiding deforestation and forest degradation, restoration of forests, sustainable management and restoration of croplands, grasslands and wetlands, afforestation, and regenerative agriculture;”

114. This requires strengthening of land carbon sinks, at a level consistent with the long-term temperature goal of the Paris Agreement.⁶⁶

115. Article 10(3) provides for a delegated act to specify the detail of this requirement, relevantly:

“3. The Commission shall adopt a delegated act in accordance with Article 23 to:

(a) supplement paragraphs 1 and 2 of this Article by establishing technical screening criteria for determining the conditions under which a specific economic activity qualifies as contributing substantially to climate change mitigation;”

116. Article 1 of the Delegated Regulation provides that Annex I specifies “*the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation*”.

117. Annex I, therefore, purports to define whether a forestry activity makes a substantial contribution to climate change mitigation in Section 1.3. It must, however, only do so in terms that are consistent with Article 10(1) of the Taxonomy Regulation.

A.1 Requiring only some improvement as against a business-as-usual baseline, rather than requiring a substantial contribution to GHG emission reductions and achievement of the Paris Agreement temperature goal

118. Point 2.1(a) of Section 1.3 of Annex I (which sets out requirements for the activity’s climate benefit analysis) is incompatible with Article 10(1) of the Taxonomy Regulation, and therefore unlawful, in two respects.

119. **First**, Article 10(1) of the Taxonomy Regulation requires that the activity contributes substantially “*to the stabilisation of greenhouse gas concentrations in the atmosphere at a level which prevents dangerous anthropogenic interference with the climate system consistent with the long-term temperature goal of the Paris Agreement*”. That requires the forestry management to provide for a reduction of atmospheric GHG concentrations to such an extent as to be proportionately consistent with the temperature goal of the Paris Agreement.

⁶⁶ That is, “*Holding the increase in the global average temperature to well below 2 C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 C above pre-industrial levels*” (Paris Agreement, Article 2(1)(a)).

120. Section 1.3 of Annex I does not ensure this, however. Instead, it allows for forest management practices that only result in emissions being ‘lower than a baseline’ (which is to be designated by the forest manager), regardless of the size of that reduction. Section 1.3 of Annex I does not contain any requirement for the reduction in emissions to be ‘substantial’ (however defined), let alone that it be a reduction in emissions calibrated to the Paris Agreement temperature goal.
121. Rather, point 2.1(a) requires that the activity meet the following criterion:
- “(a) the climate benefit analysis demonstrates that the net balance of GHG emissions and removals generated by the activity over a period of 30 years after the beginning of the activity is lower than a baseline, corresponding to the balance of GHG emissions and removals over a period of 30 years starting at the beginning of the activity, associated to the business-as-usual practices that would have occurred on the involved area in the absence of the activity;”*
122. This allows for a business-as-usual (“BAU”) baseline to be set (which is itself a hypothetical construct, based on various types of modelling projections). Any improvement as against that baseline is deemed by Section 1.3 of Annex I to be consistent with a substantial contribution to climate change mitigation, even if the activity nonetheless involves very substantial emissions. For example, if the BAU baseline is that a forested area would be reduced by 50% over the 30-year period, a proposed activity to reduce the forested area by 49% would satisfy the criterion in point 2.1(a), enabling the activity to be deemed to make a substantial contribution to climate change mitigation.
123. The problems with accounting against a projected BAU baseline are well-understood. The approach was infamously deployed in the Kyoto Protocol, including the second commitment period (“CP2”), where it was recognized as having the potential to ensure that millions of tonnes of CO₂ emissions from the land sector would go uncounted. One 2012 study found that *“a total of 28 of the 32 Annex I Parties submitting data have proposed to adopt baselines based on forward-looking projections in emissions from forest management. Instead of measuring changes in emissions relative to a historical baseline, as they do in other sectors, these Parties are proposing to measure emissions relative to a hypothetical ‘business-as-usual’ scenario. Several Parties explicitly stated that their projected increases in emissions were based on planned increases in forest harvest during CP2. For the period 1990–2008, the global atmospheric impact of Annex I forest management activities was -937 MtCO₂e per year. For CP2, Parties have proposed baselines set at an aggregate sink of -484 MtCO₂e per year (the aggregate proposed reference level is the sum of all reference levels submitted by Parties up to October 1, 2010). **The implication is that the atmosphere could experience an effective increase of 452 MtCO₂e per year due to a decrease in the forest sink, and that this increase will not be recorded in Annex I Parties’ GHG accounts.**”*⁶⁷
124. The Commission itself has recently proposed to abandon the baseline approach for land sector carbon accounting as it works towards achieving internal targets for emissions reductions. In the 2018 revision of the Land Use Land Use Change and Forestry (“LULUCF”) Regulation,⁶⁸ the EU set two measurement periods spanning 2021–2025 and 2026–2030, during which changes in forest carbon would be accounted against a projected baseline (“forest reference level” or FRL) in each member state. In 2021, recognizing some of the problems with this baseline approach, the Commission proposed⁶⁹ to abandon the forest reference level approach for the 2026–2030 period and replace it with a simple counting of the absolute magnitude of the entire land carbon flux, including forests (which provide the overwhelming majority of net carbon removals in the land

⁶⁷ Greenglass, N. *et al.*, “Fixing a flawed approach to forest accounting in the next round of the Kyoto Protocol” (2010), *Carbon Management* 1(2), 179-182, <https://doi.org/10.4155/cmt.10.23>.

⁶⁸ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018R0841&from=EN>.

⁶⁹ https://eur-lex.europa.eu/resource.html?uri=cellar:ea67fbc9-e4ec-11eb-a1a5-01aa75ed71a1.0001.02/DOC_1&format=PDF.

sector while other land categories such as croplands and grasslands tend to be net sources of CO₂, not sinks⁷⁰). If this change is adopted, the actual magnitude of CO₂ flux in the EU's land sector in the 2026-2030 period will be assessed each year as progress toward the proposed 2030 target of -310 million tonnes of land sector CO₂ uptake (or potentially another, more ambitious target). The Commission has therefore itself recognized that the BAU baseline approach adopted in the Delegated Regulation is an ineffective method by which effectively to measure “what the atmosphere sees” in terms of carbon emissions and removals by the land sector.

125. To be compatible with Article 10(1) of the Taxonomy Regulation, the technical criteria must require an actual reduction of net emissions that is calibrated to the reductions required for consistency with the Paris Agreement temperature goal. The terms of Article 10(1) require no less, because this is how a ‘substantial’ contribution to climate change mitigation is defined by the Taxonomy Regulation.
126. Moreover, such a calibration is achievable. The Applicants set out below an alternative to the BAU baseline approach that instead uses the absolute quantity of carbon stocks to calculate the climate change mitigation effects of a given forestry management activity. This is closely analogous to the approach the Commission adopted in the Delegated Act in relation to emissions from the other economic activities, for example for certain activities in the energy sector (Annex I, Section 4).⁷¹
127. The Applicants propose the following model as an example of an alternative to the BAU baseline that could be calibrated to the Paris Agreement temperature goal:
 - a. In order to determine whether an activity makes a substantial contribution to the stabilisation of GHG emissions at a level consistent with the Paris Agreement temperature goal, it is necessary to identify a “rate” of carbon sequestration that is expressed as tonnes per year, divided by the land area over which the activities occur, and the sequestration can take place, to produce an activity-specific rate of tonnes per hectare.
 - b. The core challenge is to identify the necessary EU-wide rate of sequestration. In July 2021 the Commission set out exactly such a rate in its proposal for a revision to the LULUCF Regulation,⁷² as part of its ‘Fit for 55’ package, intended to deliver the EU target of a 55% reduction in GHG emissions by 2030, which the Commission stated is ‘*in line with the Paris Agreement objective to keep the global temperature increase to well below 2°C and pursue efforts to keep it to 1.5°C.*’⁷³ The Commission proposed a target of -310 million tonnes of CO₂ equivalent (“**MtCO₂eq**”) uptake per year in the land sector by 2030. For the purposes of demonstrating that a workable model exists, the Applicants assume here that the proposal of a net carbon

⁷⁰ See https://di.unfccc.int/detailed_data_by_party.

⁷¹ Page 206 of the technical annex to the TEG report explains derivation of the threshold for allowable emissions in the power sector: “The calculation of the 100g CO₂e / kWh threshold is based on the political targets for future allowed emissions from the power sector, divided by the expected evolution of electricity demand.”

⁷² European Commission, Proposal for a regulation amending Regulations (EU) 2018/841 as regards the scope, simplifying the compliance rules, setting out the targets of the Member States for 2030 and committing to the collective achievement of climate neutrality by 2035 in the land use, forestry and agriculture sector, and (EU) 2018/1999 as regards improvement in monitoring, reporting, tracking of progress and review, COM(2021)554

⁷³ Ibid, Explanatory Memorandum, Section 1 ‘Context of the Proposal’

sink of -310 MtCO₂eq per year is consistent with the achievement of the Paris Agreement temperature goal,⁷⁴ although in reality it is likely vastly insufficient.⁷⁵

- c. Data reported under the UN Framework Convention on Climate Change (UNFCCC) estimates that the EU's net carbon sink is currently around -250 MtCO₂eq per annum.⁷⁶ The Applicants consider this to be an over-estimate of the actual magnitude of the land carbon sink but for the purposes of showing that this proposed model is workable adopt that figure here.
- d. Using the target of net carbon uptake of -310 MtCO₂eq per annum, this would require an additional -60 MtCO₂eq of CO₂ uptake per year by 2030 by the EU's land sector. The majority of that carbon uptake will need to be provided by forests, the only category of land that consistently provides net carbon uptake in the EU.⁷⁷ In this model the Applicants assume that 100% of this sequestration is to be achieved through forestry, but note that this could be adjusted if other land uses can be relied upon to sequester a portion.
- e. There are around 159 million hectares of forests in the EU, which means that if this additional -60 MtCO₂eq of CO₂ uptake were distributed across all forests, on average, each hectare of forest would need to sequester and store an additional 0.375 tonnes more CO₂ per year by 2030 than it does now.
- f. This approach specifies the amount of additional carbon sequestration required by forests in order to align with the Paris Agreement temperature goal. For a forestry activity to make a substantial contribution to GHG levels consistent with that temperature goal, it would have to contribute proportionately to the necessary EU-wide strengthening of the carbon sink – which, if the figures contained in the Commission's own legislative proposals are accepted, is -60 MtCO₂eq per year. Thus a proportionate contribution from an individual activity would require additional carbon sequestration at a rate of 0.375 tonnes per hectare per year.
- g. The required annual rate could be averaged across the lifetime of the activity (albeit there must also be some assurance of long-term “lock-in” of the carbon gains, because if forests are logged with concomitant emissions of carbon to the atmosphere at the end of the project, then the sequestration benefit is lost). Thus, in order for an activity to be consistent with the Paris Agreement temperature goal (which is the requirement of Article 10(1) for a substantial contribution to climate change mitigation), a forestry activity would have to lead to an additional net carbon sequestration of 0.375 tonnes per hectare per year on average.

128. The Commission was required by the Taxonomy Regulation to formulate technical screening criteria that conform to the definition of a substantial contribution to climate change mitigation given in Article 10(1), which requires consistency with the Paris temperature goal. The Applicants have set out above one way in which this could be achieved, based on the Commission's own

⁷⁴ While noting that a more ambitious target of -490 MtCO₂eq, has been proposed by the ENVI committee in its draft report on the Commission proposal (ENVI_PR(2021)699175).

⁷⁵ It is important to note that the figure of -310 million tonnes of CO₂ uptake by the land sector as a waypoint toward the ultimate 2050 land sink target relies on an additional -250 million tonnes of CO₂ uptake per year by 2050 from biomass energy paired with carbon capture and storage (BECCS) a technology that effectively does not exist and will likely never be able to deliver the amount of CO₂ uptake required. Accordingly, the EU's goal of -310 million tonnes by 2030 is likely insufficient to deliver the actual land carbon sink capacity that will actually be needed to achieve economy-wide carbon neutrality by 2050. See Booth, M.S., “Why the EU's plan for climate neutrality by 2050 will likely fail” (2021) Partnership for Policy Integrity, Pelham, MA. At <https://www.pfpi.net/wp-content/uploads/2021/11/PFPI-EU-Land-Sink-Target-report-Nov-23-2021.pdf>.

⁷⁶ https://di.unfccc.int/detailed_data_by_party.

⁷⁷ The Applicants note that the Commission recognised in the 2021 Impact Assessment (p. 124) that “an increase in carbon sequestration from forests is essential to the achievement of a net-zero target by 2050”.

assessment of the mitigation effort required of the forest sector, instead of based on the BAU baseline. The Commission, of course, was not required to adopt the specific proposal set out above, but it was required to formulate technical screening criteria that conformed to the requirements of the Taxonomy Regulation. While the Applicants appreciate that the conversion of the Paris Agreement temperature goal to individual activity management is complex, it is a necessary task per Article 10(1) of the Taxonomy Regulation. This is no doubt why Article 20(1) of the Taxonomy Regulation established the Platform, to assist the Commission with exactly this sort of task.

129. In any event, the Commission has carried out just such an exercise as part of its work on the proposed revision to the LULUCF Regulation. Accordingly, it cannot be said that there is no scientific basis to carry out the necessary calculations, and yet no such exercise has even been attempted in drafting the Annex I criteria for a substantial contribution to climate change mitigation in the forestry sector. Those criteria are unlawful as a result.
130. **Second**, Article 10(1)(f) of the Taxonomy Regulation requires that the forest activity strengthens the forest as a carbon sink. The theme of strengthening (or at least maintaining) forest carbon sinks is emphasised in Recital 15 to the Delegated Regulation, which states (underlining added):

To reach climate neutrality and a healthy environment, it is necessary to improve both the quality and the quantity of forest areas that are the largest carbon sink in the land use, land use change and forestry ('LULUCF') sector. Forest-related activities can contribute to climate change mitigation by increasing net removals of carbon dioxide, by preserving carbon stocks [...]

131. Section 1.3 of Annex I does not ensure this, however. Instead, the criterion in point 2.1(a) allows for forest management practices that would cause a loss of forest carbon stocks and weakening in the carbon sink, provided those impacts occur to a lesser degree than would have been the case under the BAU baseline. As addressed above in relation to the technical screening criteria as a whole, that is also inconsistent with the fundamental requirement of the Taxonomy Regulation that the Taxonomy be ambitious and improve rather than merely maintain existing environmental protections by “*building on any minimum requirements laid down pursuant to Union law*”, per Recital 40 of the Taxonomy Regulation.
132. Accordingly, the criteria contained in Annex I of the Delegated Regulation for determining a substantial contribution to climate change mitigation in the forest sector do not conform to Articles 10(1), 10(1)(f) and 10(3)(a) of the Taxonomy Regulation, and the Delegated Regulation should be reviewed on this ground.

A.2 Failing to set quantitative criteria or thresholds

133. Article 19 of the Taxonomy Regulation specifies mandatory requirements for the technical screening criteria. It relevantly provides (underlining added):

“1. The technical screening criteria established pursuant to Articles 10(3)... shall: ...

(c) be quantitative and contain thresholds to the extent possible, and otherwise be qualitative;”

134. Article 19(1)(c) of the Taxonomy Regulation, thus requires that when the state of scientific knowledge allows for the calculation of what changes to emissions are required in order to be compatible with the Paris Agreement temperature goal, the technical screening criteria must be quantitative and contain thresholds that reflect that knowledge and those goals.
135. Section 1.3 of Annex I fails to achieve this. Scientific information is readily available (and was available to the Commission in the preparation of the Delegated Regulation) that allows for the required decreases in emissions from forestry activities to be quantified (the Applicants have set out how this could be done at paragraph 127 above, using figures adopted by the Commission itself in

other proposed legislation). The Commission was required when preparing Section 1.3 of Annex I to use this information to set quantitative thresholds for (i) reductions in GHG emissions, and (ii) strengthening of forest carbon stocks to be met in order to classify an activity as a substantial contribution to climate change mitigation. Instead of doing this, however, the criterion at Point 2.1(a) of Section 1.3 provides only that a lessening of impacts to some level below the BAU baseline is sufficient.

136. Accordingly, the criteria contained in Annex I of the Delegated Regulation for determining a substantial contribution to climate change mitigation in the forest sector do not conform to Articles 10(1), 10(1)(f), 10(3)(a) and 19(1)(c) of the Taxonomy Regulation, and the Delegated Regulation should also be reviewed on this ground.

A.3 Failing to be based on conclusive scientific evidence and the precautionary principle

137. Article 19(1)(f) of the Taxonomy Regulation specifies the approach to scientific evidence and the precautionary principle that the Commission was required to follow in preparing the Delegated Regulation. Article 19 of the Taxonomy Regulation relevantly provides:

“1. The technical screening criteria established pursuant to Articles 10(3)... shall: ...

(f) be based on conclusive scientific evidence and the precautionary principle enshrined in Article 191 TFEU;”

138. Section 1.3 of Annex I is not based on conclusive (or indeed any) scientific evidence, nor is it based on the precautionary principle. The precautionary principle is a general principle of EU law recognized under Article 191(2) of the TFEU, requiring EU authorities “to take appropriate measures to prevent specific potential risks to public health, safety and the environment, **by giving precedence to the requirements related to the protection of those interests over economic interests**”.⁷⁸ It may be relied upon when potential dangerous effects caused by a phenomenon, product or process have been identified by a scientific and objective evaluation, even if such evaluation does not allow the risk to be determined with sufficient certainty.⁷⁹
139. As set out at paragraph 127 above, there is scientific information available to the Commission that would allow for the establishment of a threshold for carbon sequestration calibrated to the Paris Agreement temperature goal.
140. The criterion at Point 2.1(a) is not based on this (or, indeed, any other scientific evidence). It sets a requirement only to achieve a bare-minimum reduction in GHG emissions relative to a BAU baseline. Those BAU activities take no account of the available scientific evidence concerning the emissions reductions required to meet the Paris Agreement temperature goal. They are, instead, simply a description of the activities that would occur in the absence of any Taxonomy-aligned management plan. The criterion imposes no threshold of emission reductions calibrated to what achieving the Paris Agreement temperature goal actually requires. This is contrary to the requirement to base the technical screening criteria on conclusive scientific evidence.
141. Further, the criterion at Point 2.1(a) sets only a bare minimum requirement of achieving some emission reduction relative to the BAU baseline. However, for the reasons set out under Ground A.1 above, by reference to figures proposed by the Commission itself, it is clear that more than a bare minimum reduction in emissions will be required from forestry activities to achieve consistency

⁷⁸ Cases T-429/13 and T-451/13, *Bayer CropScience AG and Others v European Commission*, ECLI:EU:T:2018:280, para. 109; Case T-392/02, *Solvay Pharmaceuticals v Council*, 21 October 2003, EU:T:2003:277, para. 121; Case T-31/07 (not published), *Du Pont de Nemours (France) and Others v Commission*, 12 April 2013, EU:T:2013:167, para. 134 and the case-law cited.

⁷⁹ Communication from the Commission of 2 February 2000 on the precautionary principle (COM(2000)1 final), para. 4.

with the Paris Agreement temperature goal. Even if there is any scientific uncertainty about the degree of emission reductions required from the sector, the precautionary principle requires that that uncertainty should not be used as a reason not to act, where the risks of inaction are large (as they obviously are here, given the consequences of failing to meet Paris Agreement temperature goal).

142. It follows that the failure to specify a threshold of reductions required from forestry activities to achieve consistency with the Paris Agreement temperature goal is a failure to act based on the precautionary principle. Accordingly, the criteria contained in Annex I of the Delegated Regulation for determining a substantial contribution to climate change mitigation in the forest sector do not conform to Articles 10(1), 10(1)(f), 10(3)(a) and 19(1)(f) of the Taxonomy Regulation, and the Delegated Regulation should also be reviewed on this ground.

B. Illegality of the exemption from climate benefit analysis for forest holdings under 13 ha in the criteria for substantial contribution to climate change mitigation

143. As explained above, section 1.3 of Annex I sets the technical screening criteria for the assessment of whether forest management activities make a substantial contribution to climate change mitigation. They are based on a requirement to produce a climate benefit analysis for forest management activity. For a forestry activity to qualify as making a substantial contribution to climate change mitigation, the climate benefit analysis must demonstrate a reduction in GHG emissions against a baseline (see Ground A.1 at paragraph 118 above on the substantive inadequacies of this baseline requirement). The climate benefit analysis must also be sufficiently robust so as to comply with the procedural requirements in point 2.3 of section 1.3 of Annex I.

144. However, point 2.4 of section 1.3 of Annex I exempts forest holdings under 13 ha from any requirement to produce a climate benefit analysis:

“Forest holdings under 13ha are not required to perform a climate benefit analysis.”

Introduction: genesis of the 13 ha exemption

145. The TEG did not at any stage recommend a *de minimis* exemption to the Climate Benefit Analysis requirements of the criteria for significant contribution to climate change mitigation. The first reference to the size of forest holdings at 13 ha came in the 2020 TEG Report,⁸⁰ but not in the context of creating an exemption:

“The structure of private forest ownership is specific and considerable variations exist from country to country, with properties sizes ranging from 0.5 hectares to more than 10,000 hectares, while the average size is around 13 hectares.”

146. The Draft Delegated Regulation published for consultation in November 2020 did not contain any *de minimis* threshold. However, the Commission’s 2021 Impact Assessment introduced the concept of such a threshold, then set at 25 ha, on the basis of forestry industry feedback during the consultation on the draft Delegated Regulation (underlining added):

“Based on the feedback provided, the Commission proposed changes that reduce complexity and burdens, extend the timeframe for demonstrating climate benefits (...) Steps taken to simplify the criteria and reduce burdens include notably reduced frequency of audits and possibility for compliance with the criteria can be assessed at the level of a group of operators. In order to minimise administrative burden for small forest owners, forest holdings below 25 ha are not required to perform a climate benefit analysis.”⁸¹

⁸⁰ 2020 TEG Report, p. 47.

⁸¹ 2021 Impact Assessment, p. 78.

147. By a process that is unclear to the Applicants, the original proposal for a 25 ha exemption was modified to create the 13 ha exemption that appears in the final Delegated Regulation. The 13 ha exemption was justified in Recital 16 to the Delegated Regulation as follows:

“In order to reflect proportionality and minimise administrative burden for small-scale forest owners in particular, forest holdings below 13 hectares should not be required to perform a climate benefit analysis.”

148. No detail has been set out by the Commission of the extent of forest holdings that would fall within the scope of the 13 ha exemption.
149. The 13 ha exemption is unlawful in the three respects set out below.

B.1 Failure to require proof of climate benefit, contrary to Articles 10(1) and 10(3)(a)

150. As explained under Ground A.1 above, Article 10(3)(a) of the Taxonomy Regulation stipulates that the technical screening criteria must set out the conditions under which a specific economic activity qualifies as contributing substantially to climate change mitigation, and the necessary ‘contribution’ is defined by Article 10(1). That stipulation in the Taxonomy Regulation is purportedly discharged in the Delegated Regulation by the ‘climate benefit analysis’ contained in point 2 of Section 1.3 of Annex I (although the analysis demanded by point 2 is itself fatally flawed, for the reasons set out under Ground A.1). None of the other criteria in Section 1.3 of Annex I demand any analysis of, or lay down any conditions relating to, emissions of GHG or the maintenance of carbon sinks.
151. By exempting forest holdings under 13 ha from having to conduct a climate benefit analysis, therefore, the criteria have removed any requirement to demonstrate any benefit whatsoever to climate change mitigation; notwithstanding which, an activity on such a holding may still be deemed to create a significant benefit to climate change mitigation. In other words, the technical screening criteria wholly fail to deliver the requirements of the Taxonomy Regulation for determining significant benefit to climate change mitigation, in relation to a large class of forest holdings. If 13 ha is, as the 2020 TEG Report states, the ‘average’ size of an EU forest holding, that implies that a significant proportion of all forest holdings will be exempt from the need to show any mitigation benefit, and yet still be deemed to create a significant mitigation benefit.
152. The 13 ha exemption cannot be regarded as a *de minimis* exemption that is justified on grounds of administrative efficiency, for at least three reasons:
- a) It is *ultra vires*: the Taxonomy Regulation does not provide for *de minimis* exemptions. The requirements of Articles 10(1) and 10(3)(a) are not qualified in this way;
 - b) It is not a proportionate or necessary measure: contrary to the justification offered in Recital 16 to the Delegated Regulation, the 13 ha exemption does not provide for a proportionate, simplified procedure for smaller holdings; rather, it provides a simple free pass – a complete exemption from having to show any climate benefit whatsoever, while still allowing the activity to claim to make a substantial contribution to climate change mitigation. Moreover, the exemption cannot be justified on the grounds of reducing the regulatory burden on small operators, because meeting the criteria under the Taxonomy Regulation for an economically sustainable activity is not a matter of regulatory compliance; rather, it is a voluntary certification, to a sustainability standard higher than the legal minimum, which operators are free to pursue or not, as their circumstances dictate. By way of analogy, the effect of the 13 ha exemption is like allowing small food producers to be certified as organic (and so derive the benefits from that certification), without any requirement to show that their produce is actually organic.
 - c) It is open to abuse: Forestry operators often have considerable flexibility under national law as to how they divide overall forest assets into individual holdings. This exemption, therefore,

could allow them to ‘game the system’ by registering the forests they own as a series of separate holdings that are just beneath the 13 ha threshold.

153. Accordingly, the criteria contained in Annex I of the Delegated Regulation for determining a substantial contribution to climate change mitigation in the forest sector do not conform to Articles 10(1), 10(1)(f) and 10(3)(a) of the Taxonomy Regulation, by reason of the unlawful 13 ha exemption, and the Delegated Regulation should be reviewed on this ground.

B.2 Not based on scientific evidence, contrary to Article 19(1)(f)

154. Article 19(1)(f) of the Taxonomy Regulation requires that the technical screening criteria “*be based on conclusive scientific evidence*”.

155. The 13 ha exemption was not considered by the TEG and no scientific basis for it has been disclosed by the Commission. No justification for it appears in the Commission’s Impact Assessment (which suggests a different threshold), or elsewhere. It was not supported, during the legislative development process, by any scientific analysis, or indeed any evidence at all of its likely environmental effect. All of the above is plainly contrary to the requirement of Article 19(1)(f) to base criteria on conclusive scientific evidence.

156. Accordingly, the criteria contained in Annex I of the Delegated Regulation for determining a substantial contribution to climate change mitigation in the forest sector do not conform to Articles 10(1), 10(1)(f), 10(3)(a) and 19(1)(f) of the Taxonomy Regulation, by reason of the unlawful 13 ha exemption, and the Delegated Regulation should be reviewed on this further ground.

B.3 Neither Platform nor TEG not consulted on the exemption, contrary to Article 10(4)

157. Article 10(4) requires that:

“4. Prior to adopting the delegated act referred to in paragraph 3 of this Article, the Commission shall consult the Platform referred to in Article 20 regarding the technical screening criteria referred to in paragraph 3 of this Article.”

158. Accordingly, it was a requirement that the Commission should consult the Platform regarding the technical screening criteria. The Applicants understand that the Commission had not established the Platform when preparing the Delegated Regulation which, in itself amounts to a breach of Article 20, as set out under Ground IV above. However, even if, contrary to Ground IV, the Commission was entitled to discharge its consultation obligation via consultation with the TEG, as the predecessor to the Platform, it did not do so in relation to the 13 ha exemption, and accordingly the Commission has failed entirely to comply with the consultation obligation in Article 10(4), however that obligation is interpreted.

159. The consultation requirement must extend to all significant features of the technical criteria, such that it was not open to the Commission to introduce a new, wide-ranging exemption, that potentially reduced significantly the environmental effectiveness of the criteria for determining significant benefit to climate change mitigation, without consultation in accordance with Article 20. Yet this is exactly what it (unlawfully) did in respect of the 13 ha exemption.

160. Accordingly, the criteria contained in Annex I of the Delegated Regulation for determining a substantial contribution to climate change mitigation in the forest sector do not conform to Articles 10(1), 10(3)(a), 10(4) and 20 of the Taxonomy Regulation, by reason of the unlawful 13 ha exemption, and the Delegated Regulation should be reviewed on this further ground.

C. Illegality and inadequacy of the criteria for determining when an activity does no significant harm to climate change adaptation

161. Article 17 of the Taxonomy Regulation defines whether an activity does significant harm to the Environmental Objectives. In relation to the objective of climate change adaptation, Article 17(1) relevantly provides:

“1. For the purposes of point (b) of Article 3, taking into account the life cycle of the products and services provided by an economic activity, including evidence from existing life-cycle assessments, that economic activity shall be considered to significantly harm: ...

(b) climate change adaptation, where that activity leads to an increased adverse impact of the current climate and the expected future climate, on the activity itself or on people, nature or assets;”

162. Article 17(1)(b) of the Taxonomy Regulation, thus, provides that where an activity leads to an increased adverse impact of the current climate, and the expected future climate, on the activity itself or on people, nature or assets, the activity will be considered to do significant harm to climate change adaptation.

163. Article 10(3)(b) requires the Commission to adopt DNSH criteria for those activities where ‘significant contribution’ criteria have been adopted under Article 10(3)(a):

“3. The Commission shall adopt a delegated act in accordance with Article 23 to:

[...]

(b) supplement Article 17 by establishing, for each relevant environmental objective, technical screening criteria for determining whether an economic activity in respect of which technical screening criteria have been established pursuant to point (a) of this paragraph causes significant harm to one or more of those objectives.

164. Article 19 of the Taxonomy Regulation specifies mandatory requirements for the technical screening criteria. It relevantly provides:

“1. The technical screening criteria established pursuant to Articles 10(3)... shall: ...

(b) specify the minimum requirements that need to be met to avoid significant harm to any of the relevant environmental objectives, considering both the short- and long-term impact of a given economic activity;

165. Article 19(1)(b) of the Taxonomy Regulation, in light of the definition of significant harm to climate change adaptation in Article 17(1)(b), thus, requires that the technical screening criteria must set a requirement that an activity giving rise to an increased adverse impact of the climate either on the activity itself or on people, nature or assets will be deemed to do significant harm to climate change adaptation. In other words, the screening criteria are required to screen out both categories of impact.

166. Appendix A to Annex I of the Delegated Regulation purports to provide the technical screening criteria (in its Section I) applicable to the requirement to do no significant harm to climate change adaptation. However, it fails to meet the requirements of Article 17(1)(b) and Article 19(1)(b) of the Taxonomy Regulation in two respects.

167. **First**, Appendix A sets no requirement that the activity must not contribute to an increased adverse impact of the climate. Instead, the fourth (unenumerated) criterion in Section I of Appendix A requires only the activity be accompanied by adaptation solutions that “reduce” the “most important” climate risks associated with the activity. This is an unexacting standard, falling below what Article 17(1)(b) of the Taxonomy Regulation requires. It would accommodate an activity that caused the most important climate risks to continue, provided the level of that risk had been merely reduced

- relative to the level of risk from the activity in the absence of an adaptation solution. This is inconsistent with the requirements of Article 17(1)(b) of the Taxonomy Regulation, which directs consideration to whether the activity itself leads to an increased adverse impact, rather than consideration of whether adaptation solutions can reduce (but not remove) those risks.
168. Appendix A also allows economic operators to determine whether a climate risk is among “*the most important*”. Any risk that the economic operator deems not to be “*the most important*” is not subject to a requirement even to reduce its adverse impact.
169. The minimalistic adaptation solution required does not prevent the activity leading to an increased adverse impact of the climate. The technical screening criteria allow an activity to be deemed to cause no significant harm to climate change adaptation even where it leads to an increased adverse impact of the climate. This is contrary to the definition in Article 17(1)(b) of the Taxonomy Regulation of an activity that causes significant harm to climate change adaptation.
170. **Second**, in summary, Appendix A sets no requirements at all in respect of avoiding adverse impacts from the activity on people, nature or assets. The criteria in Appendix A only relate to (i) the adverse impacts of the climate, that arise from the activity, on the activity itself, and (ii) the adverse impacts of the climate, that arise from adaptation solutions adopted, on people, nature and assets. The criteria entirely miss the most important potential category of harm, where the activity itself exacerbates climate risks to people, nature and assets and fail to address all the elements of Article 17(1)(b) of the Taxonomy Regulation.
171. In more detail: the criteria in Appendix A all flow from the requirement in the first (unenumerated) criterion to perform a climate risk and vulnerability assessment. The only risks to be accounted for in this assessment, however, are those that may affect the performance of the activity (there is no direction or requirement to consider the risks arising from the activity that may affect people, nature or assets). The first criterion in Appendix A says:
- “The physical climate risks that are material to the activity have been identified from those listed in the table in Section II of this Appendix by performing a robust climate risk and vulnerability assessment with the following steps:*
- (a) screening of the activity to identify which physical climate risks from the list in Section II of this Appendix may affect the performance of the economic activity during its expected lifetime;*
- (b) where the activity is assessed to be at risk from one or more of the physical climate risks listed in Section II of this Appendix, a climate risk and vulnerability assessment to assess the materiality of the physical climate risks on the economic activity;*
- (c) an assessment of adaptation solutions that can reduce the identified physical climate risk.”*
172. Sub-point (a) correlates to the first part of the definition in Article 17(1)(b) of the Taxonomy Regulation (the need to consider whether the activity leads to an increased adverse impact of the climate on the activity itself). However, Appendix A fails to provide a further sub-point requiring consideration of the second part of the definition in Article 17(1)(b) (the need to consider adverse impacts of the climate on people, nature or assets). The absence of consideration of these risks in the initial climate risk and vulnerability assessment means that these risks do not have to be addressed by any of the adaptation solutions required by Appendix A.
173. The only reference within the DNSH criteria to the need to avoid harm to people, nature and assets comes in the final (unenumerated) paragraph of Section I of Appendix A, as follows (underlining added):

“The adaptation solutions implemented do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities.”

174. This is, however, only a requirement that the adaptation solutions do not cause the relevant impact on people, nature and assets. Thus, an activity that itself caused the relevant impact on people, nature and assets would not fall foul of this criterion, and could therefore be regarded as causing no significant harm to climate change adaptation. Yet the impact of the activity itself on the climate resilience of people, nature or assets will often be the matter that is of the most pressing concern.
175. Consider the following example: a forestry activity reduces the absorption capacity of the land and increases the rate of rainfall run-off, exacerbating the flood risk to communities living downstream – a risk that is in any case increasing as a result of climate change. The activity itself is unaffected by this risk, because of its geographical situation. It is, however, at increased risk of beetle infestation due to rising temperatures caused by climate change. The forest owner implements a pest-control solution that effectively mitigates this risk, but has no effect one way or the other on the level of flood risk to downstream communities. In this example, to meet the DNSH criteria for adaptation, the forest owner need only show (i) that the future climate risk to the forestry activity has been effectively mitigated by the pest control solution, and (ii) that the pest control solution does not harm the downstream communities. The fact that the forestry activity itself is exacerbating the climate risk to people and their homes is simply not a matter with which the criteria are concerned.
176. That is an absurdity. The criteria that purport to ensure that activities do not significantly harm climate change adaptation will have missed the primary harm to adaptation caused by the activity. It is also contrary to the requirement of the Taxonomy Regulation: Appendix A is inconsistent with the definition of significant harm to climate change adaptation in Article 17(1)(b) of the Taxonomy Regulation. It would allow activities to be deemed to do no significant harm in circumstances where they would lead to an increased adverse impact of the climate on people, nature or assets.
177. Accordingly, the criteria contained in Annex I of the Delegated Regulation for determining when an activity in the forest sector does no significant harm to climate change adaptation do not conform to Articles 10(3)(b), 17(1)(b) and 19(1)(b) of the Taxonomy Regulation, and the Delegated Regulation should be reviewed on this further ground.

D. Illegality and inadequacy of the criteria for determining when an activity does no significant harm to the transition to a circular economy

178. The transition to a more circular economy is an EU priority. The EU’s Circular Economy Action Plan states, *“Next to reducing greenhouse gas emissions, achieving climate neutrality will also require that carbon is removed from the atmosphere, used in our economy without being released, and stored for longer periods of time. Carbon removals can be nature based, including through restoration of ecosystems, forest protection, afforestation, sustainable forest management and carbon farming sequestration, or based on increased circularity, for instance through long term storage in wood construction, re-use and storage of carbon in products such as mineralisation in building material”*.⁸²
179. However, the EU’s Forest Strategy additionally cites work from the JRC to warn that increasing harvesting for wood products will add more carbon to the atmosphere over timeframes relevant to achieving the Paris Agreement temperature goal: *“As indicated in recent studies,⁸³ in the short to medium term, i.e. until 2050, the potential additional benefits from harvested wood products and material substitution are*

⁸² Section 6.1 at <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0098&from=ES>.

⁸³ JRC, *Brief on the role of the forest-based bioeconomy in mitigating climate change through carbon storage and material substitution* (Publications Office of the European Union, Luxembourg, 2021), <https://publications.jrc.ec.europa.eu/repository/handle/JRC124374>.

unlikely to compensate for the reduction of the net forest sink associated with the increased harvesting. Member States should pay attention to this risk, which is in their responsibility under relevant applicable legislation.”⁸⁴ Additional weakening of the forest carbon sink would directly undermine the EU’s ability to achieve the proposed goal of a net land sink of -310 million metric tonnes of CO₂ uptake per year by 2030, which is set out in the EC’s 2021 proposed revision of the LULUCF Regulation.⁸⁵

180. Article 9(d) of the Taxonomy Regulations stipulates that the transition to a circular economy is one of its Environmental Objectives. The ‘circular economy’ is defined by Article 2(10) of the Taxonomy Regulation as follows:

“‘circular economy’ means an economic system whereby the value of products, materials and other resources in the economy is maintained for as long as possible, enhancing their efficient use in production and consumption, thereby reducing the environmental impact of their use, minimising waste and the release of hazardous substances at all stages of their life cycle, including through the application of the waste hierarchy;”

181. Article 13(1) of the Taxonomy Regulation defines several ways in which an activity could contribute significantly to this objective. Consistently with the definition of the term in Article 2(10), a common theme of these categories of activity is that they reduce the demand for primary raw materials, for example by increasing the durability, reparability, upgradability or reusability of products (Article 13(1)(b)); or their recyclability (Article 13(1)(c)); by prolonging their use (Article 13(1)(e)); or by increasing the use of secondary raw materials (Article 13(1)(f)). Most directly, however, Article 13(1)(a) provides that:

“(a) us[ing] natural resources, including sustainably sourced bio-based and other raw materials, in production more efficiently, including by:

- (i) reducing the use of primary raw materials or increasing the use of by-products and secondary raw materials”*

182. Recital 28 to the Taxonomy Regulation expands upon this concept by particular reference to the use of materials for construction:

“An economic activity can contribute substantially to the environmental objective of transitioning to a circular economy in several ways. It can, for example, increase the durability, reparability, upgradability and reusability of products, or can reduce the use of resources through the design and choice of materials, facilitating repurposing, disassembly and deconstruction in the buildings and construction sector, in particular to reduce the use of building materials and promote the reuse of building materials.”

183. By Article 17(1)(d)(i), significant harm to the transition to a circular economy is defined to occur where:

“(i) that activity leads to significant inefficiencies in the use of materials or in the direct or indirect use of natural resources such as non-renewable energy sources, raw materials, water and land at one or more stages of the life cycle of products, including in terms of durability, reparability, upgradability, reusability or recyclability of products”.

184. As with the other Environmental Objectives, Article 10(3)(b) requires the Commission to adopt technical screening criteria for determining whether such harm is being caused by activities in different economic sectors.

⁸⁴ Page 5 at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021DC0572>.

⁸⁵ Page 10 at https://eur-lex.europa.eu/resource.html?uri=cellar:ea67fbc9-e4ec-11eb-a1a5-01aa75ed71a1.0001.02/DOC_1&format=PDF.

185. The DNSH criteria for the transition to a circular economy, as relevant to forest management activities, are found at the end of Section 1.3 of Annex I to the Delegated Regulation, paragraph (4):

“The silvicultural change induced by the activity on the area covered by the activity is not likely to result in a significant reduction of sustainable supply of primary forest biomass suitable for the manufacturing of wood-based products with long-term circularity potential. This criterion may be demonstrated through the climate benefits analysis referred to in point (2).”

186. The DNSH criteria for the transition to a circular economy were not considered by the TEG in its reports: its 2020 Report did not propose any such criteria (see table on page 56). They did not feature in the draft Delegated Regulation; indeed the Commission’s Impact Assessment specifically stated that no such criterion was considered necessary for forestry activities (page 232):

“For some activities, there was no risk of significant harm to the circular economy objective. Hence, for these activities, no criteria are proposed for DNSH to circular economy. For example, forestry activities were not considered to lead to significant inefficiencies or increases in waste.”

187. The Applicants do not agree that there is no need for DNSH criteria for the transition to a circular economy for forestry. On the contrary, there is a need for well-designed criteria that are the product of consultation with relevant experts, as provided for in the Taxonomy Regulation. However, the criteria that appear in Annex I were simply included, unheralded, in the final Delegated Regulation. The Applicants assume that this was in response to a suggestion made in consultation by industry stakeholders, but there is no explanation for this by the Commission in the Impact Assessment or in the summary of feedback received.

(i) [Criteria work against the objective of transitioning to a circular economy, contrary to Article 10\(3\)\(b\) and Article 17\(1\)\(d\)\(i\)](#)

188. The DNSH criteria for the transition to a circular economy require that the supply of primary forest biomass not be reduced. This requirement runs directly contrary to a central theme of the transition to a circular economy expounded in the Taxonomy Regulation, which is to reduce the use of primary raw materials (see paragraph 181 above). Maintaining supply at a consistent level can only have the effect of keeping the price of primary materials low relative to more sustainable options such as reducing consumption or re-using materials, and thus hamper the transition to the circular economy. Maintaining supply, and therefore the use, of primary raw materials will thus tend to perpetuate the prevailing, inefficient use of such materials, which is one aspect of the ‘significant harm’ identified in Article 17(1)(d)(i) to the transition to the circular economy.

189. Accordingly, the DNSH criteria for the transition to the circular economy not only fail to prevent, but actively encourage, the significant harm which they are required by Articles 10(3)(b) and 17(1)(d)(i) to prevent. They are plainly unlawful as a result, and the Delegated Regulation should be reviewed on this further ground.

(ii) [Use of climate benefit analysis to demonstrate that criterion is met is illogical and not based on any scientific evidence, contrary to Article 19\(1\)\(f\)](#)

190. The DNSH criteria for the transition to a circular economy stipulate a criterion relating to maintaining supply of primary raw materials (itself unlawful for the reasons in Ground V.B.1 above). They go on to state that this criterion can be ‘demonstrated through the climate benefits analysis referred to in point 2.’ The nature of the ‘climate benefit analysis’ referred to is set out above, in particular under Ground V.A. The relevance of an analysis of the long-term effect of the activity on GHG emissions (which could be affected by a large number of factors) to the objective of maintaining the supply of wood is wholly unclear. If the intention is that forest owners can draw

on the inputs to the climate benefit analysis to demonstrate that cutting will continue unabated and therefore supply of wood will not be reduced, this only serves to underline further the contradiction at the heart of the criteria: they require not the avoidance of harm but the perpetuation of unabated harm. Additionally, as stated above, work by the JRC cited in the EU's Forest Strategy concludes that increased forest harvesting for wood products will not yield climate benefits in a Paris Agreement-relevant timeframe, which puts all the more emphasis on re-use of already harvested materials to allow recovery of the forest carbon sink.

191. Accordingly, the reference to the use of a climate benefit analysis is illogical, and thus contrary to Article 10(3)(b), because it fails to establish workable criteria for preventing the relevant harm, and/or contrary to Article 19(1)(f), because there can be no conceivable scientific evidence underpinning such a misconceived provision. The DNSH criteria for the transition to the circular economy are unlawful for this additional reason and the Delegated Regulation should be reviewed on this further ground.

(iii) [Not the product of any consultation with the Platform or TEG, contrary to Article 10\(4\)](#)

192. As explained above, the DNSH criteria for the transition to a circular economy were not considered by the Platform nor even the TEG. Nor was the public consulted about them: they were not proposed in the draft Delegated Regulation and were specifically stated to be unnecessary.
193. The process by which these criteria were adopted does not conform to the requirements of Article 10(4) of the Taxonomy Regulation, however interpreted. Moreover, the lack of any public consultation on the proposed criterion, which were adopted uncritically at the suggestion of one group of stakeholders without input from other groups, runs contrary to all principles of good policy-making and has doubtless contributed to the incoherent and inadequate nature of the criteria. The DNSH criteria for the transition to the circular economy are unlawful for this additional reason and the Delegated Regulation should be reviewed on this further ground.

Annex II of the Delegated Regulation - Climate Change Adaptation Criteria and Associated DNSH Criteria

E. Illegality and inadequacy of the criteria for determining when an activity does no significant harm to climate change mitigation

194. Article 17 of the Taxonomy Regulation defines whether an activity does significant harm to the Environmental Objectives. In relation to the objective of climate change mitigation, Article 17(1) relevantly provides (underlining added):

“1. For the purposes of point (b) of Article 3, taking into account the life cycle of the products and services provided by an economic activity, including evidence from existing life-cycle assessments, that economic activity shall be considered to significantly harm:

(a) climate change mitigation, where that activity leads to significant greenhouse gas emissions;”

195. Article 17(1)(a) of the Taxonomy Regulation, thus, stipulates that any activity that leads to significant GHG emissions will be considered to do significant harm to climate change mitigation.
196. Article 19 of the Taxonomy Regulation specifies mandatory requirements for the technical screening criteria. It relevantly provides (underlining added):

“1. The technical screening criteria established pursuant to Articles 10(3)... shall:

[...]

(b) specify the minimum requirements that need to be met to avoid significant harm to any of the relevant environmental objectives, considering both the short- and long-term impact of a given economic activity;

197. Article 19(1)(b) of the Taxonomy Regulation, in light of the definition of significant harm to climate change mitigation in Article 17(1)(a), thus, requires that the technical screening criteria must set a minimum level of GHG emissions at or above which the relevant activity will be deemed to do significant harm.
198. Section 1.3 of Annex II fails to comply with the requirements mentioned above. It requires a “forest management plan”, an “audit” and a “group assessment” but it does not require any assessment of the net GHG impacts of the activity. It also does not contain any requirement that carbon sinks are at least maintained at their current levels.
199. In the absence of a requirement to maintain carbon stocks and to avoid GHG emissions above a minimum level or threshold, Section 1.3 of Annex II cannot possibly serve to identify activities that cause significant GHG emissions. Consequently, it would allow activities to be deemed to do no significant harm to climate change mitigation regardless of whether they caused significant GHG emissions (and, indeed, even if they in fact caused significant GHG emissions). That fails to meet the definition in Article 17(1)(a) that significant harm to climate change mitigation occurs “where that activity leads to significant greenhouse gas emissions”.
200. Accordingly, the criteria contained in Annex II of the Delegated Regulation for determining when an activity in the forest sector does no significant harm to climate change mitigation do not conform to Articles 10(3)(b), 17(1)(a) and 19(1)(b) of the Taxonomy Regulation, and the Delegated Regulation should be reviewed on this ground.

Annex I and Annex II of the Delegated Regulation – DNSH Criteria in respect of protection and restoration of biodiversity and ecosystems

F. Illegality and inadequacy of the criteria for determining when an activity does no significant harm to the protection and restoration of biodiversity and ecosystems

201. Article 17(1) of the Taxonomy Regulation defines whether an activity does significant harm to the objective of the protection and restoration of biodiversity and ecosystems, as follows:

“1. For the purposes of point (b) of Article 3, taking into account the life cycle of the products and services provided by an economic activity, including evidence from existing life-cycle assessments, that economic activity shall be considered to significantly harm:

[...]

(f) the protection and restoration of biodiversity and ecosystems, where that activity is:

(i) significantly detrimental to the good condition and resilience of ecosystems; or

(ii) detrimental to the conservation status of habitats and species, including those of Union interest.

202. Both Annex I and Annex II purport to detail what constitutes significant harm to the protection of biodiversity for activities that otherwise make substantial contributions to climate change mitigation (Annex I) and adaptation (Annex II) in point (6) of the “Do no significant harm” table in Section 1.3. The contents of the table are identical in both Annexes.
203. The table requires economic operators to include certain information on protection of biodiversity within their forest management plans (or equivalent plans). In Annex I the requirements of the forest management plan are in point 1 of Section 1.3, while in Annex II the requirements are in point (1) of the “Do no significant harm” table in Section 1.3.

204. At point 1.2(i) of each, economic operators are directed to include within the forest management plans “*all DNSH criteria relevant for forest management*”.
205. The third paragraph of point (6) in the table in both Annexes answers the requirement to include information on all DNSH criteria relevant for forest management, and thus sets out the types of information relating to the protection of biodiversity that economic operators must include in the forest management plans:
- “Detailed information referred to in points 1.2.(i) includes provisions for maintaining and possibly enhancing biodiversity in accordance with national and local provisions, including the following:*
- (a) ensuring the good conservation status of habitat and species, maintenance of typical habitat species;*
 - (b) excluding the use or release of invasive alien species;*
 - (c) excluding the use of non-native species unless it can be demonstrated that:*
 - (i) the use of the forest reproductive material leads to favourable and appropriate ecosystem condition (such as climate, soil criteria, and vegetation zone, forest fire resilience);*
 - (ii) the native species currently present on the site are not anymore adapted to projected climatic and pedo-hydrological conditions;*
 - (d) ensuring the maintenance and improvement of physical, chemical and biological quality of the soil;*
 - (e) promoting biodiversity-friendly practices that enhance forests’ natural processes;*
 - (f) excluding the conversion of high-biodiverse ecosystems into less biodiverse ones;*
 - (g) ensuring the diversity of associated habitats and species linked to the forest;*
 - (h) ensuring the diversity of stand structures and maintenance or enhancing of mature stage stands and dead wood.”*

206. These criteria unlawfully fail to meet the requirements of the Taxonomy Regulation in two respects.

F.1 Criteria require only the inclusion of information, not the achievement of outcomes

207. First, the effect of the criteria is merely to require the inclusion of certain information within the forest management plan. There is no requirement on economic operators actually to achieve even a minimum level of protection of biodiversity.
208. This is incompatible with the definition of significant harm to the protection of biodiversity in Article 17(1)(f) of the Taxonomy Regulation as the criteria do not specify that the activity must ensure “*the good condition and resilience of ecosystems*” (per Article 17(1)(f)(i)) and do not require that the activity must not be “*detrimental to the conservation status of habitats and species*” (per Article 17(1)(f)(ii)). The mere inclusion of information in a forest management plan that refers to these objectives does not mean that the objectives will be achieved, or even that an economic operators will have to try to achieve them.
209. The failure to specify required biodiversity protection outcomes also falls below the requirement in Article 19(1)(b) of the Taxonomy Regulation that the technical screening criteria must “*specify the minimum requirements that need to be met to avoid significant harm*”. Accordingly, the criteria contained in Annex I and Annex II of the Delegated Regulation for determining when an activity in the forest sector does no significant harm to biodiversity do not conform to Articles 10(3)(b), 17(1)(f) and 19(1)(b) of the Taxonomy Regulation, and the Delegated Regulation should be reviewed on this ground.

F.2 Criteria fail to provide quantifiable metrics and ignore important potential harms to biodiversity

210. Second, the eight categories of information required for inclusion within the forest management plans are no more than high-level statements of desirable outcomes in relation to the protection and restoration of biodiversity and ecosystems. Even if operators were required to meet or even work towards these outcomes (which they are not, as set out in Ground F.1 above), the criteria would be insufficient to prevent significant harm to biodiversity, because they fail to provide any quantifiable metrics or standards against which to measure the impact of the activity on biodiversity and ecosystems.

211. As explained in more detail below, the criteria fail to meet the requirements for technical screening criteria in Article 19(1) of the Taxonomy Regulation, particularly:

"1. The technical screening criteria established pursuant to Articles 10(3)... shall:

[...]

(a) identify the most relevant potential contributions to the given environmental objective [...];

(b) specify the minimum requirements that need to be met to avoid significant harm to any of the relevant environmental objectives [...]

(c) be quantitative and contain thresholds to the extent possible [...]

(d) where appropriate, build upon Union labelling and certification schemes, Union methodologies for assessing environmental footprint, and Union statistical classification systems, and take into account any relevant existing Union legislation

212. In some cases, the criteria fail to meet the requirements of the Taxonomy Regulation simply because their extreme generality renders them meaningless. For example, requirement (e), to include information on ‘*promoting biodiversity-friendly practices that enhance forests’ natural processes*’ is so lacking in specificity that it would be impossible to measure progress towards or achievement of such an aim, even if it were an objective in itself, rather than an information requirement. Moreover, ‘promoting’ certain beneficial practices does not exclude the possibility of also carrying out other harmful processes, and the criteria thus fail to perform their function of screening our practices that cause significant harm to biodiversity.

213. Furthermore, the criteria fail to lay down any requirements even to include information to address at least four crucial drivers of harm to biodiversity that have been identified, and made the subject of quantitative targets, in closely related areas of EU policy: the Biodiversity Strategy⁸⁶ and the Forestry Strategy⁸⁷.

(i) [Logging in primary and old-growth forest](#)

214. The Biodiversity Strategy⁸⁸ refers to the definitions of primary and old-growth forest used in the Convention on Biological Diversity. These are:

"A primary forest is a forest that has never been logged and has developed following natural disturbances and under natural processes, regardless of its age [...]"

⁸⁶ Commission, *EU Biodiversity Strategy for 2030 Bringing nature back into our lives*, COM(2020) 380.

⁸⁷ Commission, *New EU Forest Strategy for 2030*, COM(2021) 572.

⁸⁸ Footnote 25 on page 4.

Old growth forest stands are stands in primary or secondary forests that have developed the structures and species normally associated with old primary forest of that type have sufficiently accumulated to act as a forest ecosystem distinct from any younger age class”

215. These forest areas are uniquely rich in biodiversity, and for that reason both the Biodiversity and the Forestry Strategies recognise the need for them to be strictly protected:

“As part of this focus on strict protection, it will be crucial to define, map, monitor and strictly protect all the EU’s remaining primary and old-growth forests”⁸⁹

“All primary and old growth forests, in particular, will have to be strictly protected. Their estimated cover is only around 3% of EU forested land and patches are generally small and fragmented. Primary and old-growth forests are not only among the richest EU forest ecosystems, but they store significant carbon stocks and also remove carbon from the atmosphere, while being of paramount importance for biodiversity and the provision of critical ecosystem services.

*Yet, there is still an **immediate need to map the primary and old-growth forests and establish their protection regime**, including increased efforts to protect the primary forests in outermost regions and overseas territories of the Union, given their exceptionally high and unique biodiversity value. To maintain the undisturbed character of strictly protected forests it is essential to leave the dynamic of the forest cycle in these forests as much as possible to natural processes, limiting extractive human activities, while finding synergies with sustainable ecotourism and recreational opportunities.”⁹⁰*

216. Since it is part of the definition of primary forest that they have never been logged, it is obvious that any logging in such areas would be detrimental to their character and status as habitat and result in significant harm to the uniquely rich biodiversity they contain. Logging in old growth forests can be similarly destructive.

217. The DNSH were therefore required to contain criteria that would be effective in preventing any logging in such forests, so as to lay down the minimum criteria to prevent serious harm, but they fail to do so, in contravention of Article 19(1)(b). This failure further constitutes a breach of:

- a) Article 19(1)(a): because the strict protection of primary and old-growth forest is one of the most important and relevant objectives for preventing harm to biodiversity in the forestry sector;
- b) Article 19(1)(c): because the DNSH criteria fail to set a quantitative threshold (zero logging) where it was possible and indeed necessary to do so; and
- c) Article 19(1)(d): because they fail to take account of other areas of Union policy, including the ‘strict protection’ of primary and old-growth forest, as proposed in the Biodiversity and Forest Strategies, which will need to be in legislative form if it is to be effective.

(ii) [Harm from non-native species](#)

218. It is well-established that the planting of non-native species of trees in replacement of native species can cause significant harm to biodiversity, particularly given that most such replacements would consist of monoculture or extremely low diversity plantations. Indeed, the EU Forest Strategy is explicit that “[a] greater diversity of forest ecosystems and species, and the use of well-adapted genetic resources and ecosystem-based approaches to forest management can enhance long- term adaptability and forests’ capacity to recover

⁸⁹ EU Biodiversity Strategy for 2030, p. 4.

⁹⁰ New EU Forest Strategy for 2030, p. 11.

*and self-organise.”*⁹¹ Accordingly, the DNSH criteria for biodiversity were required to ensure that the planting of non-native species was minimised or avoided altogether.

219. They do not do so. Requirement (e), to include information on excluding non-native species, would be insufficient to avoid this harm (even if it represented a requirement to achieve the stated objective, rather than merely to include information about it), because it is subject to two broad caveats. The second of these is of particular concern to the Applicants, since it relieves the economic operators of the obligation where ‘it can be demonstrated that:

(ii) the native species currently present on the site are not anymore adapted to projected climatic and pedo-hydrological conditions;

220. This caveat fails to lay down any requirements for how an operator is to demonstrate that native species will be vulnerable to future climate risk. It is therefore wide open to abuse. It permits an operator to assume severe future climatic or pedo-hydrological conditions as a pretext for felling native species and replacing them with non-native species. This activity, which is plainly extremely damaging for biodiversity, would nonetheless be deemed to do no significant harm to biodiversity, provided that the forest management plan set out the operator’s view that the native species would not be able to cope with the future climate.

221. Accordingly, DNSH criteria for biodiversity that fail to prevent such an outcome breach:

- a) Article 19(1)(b), because they do not lay down criteria for avoiding the harm; and
- b) Article 19(1)(c), because they fail to set quantitative thresholds (such as a maximum permitted level of non-native species, which ought to be zero).

(iii) Pesticides

222. The use of pesticides as part of forestry activities causes significant harm to biodiversity in forest ecosystems. In order to reduce this harm (in addition to harm to biodiversity in other land categories), the Biodiversity Strategy has adopted quantitative targets for reducing pesticide use by 2030 as part of the EU Nature Restoration Plan:

*“3. The risk and use of chemical pesticides is reduced by 50% and the use of more hazardous pesticides is reduced by 50%.”*⁹²

223. In contrast, the DNSH criteria do not contain any requirements that a forestry activity reduce the use of pesticides. By failing to do so, they have failed to identify a relevant objective and set appropriate minimum standards for avoiding, contrary to Articles 19(1)(a) and (b). Further, by failing to adopt or refer to quantitative targets for avoiding this harm, where these have been adopted in other areas of EU policy, the DNSH criteria breach Articles 19(1)(c) and (d).

(iv) Protection of pollinators

224. Forests are crucial to maintaining pollinator populations. As recognized in a recent report by the Food and Agriculture Organization of the UN (FAO), forests are home to wild bees, bats, butterflies and other pollinators and they are vital for safeguarding ecosystems, for biodiversity and for crop production, thus also for food security. A decline in pollinators is likely to impact forests

⁹¹ Ibid. p. 12.

⁹² EU Biodiversity Strategy for 2030, p. 14.

regeneration by reducing the genetic diversity of forest trees and their resilience and adaptive potential.⁹³

225. In order to reduce harm to pollinators, the Biodiversity Strategy has adopted quantitative targets for reducing pesticide use by 2030 as part of the EU Nature Restoration Plan:

“2. The decline in pollinators is reversed.”⁹⁴

226. The DNSH criteria do not contain any requirements that a forestry activity address the decline in pollinators. By failing to do so, they have failed to identify a relevant objective and set appropriate minimum standards for avoiding it, contrary to Articles 19(1)(a) and (b). Further, by failing to adopt or refer to quantitative targets for avoiding this harm, where these have been adopted in other areas of EU policy, they breach Articles 19(1)(c) and (d).

(v) Conclusion

227. For all of the reasons above, the criteria contained in Annex I and Annex II of the Delegated Regulation for determining when an activity in the forest sector does no significant harm to biodiversity do not conform to Articles 10(3)(b), 17(1)(f) and (in various respects) 19(1)(a), (b), (c) and (d) of the Taxonomy Regulation. The Delegated Regulation should be reviewed on these further grounds.

VI. GROUNDS OF REVIEW AS REGARDS THE RELEVANT BIOENERGY ACTIVITIES

228. Sections 4.7, 4.8, 4.13, 4.19, 4.20, 4.23 and 4.24 of Annex I and II of the Delegation Regulation lay down the climate change mitigation criteria, the climate change adaptation criteria and associated DNSH criteria for the Relevant bioenergy activities. Insofar as they apply to forest biomass bioenergy and biofuel activities, they breach various requirements of the Taxonomy Regulation in various ways.

229. The grounds for review of each of the criteria mentioned above are identified and explored in more detail below.

Annex I of the Delegated Regulation - Climate Change Mitigation Criteria and Associated DNSH Criteria

A. Breach of Article 19(1)(f) on science-based method and the use of the precautionary principle

230. Under Article 19 of the Taxonomy Regulation, the technical screening criteria must be “*based on conclusive scientific evidence and the precautionary principle enshrined in Article 191 TFEU*”.

(i) Failure to base climate change mitigation criteria and climate change adaptation criteria on conclusive scientific evidence

231. The Commission has failed to base the climate change mitigation criteria for the Relevant bioenergy activities on conclusive scientific evidence as regards energy generation from woody biomass.

⁹³ Krishnan, S., *et al.*, “The pollination services of forests – A review of forest and landscape interventions to enhance their cross-sectoral benefits” (2020), Forestry Working Paper No. 15. Rome, FAO & Bioversity International. At <https://www.fao.org/documents/card/en/c/ca9433en>.

⁹⁴ *EU Biodiversity Strategy for 2030*, p. 14.

232. **First**, the Commission disregarded the growing scientific consensus on the **detrimental impact of the indiscriminate use of woody biomass** on the global climate, ecosystems and biodiversity.
233. Starting with climate impacts, as demonstrated in Section III, there are numerous peer-reviewed studies, as well as work commissioned by the Commission itself, showing that burning forest wood emits as much or more CO₂ per unit of energy than energy generated using fossil fuels, and whereas burning wood emits carbon instantaneously, offsetting these emissions through forest regrowth (if it occurs at all) can take decades to more than a century, exceeding timeframes consistent with targets set under the Paris Agreement.
234. The Commission has had ample warnings that burning woody biomass could undermine emission reduction goals. Specifically, as highlighted in Section III, the Commission’s 2016 Impact Assessment warned that “[t]he assumption of ‘carbon neutrality’ of bioenergy is not generally valid when considering forest biomass used for energy” and that “The initial period of increased GHG emissions can vary from less than one year to hundreds of years (or even to infinity in the worst cases, if no savings can be realised), depending on the type of forest bioenergy pathway.”⁹⁵ This report also pointed out the negative impact of burning forest biomass on GHG, even if the biomass is sourced “sustainably.” The land use provisions of Article 29(7) of the RED II on which the climate change mitigation criteria of the Delegated Regulation rely, are supposed to ensure that biomass is sourced sustainably (Section III explains why burning forest biomass is not carbon neutral even if it is sourced “sustainably”).
235. The European Academies Science Advisory Council (EASAC) also wrote directly to the President of the European Commission in 2018, warning that “The legal mandate to record forest biomass-fired energy as contributing to the EU’s renewable energy targets has had the perverse effect of creating a demand for trees to be felled in Europe or elsewhere in order to burn them for energy, thus releasing the carbon into the atmosphere which would otherwise stay locked up in the forest, and simultaneously drastically reducing the carbon sink strength of the forest ecosystems... The potentially very long payback periods for forest biomass raise important issues given the UNFCCC’s aspiration of limiting warming to 1.5 °C above preindustrial levels to ‘significantly reduce the risks and impacts of climate change’. On current trends, this may be exceeded in around a decade. Relying on forest biomass for the EU’s renewable energy, with its associated initial increase in atmospheric carbon dioxide levels, increases the risk of overshooting the 1.5°C target if payback periods are longer than this.”⁹⁶
236. The JRC has also recently warned about risks related to the use of woody biomass. In its 2021 report *The use of woody biomass for energy production in the EU*, the JRC highlighted that burning “coarse woody debris,” which constitutes a large share of forestry residues (tops and branches from harvested trees and other downed wood), presents high risks to the climate, increasing net CO₂ emissions compared to fossil fuels over decades to more than a century.⁹⁷ Coarse woody debris has a general meaning in the forestry literature of wood that is around 5 – 7 cm in diameter or larger.
237. The JRC report also extensively characterized harm to ecosystem function and biodiversity from harvesting forestry residues for fuel. As highlighted in Section III, retention of at least some logging residues on site after forest harvesting is essential for maintaining habitat as well as soil carbon and fertility.⁹⁸ It is important to note that there is no provision in the RED II/Taxonomy sustainability criteria requiring retention of logging residues sufficient to maintain ecosystem functioning.

⁹⁵ 2016 Impact Assessment, Annex 7.

⁹⁶ The letter and President Juncker’s response is posted at <https://easac.eu/news/details/easacs-correspondence-with-the-president-of-the-european-commission-on-the-role-of-biomass-energy/>.

⁹⁷ See JRC, *The use of woody biomass for energy purposes in the EU* (Publications Office of the European Union, Luxembourg, 2021), <https://publications.jrc.ec.europa.eu/repository/handle/JRC122719>, graphic at p. 9: coarse woody debris removal is in the high-risk zone for both carbon emissions mitigation (relative to fossil fuels) and biodiversity and ecosystem condition assessment.

⁹⁸ See Section III.

238. The JRC report further noted that European forests “*are already under significant stress*”⁹⁹ and warned the Commission about the risks incurred by an increased demand in woody biomass for energy production that “*could alter the balance between the numerous ecosystem services that forests are expected to deliver*”.¹⁰⁰
239. Recognizing some of the deficiencies in the RED II biomass criteria, the Commission has proposed significant changes to the RED II (as of July 2021¹⁰¹), which itself acknowledges that the RED II criteria are not adequate and do not reflect the best science.
240. Despite the acknowledged deficiencies of the RED II criteria, the Delegated Regulation mirrors these criteria by simply *assuming* that they are sufficient for the purposes of the Taxonomy Regulation, thus effectively locking in an outdated EU policy from which the EU is moving away in other regulations.
241. Accordingly, in setting the climate change mitigation criteria for the Relevant bioenergy activities, the Commission failed to address any of the science on climate and ecosystem impacts of harvesting and burning biomass, even ignoring warnings that originated from its own science staff, as well as contemporaneous processes underway seeking to reform at least some aspects of the RED II criteria (see paragraph 341 below).
242. **Second**, in designing the climate change mitigation criteria for the Relevant bioenergy activities, the Commission officially claimed that it relied on the TEG’s 2020 report and technical annex.¹⁰² However, not only was the TEG not the expert group envisioned by the Taxonomy Regulation (see above Section IV.A), but it did not properly engage in scientific evidence-gathering and its reports cannot be considered to fulfil the Regulation’s requirement for “conclusive scientific evidence”.
243. Indeed, the only “analysis” formulated in the TEG’s 2020 report indicates that the use of bioenergy “*if done incorrectly can have no net positive impact or even a negative impact*” on climate change mitigation.¹⁰³ However, the TEG remains silent as to what a “*correct*” use of bioenergy would be. On climate change mitigation, the report merely lists assumptions and criteria referring to the RED II with no analysis of the effectiveness of those criteria in making a contribution to climate change mitigation, despite abundant scientific evidence showing their shortcomings in this regard. Furthermore, despite the Article 10(1) requirement that climate mitigation activities should be aligned with the Paris Agreement temperature goal, the TEG conducted no study of whether the RED II biomass criteria ensure that burning biomass actually contributes to climate change mitigation, let alone over what timeframe. In fact as shown in Section III, the 2016 Impact Assessment conducted prior to adoption of the RED II states that the assumption of ‘carbon neutrality’ of bioenergy is not generally valid when considering forest biomass used for energy, and that “*biogenic emissions from forest bioenergy vary depending on the time horizon considered.*”¹⁰⁴
244. **Third**, the Commission wrongly considered that the objective of consistency outweighed the need to base the Delegated Regulation on conclusive scientific evidence. It acknowledged that the criteria

⁹⁹ JRC, *The use of woody biomass for energy purposes in the EU*, p. 95.

¹⁰⁰ *Ibid.*, p. 83.

¹⁰¹ Commission, Proposal for a Directive amending Directive (EU) 2018/2001, https://ec.europa.eu/info/sites/default/files/amendment-renewable-energy-directive-2030-climate-target-with-annexes_en.pdf.

¹⁰² 2021 Impact Assessment, p. 21: “*Across the objectives and criteria, the main technical input for this analysis is the final report of the TEG*”; “*this impact assessment concludes that the delegated act can largely follow the TEG advice*”.

¹⁰³ TEG, Technical Annex (2020), pages 235, 249, 270 and 282.

¹⁰⁴ Commission Staff Working Document, Impact Assessment: Sustainability of Bioenergy (2016).

- were set in view of non-scientific considerations (*i.e.* policy coherence across the EU and the *stakeholders'* view)¹⁰⁵ in an unwarranted trade-off with the requirement under Article 19(1)(f).
245. Indeed, Article 19 establishes a list of cumulative requirements whose compliance with cannot be traded off. Furthermore, these requirements, albeit cumulative, are subject to a different degree of stringency.
246. In particular, although policy coherence is mentioned in Article 19(1)(d) of the Taxonomy Regulation as an objective, this provision only requires that it is “*taken into account*”, as opposed to the need to base the criteria on conclusive scientific requirement, which is an absolute requirement under Article 19(1)(f). Therefore, the Commission wrongly attributed disproportionate importance to it compared to scientific and environmental considerations, which are the core emphasis throughout the Taxonomy Regulation. Recital 40 confirms this reading and suggests to “*build on*” – and not replicate – “*any minimum requirements laid down pursuant to Union law*”.
247. This is also consistent with the fact that the “green” taxonomy is meant to be an instrument to promote only the best practices, while existing law is by definition a “floor” for the European operators.¹⁰⁶ In other words, it does not seek to replicate existing law, but to offer a “green stamp” to activities that perform beyond their existing legal obligations. While it carries indirect material consequences for the activities, the Taxonomy Regulation does not formally impose any additional legal burden as it is a voluntary standard. As confirmed by its ambitious objectives and requirements, the Taxonomy Regulation aims to identify the most sustainable activities to enhance investor confidence and awareness of the environmental impact of those financial products or corporate bonds, to create visibility and to address concerns about ‘greenwashing’. This is nothing new: this technique is widely employed in policy-making to single out virtuous operators in the market while avoiding recourse to more stringent binding law. Therefore, the importance of policy coherence must be tempered (as is the case in the Taxonomy Regulation), as it does not carry as much weight in this context. For the Taxonomy to be effective (*i.e.* to be an actual tool for sustainable finance), it is absurd to unwarrantedly invoke this principle and primarily rely on existing law where the whole idea is to go beyond such obligations.
248. The Commission itself admitted that the “*ambition level proposed for substantial contribution in the EU Taxonomy is generally higher than existing EU legislation*” and that “*compliance with EU law or mandatory practices is a minimum requirement for all technical screening criteria*”.¹⁰⁷ It also clearly stated the following:
- “The substantial contribution criteria therefore usually go beyond EU legislation as exemplified below. Setting general EU law compliance as a threshold for substantial contribution would lead to defining whole sectors as environmentally sustainable without incentivising improvement beyond what the EU legislation already does.”*¹⁰⁸
249. Yet, when considering conditions additional to those in RED II to reach a higher level of environmental ambition that would “*take recent EU strategies, such as the Biodiversity Strategy and the Circular Economy Action Plan into much stronger consideration*”, the Commission balanced this requirement by placing it on the same level as policy consistency, justifying its departure from scientific evidence

¹⁰⁵ 2021 Impact Assessment, p. 158. See also TEG, Technical Annex (2020), p. 208, quoting selected stakeholders’ feedback: “*The EU Taxonomy should be aligned with current legislation (particularly the Renewable Energy Directive) for DNSH and bioenergy, as outlined by some respondents. Where there are standards and requirements, it was suggested making reference to them within the EU Taxonomy. Some respondents also noted that the EU Taxonomy should be structured in a way that minimises additional burden.*”

¹⁰⁶ On the “minimum” nature of the compliance with the RED II sustainability requirements, see Section VI.B.1.

¹⁰⁷ 2021 Impact Assessment, p. 122-123.

¹⁰⁸ *Ibid.*

by referring to policy consistency and the stakeholders' view (*i.e.* “*stakeholders active in bio-energy production and use*”).¹⁰⁹

250. Worse, the Commission relied heavily on political considerations which are completely absent from the Taxonomy Regulation. In a letter addressed to the Rapporteurs of the Platform about the development of the technical screening criteria for the Taxonomy Regulation,¹¹⁰ the Commission stated that:

*“[W]e must ensure that in addition to being science-based, the criteria are usable **and politically acceptable.**”*

251. This excerpt clearly indicates that the Commission's decisions pursuant to its delegated powers under the Taxonomy Regulation were to a large extent driven by considerations of political acceptability rather than scientific grounds, thereby violating Article 19(1)(f) of the Taxonomy Regulation.

(ii) [Failure to base the criteria on the precautionary principle](#)

252. The express reference to the precautionary principle should have led the Commission to reach an alternative view and to side with the understanding of the science outlined herein.

253. As recalled in paragraph 138 above, based on the precautionary principle, where there is scientific uncertainty, the decision maker should take the most cautious approach in terms of environmental protection by “*giving precedence to the requirements related to the protection of those interests over economic interests*”.¹¹¹

254. In the present case, the scientific evidence documented in Section III shows the severe climate, environmental, and human health impacts associated with the use of forest biomass.

255. Moreover, as explained in Section III, the majority of pathways for use of forest biomass that the JRC explored in their study were identified as “lose-lose” for climate and ecosystem impacts. The report called for great caution with respect to use of biomass ranging from residues to plantations, as they would entail “*very uncertain*” trade-offs that would be “*contrary to the precautionary principle*”, given the expected damage to ecosystems in particular.¹¹²

256. Thus, following the understanding of science exposed herein, although there may be some disagreement, the precautionary principle should have led the Commission to exclude woody biomass bioenergy and biofuel activities from the Delegated Regulation or lay down much more stringent criteria to mitigate environmental risks.

257. However, the Commission did not invoke the precautionary principle and, knowingly – based on the “trade-offs” it claims it had to make¹¹³ – disregarded the current state of science and went against this evidence.

¹⁰⁹ 2021 Impact Assessment, p. 158-159.

¹¹⁰ Letter from the Commission, 26 May 2021, Ares (2021)3545682, attached as Annex 8.

¹¹¹ Cases T-429/13 and T-451/13, Bayer CropScience AG and Others v European Commission, ECLI:EU:T:2018:280, para. 109; Case T-392/02, Solvay Pharmaceuticals v Council, 21 October 2003, EU:T:2003:277, para. 121; Case T-31/07 (not published), Du Pont de Nemours (France) and Others v Commission, 12 April 2013, EU:T:2013:167, para. 134 and the case-law cited.

¹¹² JRC, *The use of woody biomass for energy production in the EU*, p. 146. See also Section 5.7.

¹¹³ 2021 Impact Assessment, p. 21 and following. See also Letter from the Commission, 26 May 2021, Ares (2021)3545682, attached as Annex 8.

258. Furthermore, the elements exposed at paragraphs 250 to 251 make it clear that precedence was actually given to the protection of economic interests over requirements related to the environment and public health (as discussed below), as opposed to what is prescribed by the Court of Justice.¹¹⁴
259. Considering the scientific evidence of the severe damage that harvesting and burning forest biomass may cause, as well as the Commission’s leniency in assessing and managing risks, the Commission has failed to duly take account of the precautionary principle.
260. The Delegated Regulation, which indirectly provides for incentives to public and private parties to engage in and support indiscriminate woody biomass bioenergy and biofuel activities, was thus adopted in breach of the precautionary principle enshrined in Article 19(1)(f) of the Taxonomy Regulation and should be reviewed on this ground.

B. Illegality and inadequacy of the criteria for determining when the relevant bioenergy activities make a substantial contribution to climate change mitigation

261. Under sections 4.8, 4.20 and 4.24 of Annex I, the climate change mitigation criteria relevant to woody biomass bioenergy are based on the following:
- a) Forest biomass used in the activities shall comply with the criteria laid down in Article 29(6) and Article 29(7) of the RED II (respectively the “**sustainability criteria**” and the “**LULUCF criteria**”; these criteria only apply to forest biomass and not to “secondary woody biomass” burned for energy, such as mill residues);
 - b) The “*greenhouse gas emission savings from the use of biomass [shall be] at least 80 % in relation to the GHG saving methodology and the relative fossil fuel comparator set out in*” Annex VI to RED II (the “**GHG savings**” criteria);
 - c) For the activity “Electricity generation from bioenergy” (section 4.8), medium-sized electricity generation installations (with “*total rated thermal input from 50 to 100 MW*”) shall apply “*high-efficiency cogeneration technology*” or, for “*electricity-only installations*” meet “*an energy efficiency level associated with the best available techniques*” while the largest installations shall attain “*electrical efficiency of at least 36 %*” or apply “*highly efficient CHP (combined heat and power) technology*” or use “*carbon capture and storage technology*” (the “**efficiency and CCS**” criteria).
262. Under sections 4.7, 4.13, 4.19 and 4.23 of Annex I (provisions concerning liquid biofuels), the relevant criterion for use of forest biomass as feedstock is that “*forest biomass complies with the criteria laid down in Article 29, paragraphs 6 and 7, of [the RED II]*”. This is the same as the sustainability criteria and LULUCF criteria in sections 4.8, 4.20 and 4.24 of Annex I where forest wood is burned directly for heat and power. These criteria for all the Relevant bioenergy activities should therefore be assessed together.

B.1 Breach of Articles 10(1) and 10(3)(a) of the Taxonomy Regulation

263. As previously mentioned, under Article 10(1) of the Taxonomy Regulation, to qualify as contributing substantially to climate change mitigation an activity must contribute to the stabilisation of GHG in the atmosphere “*through the avoidance or reduction of greenhouse gas emissions or the increase of greenhouse gas removals*”. This article should be read in conjunction with Recital 24 of the Taxonomy Regulation which provides that:

“An economic activity that pursues the environmental objective of climate change mitigation should contribute substantially to the stabilisation of greenhouse gas emissions by avoiding or reducing them or by enhancing

¹¹⁴ See paras 138 and 253 of the Request, referring to cases T-429/13 and T-451/13 Bayer CropScience AG and Others v Commission [2018] :EU:T:2018:280, para. 109.

greenhouse gas removals. The economic activity should be consistent with the long-term temperature goal of the Paris Agreement’.

264. Thus, to qualify as making significant contribution to climate change mitigation an activity either needs (i) **to avoid or reduce GHG emissions** or (ii) **increase GHG removals**.
265. Article 10(3)(a) shall be read in light of these requirements and of Article 10(5) which requires the Commission to establish the technical screening criteria “*taking into account the requirements of Article 19*” which notably requires these criteria to be “*based on conclusive scientific evidence and the precautionary principle enshrined in Article 191 TFEU*” (see Section VI.A above).
266. It stems from those provisions that the climate change mitigation criteria established by the Delegated Regulation shall ensure, based on conclusive scientific evidence, that the activity does contribute substantially and effectively to climate change mitigation by avoiding or reducing GHG emissions, or increasing removals, and being consistent with the temperature goal of the Paris Agreement.
267. The fact that Article 10(1)(a) makes an explicit reference to activities “*generating, transmitting, storing, distributing or using renewable energy in line with Directive (EU) 2018/2001*” does not allow the Delegated Regulation to limit itself by assuming that activities meeting the criteria set out in the RED II are deemed to contribute substantially to climate change mitigation. Even the RED II itself does not make this claim for burning forest biomass.
268. Indeed, the Delegated Regulation is a delegated act adopted pursuant to Article 10(3) of the Taxonomy Regulation. Article 290 TFEU governs the scope of delegated acts. Article 290(1) states that “[t]he objectives, content, scope and duration of the delegation of power shall be explicitly defined in the legislative acts”. The scope and aims of the Delegated Regulation are therefore governed by the terms of the Taxonomy Regulation, which has several implications set out below.¹¹⁵
269. **First**, under Article 10(3) of the Taxonomy Regulation, the purpose of the Delegated Regulation is to “*supplement or amend certain non-essential elements of the legislative act*”, by fleshing out the “*technical screening criteria for determining the conditions under which a specific economic activity qualifies as contributing substantially to climate change mitigation*”. This is much stronger language than the requirement in Article 10(1)(a) to conduct activities relating to renewable energy “*in line with*” the RED II.
270. **Second**, the contents of the Delegated Regulation, in accordance with Article 19(5) of the Taxonomy Regulation, are subject to a requirement that the Commission regularly reviews the technical screening criteria and amends the Delegated Regulation where appropriate “*in line with scientific and technological developments*”. The Taxonomy Regulation thus contemplates that the Delegated Regulation is an evolving document that is to be continuously updated in line with scientific developments – in a context where the RED II criteria are already outdated and not reflective of the Commission’s own thinking on the science (see Section III and paragraph 290).
271. **Third**, the wording of Article 10(1) suggests that its primary objective is to enable economic activities assisting climate change mitigation in accordance with the Paris Agreement. This is further illustrated by Recital 40, which simply notes that “[a]n economic activity should not qualify as environmentally sustainable if it causes more harm to the environment than the benefits it brings”. Article 10(1) should therefore be construed to ensure it is given “*full effect*” or “*practical effect*”, as required according to case law.¹¹⁶

¹¹⁵ From an interpretation standpoint, provisions must be interpreted in light of the powers of the body adopting it and, as discussed further below, in light of the scheme and aims. See also Vaughan & Robertson (ed), *Law of the European Union*, Issue 45 & 46, 2015, at 116.

¹¹⁶ Vaughan & Robertson (ed), *Law of the European Union*, Issue 45 & 46 (2015), 115.

This means that the reference to the RED II should be subject to a narrow interpretation to avoid undermining the Taxonomy Regulation's primary objective of environmental protection.

272. The list of options at Article 10(1)(a) to (i) thus operate – at best – as a **bare minimum** and do not provide the required level of protection under the Taxonomy Regulation. They should be read as being conditional on consistency of the technical screening criteria with the other conditions laid down in Article 10 and Article 19 and the overall ambition of the Taxonomy Regulation to deliver climate change mitigation and adaptation in a timeframe consistent with the Paris Agreement.

273. Here, the climate change mitigation criteria for the Relevant bioenergy activities, insofar as they apply to woody biomass bioenergy and biofuel activities, breach Article 10(1) and 10(3)(a) since the sustainability and LULUCF criteria **(i)**, the GHG savings criteria **(ii)** and the Efficiency and CCS criteria **(iii)** are inappropriate to ensure that economic activities burning forest biomass are compatible with climate change mitigation, let alone contributing substantially to it.

(i) The sustainability and LULUCF criteria

274. The sustainability and LULUCF criteria refer to Article 29(6) and (7) of the RED II. Article 29(6) of the RED II deals with conditions of forest harvesting while Article 29(7) deals with land use, land use change and forestry and the carbon balance of forestry activities. As demonstrated below, neither set of criteria is science-based, and they do not ensure that forest biomass bioenergy and biofuel deliver significant climate change mitigation.

- Scope of the Sustainability and LULUCF criteria

275. First, the sustainability and LULUCF criteria laid down in the Delegated Regulation only apply to “forest biomass”. Thus, as “forest biomass” is defined (in the RED II only) as “*biomass produced from forestry*” (Article 2(26) RED II), this potentially means that wood from trees or whole trees that do not occur in a forest (but grow along streets, in parks, along canals, etc.), are likely not classified as “forest biomass” (this point remains obscure in the RED II itself).

276. As a result, these trees, and additionally all “secondary” woody biomass, i.e. mill residues, black liquor, post-consumer wood waste etc, can be burned without any limitation and be automatically considered to substantially contribute to climate change mitigation. Such secondary woody biomass is currently estimated to provide about half the wood burned in the EU.¹¹⁷

- The Sustainability criteria (Article 29(6) RED II)

277. Article 29(6) of the RED II is primarily concerned with setting conditions of biomass harvesting in forests, but to the extent that protecting forest carbon stocks is required for climate change mitigation these criteria are also relevant to climate (as pointed out by the EU's Forest Strategy,¹¹⁸ “*Primary and old-growth forests are not only among the richest EU forest ecosystems, but they store significant carbon stocks and also remove carbon from the atmosphere, while being of paramount importance for biodiversity and the provision of critical ecosystem services*”). Accordingly, the ensuing discussion of the deficiencies in the sustainability criteria is relevant both to the climate mitigation criteria and the DNSH provisions for biodiversity and ecosystem function (see Section VI.C.3).

278. Article 29(6) provides that:

“Biofuels, bioliquids and biomass fuels produced from forest biomass taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 shall meet the following criteria to minimise the risk of using forest biomass derived from unsustainable production:

¹¹⁷ JRC, *The use of woody biomass for energy production in the EU*, p. 7.

¹¹⁸ *New EU Forest Strategy for 2030*, p. 11.

(a) the country in which forest biomass was harvested has national or sub-national laws applicable in the area of harvest as well as monitoring and enforcement systems in place ensuring:

(i) the legality of harvesting operations;

(ii) forest regeneration of harvested areas;

(iii) that areas designated by international or national law or by the relevant competent authority for nature protection purposes, including in wetlands and peatlands, are protected;

(iv) that harvesting is carried out considering maintenance of soil quality and biodiversity with the aim of minimising negative impacts; and

(v) that harvesting maintains or improves the long-term production capacity of the forest;

(b) when evidence referred to in point (a) of this paragraph is not available, the biofuels, bioliquids and biomass fuels produced from forest biomass shall be taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 if management systems are in place at forest sourcing area level ensuring: [same list as sub-paragraph (a)]”.

279. Those criteria thus rely on a formal approach focusing on the existence of national laws – or at least “management systems” – on harvesting operations ensuring their “legality”, the “forest regeneration of harvested areas”, consideration of “maintenance of soil quality and biodiversity” as well as the long-term “production of the forest” and the protection of certain areas determined by national legislation.
280. Such conditions are insufficient to ensure protection of the forest carbon sink nor the actual protection of forest ecosystems.
281. **First**, these criteria do not even require national laws or “management systems” to prevent forest carbon losses, by, for example, disqualifying biomass harvested from lands with high carbon stocks or even extreme forestry practices such as clear-cutting (a forestry practice in which most or all trees in an area are uniformly cut down).
282. This is highly problematic as national laws and regulations governing forest harvesting can vary greatly across jurisdictions, especially considering the international scope of the Taxonomy. The sustainability criteria thus tolerate highly damaging actions currently allowed and perfectly legal under forestry laws in many countries.
283. Examples of extreme forestry practices that are legal in different countries include:
- Logging old growth red cedar trees in British Columbia, Canada, to turn them in to wood pellets that are shipped to the UK, the EU and Asia as a replacement for coal;¹¹⁹
 - Clearcutting a mature biodiverse hardwood forest and replanting the area with a pine plantation, which destroys a biodiverse, carbon-rich ecosystem to replace it with a sterile monoculture that even at maturity holds far less carbon. This is legal and frequently practiced in the US Southeast which is the source of most of the wood pellets exported from North America;¹²⁰
 - Clearcutting forests then ripping out stumps and root balls, which disturbs soils and leads to massive efflux of soil carbon, particularly in peaty soils of countries like Estonia, where this

¹¹⁹ See <https://www.youtube.com/watch?v=WRknmQqyMIs&t=67s>.

¹²⁰ Natural Resources Defense Council, “In the U.S. Southeast, natural forests are being felled to send fuel overseas” (2015). At <https://www.nrdc.org/sites/default/files/southeast-biomass-exports-report.pdf>.

- practice is legal. Estonia's forests are being logged extensively by the wood pellet industry;¹²¹ and
- Harvesting native rainforest to replace it with monoculture Eucalypts grown for energy crops (legal and practiced in Brazil which is the source of some of the biomass now being imported to Denmark).¹²²
284. This means that biomass harvesting can be responsible for obliterating sections of forest and essentially all the plants and megafauna habitat therein as well as releasing significant amounts of CO₂ into the atmosphere, and yet still comply with Article 29(6) of the RED II. This is inconsistent with the requirement of the Taxonomy Regulation that an economic activity's harm to the environment must not outweigh its contribution to climate change mitigation.¹²³
285. Even if clearcutting and other extreme forestry practices are not involved, as explained in Section III above, biomass harvesting is uniquely damaging to forest ecosystems.
286. **Second**, the purely formal approach of Article 29(6) of the RED II fails to address the lack of actual enforcement of national laws and regulations, despite lax enforcement being a widely observed phenomenon. Even the Commission has recently acknowledged the insufficiency of such a formal approach in its recent proposal for a regulation on imported deforestation,¹²⁴ which draws on the failure of the EU legislative framework, in particular the EU Timber Regulation, to ensure that imported wood does not cause deforestation.
287. **Third**, the conditions laid down by Article 29(6) of the RED II are also even less stringent than the technical criteria provided by the Delegated Regulation for the contribution of forestry activities to climate change mitigation which are themselves insufficient (see Section V). The Commission's failure to establish robust and science-based criteria is thus made apparent, since two different standards may apply to the same activity. For instance, it would be perfectly allowable to clearcut a forest for biomass fuel under the sustainability and LULUCF criteria of the Taxonomy Regulation, whereas such a forest harvesting project under the forestry criteria would at least need to show that the carbon loss was marginally less than a baseline scenario, so presumably would retain some trees onsite.
288. Similarly, the Platform's 2021 recommendations for the criteria to determine the existence of a substantial contribution to the protection of biodiversity and ecosystems are in direct contradiction with the ones used in the Delegated Regulation and analysed herein. With respect to "*operations of installations generating electricity and/or heat that produce exclusively from biomass, biogas or bioliquids*", the Platform recommends to lay down a complete range of criteria for the sourcing of biomass, including that "*biomass is not sourced from whole trees*"¹²⁵ and "[t]he biomass meets the minimum sustainability

¹²¹ See, The Guardian, "'Carbon-neutrality is a fairy tale': how the race for renewables is burning Europe's forests" (14 January 2021). At <https://www.theguardian.com/world/2021/jan/14/carbon-neutrality-is-a-fairy-tale-how-the-race-for-renewables-is-burning-europes-forests>.

¹²² TV2, "København brænder træ fra Amazonas for at hjælpe klimaet" (23 February 2020). At <https://nyheder.tv2.dk/samfund/2020-02-23-koebenhavn-braender-trae-fra-amazonas-for-at-hjaelpe-klimaet>.

¹²³ Taxonomy Regulation, Recital 34.

¹²⁴ European Commission, Proposal for a Regulation of the European Parliament and of the Council on the making available on the Union market as well as export from the Union of certain commodities and products associated with deforestation and forest degradation and repealing Regulation (EU) No 995/2010. See Article 3(a) providing for a requirement that relevant goods be "*deforestation free*" in addition to "*produced in accordance with the relevant legislation of the country of production*".

¹²⁵ Platform on Sustainable Finance, *Taxonomy pack for feedback August 2021, PART B – Annex: Full list of Technical Screening Criteria* (August 2021), p. 407, https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/210803-sustainable-finance-platform-report-technical-screening-criteria-taxonomy-annex_en.pdf.

requirements” of the RED II.¹²⁶ These criteria not only explicitly acknowledge that the RED II sustainability requirements should be seen as a bare minimum, but also clearly state that whole trees should not be harvested for biomass production.

289. The Platform’s recommendation to not allow whole trees to qualify follows the recommendation of the EU’s Biodiversity Strategy, which references proposed reforms to the RED II forest biomass criteria: *“To mitigate climate and environmental risks created by the increasing use of certain sources for bioenergy, the revised Renewable Energy Directive includes strengthened sustainability criteria. It also promotes the shift to advanced biofuels based on residues and non-reusable and non-recyclable waste. This approach should continue for all forms of bioenergy. The use of whole trees and food and feed crops for energy production – whether produced in the EU or imported – should be minimised.”*¹²⁷ The Biodiversity Strategy, as well as the Forest Strategy, further call for strict protection of primary forests (see paragraphs 190 and 277) – another recommendation that the Commission ignored.
290. The inability of the criteria at Article 29(6) of the RED II to protect forests has been recognized by the Commission itself, which relatively contemporaneously with the drafting of the Delegated Regulation was also engaged in drafting proposed amendments to the RED II that would provide more protection for certain forest ecosystems.¹²⁸ These proposed amendments include disqualifying forest biomass sourced from primary forest and land of native species (where there is no clear visible indication of human activity and the ecological processes are not significantly disturbed), highly biodiverse forest and other wooded land which is species-rich and not degraded.
291. The Taxonomy bioenergy criteria ignore other proposed amendments to the RED II, including proposals to end subsidies for electricity-only power plants burning biomass from 2027 onward; to end subsidies for use of saw logs, veneer logs, stumps and roots to produce energy; to adopt a delegated act on how to apply the cascading principle to biomass in part to reduce the use of “quality roundwood” for energy production; and to lower the threshold for facilities needing to comply with the sustainability and GHG criteria to facilities 5MW and above from the threshold of 20MW and above. While none of these amendments would prohibit extreme forestry practices like clearcutting, and none address the basic fact that burning wood emits CO₂ faster than forests can regrow to sequester it, the fact that the Commission felt it necessary to propose these new amendments shows it is aware that the RED II criteria are not sufficiently protective. Nonetheless, the Commission still adopted the RED II criteria as the basis for the climate change mitigation criteria in the Delegated Regulation.
292. It follows from the foregoing that the sustainability criteria do not prevent damage to or even destruction of forest ecosystems, and do not prevent harvesting and burning of forest biomass from being a net source of CO₂ over decades to even centuries, thus worsening climate change. Such criteria are manifestly inadequate to ensure that bioenergy activities using forest biomass substantially contribute to climate change mitigation.
- [LULUCF criteria \(Article 29\(7\) RED\)](#)
293. Article 29(7) of the RED II is primarily concerned with the **carbon balance of countries or regions where biomass harvesting is occurring**, and provides that:

¹²⁶ Ibid, p. 410.

¹²⁷ EU Biodiversity Strategy for 2030, p. 10.

¹²⁸ European Commission, Proposal for a Directive of the European Parliament and of the Council amending Directive (EU) 2018/2001 of the European Parliament and of the Council, Regulation (EU) 2018/1999 of the European Parliament and of the Council and Directive 98/70/EC of the European Parliament and of the Council as regards the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652 (14 July 2021). At https://ec.europa.eu/info/sites/default/files/amendment-renewable-energy-directive-2030-climate-target-with-annexes_en.pdf.

“Biofuels, bioliquids and biomass fuels produced from forest biomass taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 shall meet the following land-use, land-use change and forestry (LULUCF) criteria:

(a) the country or regional economic integration organisation of origin of the forest biomass:

(i) is a Party to the Paris Agreement;

(ii) has submitted a nationally determined contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC), covering emissions and removals from agriculture, forestry and land use which ensures that changes in carbon stock associated with biomass harvest are accounted towards the country's commitment to reduce or limit greenhouse gas emissions as specified in the NDC; or

(iii) has national or sub-national laws in place, in accordance with Article 5 of the Paris Agreement, applicable in the area of harvest, to conserve and enhance carbon stocks and sinks, and providing evidence that reported LULUCF-sector emissions do not exceed removals;

(b) where evidence referred to in point (a) of this paragraph is not available, the biofuels, bioliquids and biomass fuels produced from forest biomass shall be taken into account for the purposes referred to in points (a), (b) and (c) of the first subparagraph of paragraph 1 if management systems are in place at forest sourcing area level to ensure that carbon stocks and sinks levels in the forest are maintained, or strengthened over the long term.”

294. As explained above in Section III, harvesting and burning wood emits more CO₂ per unit of energy than burning fossil fuels and, because forests do not regrow instantaneously, offsetting emissions from harvesting and burning forest biomass requires years to more than a century. This means that there is generally a net increase in atmospheric CO₂ over climate-relevant timeframes from burning forest wood. Here again, the purely formal approach employed in Article 29(7) of the RED II is not capable of mitigating this fact.
295. Indeed, Article 29(7) of the RED II only requires, in substance, that forest biomass is sourced from a country that has ratified the Paris Agreement and has submitted a Nationally Determined Contribution (NDC) covering LULUCF-sector emissions.¹²⁹ Failing this, it requires “management systems” at the forest sourcing level to ensure that forest carbon stocks and sinks are maintained or strengthened over the long term. Effectively, this provision acknowledges that there is a transfer of carbon from the forest to the atmosphere when forests are logged and burned for biomass, thus national level GHG emissions reporting in the country of origin should be set up to acknowledge that loss of carbon. Critical to note, however, is that simply recording that loss of forest carbon to the atmosphere is occurring does not *mitigate* that carbon transfer or offset it in any way – even though instantaneous offsetting of those carbon emissions is what would be required for burning forest biomass to avoid or reduce emissions or increase carbon removals from the atmosphere, as Article 10 of the Taxonomy Regulation requires. This is particularly the case since burning biomass emits as much if not more CO₂ per unit energy generated as burning fossil fuels (see Section III).
296. Further, since the Paris Agreement does not specify a particular accounting framework for land sector carbon accounting, the fact that a country has submitted a NDC that includes emissions from forest harvesting does not mean that emissions are counted the same way from country to country. In fact, some countries have submitted NDCs that continue to employ the flawed baseline approach that was utilized for Kyoto Protocol commitments, as explained above at paragraph 123. Such inconsistencies in accounting and the results they produce are not consistent with using the best science to account for the actual transfers of carbon to the atmosphere from logging and burning forest wood for fuel. In addition, nothing in Article 29(7) prevents or even discourages intensive harvesting and clearcutting of forests or reductions in the carbon stock of forests and

¹²⁹ Since conditions (ii) and (iii) of sub-paragraph (a) are alternative.

soils. The provision at Article 29(7)(a)(iii) requiring “evidence that reported LULUCF-sector emissions do not exceed removals” applies at the national level and simply means that the country of origin needs to have some level of net forest carbon sink; however, this does not protect any given forest from being logged or even clearcut. Nor is there even a clear reference to the actual enforcement of the requirements, which further undermines the relevance of these criteria.

297. Accordingly, nothing in Article 29(7) of the RED II ensures that forest biomass bioenergy and biofuel activities do not worsen climate change, much less provide a substantial contribution to climate change mitigation as required under the Taxonomy Regulation.

(ii) The GHG savings criteria

298. The GHG saving criteria require that biomass power plants yield at least 80% GHG savings compared to equivalent fossil fuel energy production. Such threshold is underpinned by the calculation methodologies provided in Annex VI of the RED II.

299. These criteria are inappropriate to ensure that bioenergy contributes to climate change mitigation because the methodology for calculating GHG savings does not take into account the real impact of the activity.

300. Indeed, the calculation methodologies set in Annex VI of the RED II **do not count biogenic CO₂ emissions from harvesting and burning biomass**. The protocol only **accounts for fossil-fuel derived GHG emissions emitted during the harvesting, processing, and transporting of biomass** (as well as trace amounts of non-CO₂ GHGs emitted during biomass combustion).

301. As shown in Section III above, the majority of CO₂ associated with use of biomass comes from biogenic CO₂ emitted from harvesting and burning forest biomass, which emits more CO₂ per unit energy than fossil fuels. The actual biogenic smokestack CO₂ emission rates for biomass range from around 400 to 1600 g CO₂ per kWh, depending on the efficiency of the burner. These emissions from woody biomass bioenergy are significantly higher than the 100 grams CO₂ per kWh threshold permitted by the Delegated Regulation for other renewable energy activities, as explained further in paragraph 306 below.

302. Even under optimal scenarios where forests are allowed to fully regrow, it takes decades to even more than a century for forest regrowth to offset emissions to the point where net emissions achieve parity with emissions from a same-sized plant burning fossil fuels.¹³⁰ Thus, while the emissions from fossil fuels burned during biomass harvesting, processing, and transport are not insignificant, they constitute only a minority of the CO₂ emitted over the lifecycle of forest biomass.

303. The JRC highlighted this inconsistency in its latest report on biomass:

*“While **the REDII methodology** has the scope to benchmark different pathways on a common scale - its aim is mainly focused on supply-chain efficiency - **it does not include any accounting of biogenic-C cycle, nor of counterfactual uses for land, nor market-mediated impacts, and it is thus not designed to represent the actual climate impact of bioenergy pathways**”.*¹³¹

304. This method is thus structurally flawed as it does not reflect the full GHG emissions impact associated with the harvesting and combustion of forest biomass for bioenergy activities, meaning

¹³⁰ See for instance, Laganière, J., *et al.*, “Range and uncertainties in estimating delays in greenhouse gas mitigation potential of forest bioenergy sourced from Canadian forests” (2017), *GCB Bioenergy* 9(2), 358-369. At <http://dx.doi.org/10.1111/gcbb.12327/>. Online model: <https://apps-scf-cfs.mcan.gc.ca/calc/en/bioenergy-calculator>.

¹³¹ JRC, *The use of woody biomass for energy purposes in the EU*, Section 5.2.1, p. 84.

- that it is unable to provide any accurate assessment of potential GHG emissions savings of producing energy from forest biomass versus from fossil fuel.
305. Rather, a truly robust and science-based approach to GHG accounting would show that there is no immediate GHG savings in using forest biomass for energy production compared to using fossil fuel (including coal) as the combustion of forest biomass emits as much or more CO₂ per unit energy generated than fossil fuels (See Section III).
306. Further, the GHG criteria that have been adopted do not even conform to the threshold for fossil fuel-derived CO₂ emissions that has been established for other renewable energy activities. This concept of a threshold was established in the technical annex to the 2020 TEG report¹³² which states that “*For a given investment or activity to be compatible with this trajectory [the EU annual power sector emissions to reach net-zero emissions by 2050], its average emissions over its physical lifetime, or 40 years (whichever is shorter), must be lower than the threshold*”. The threshold is set at 100g CO₂/kWh and is reflected in the Delegated Regulation for other renewable energy activities.¹³³ In the “Energy” section, it states that, “*The cross-cutting 100gCO₂e/kWh lifecycle emissions threshold for energy activities was maintained, except where evidence clearly shows relevant technologies to be well below this level.*” However, while criteria for activities 4.7, 4.19, and 4.23 (various energy generation from renewable non-fossil gaseous and liquid fuels) do require lifecycle emissions to be below the 100g threshold, criteria for activities 4.8, 4.20 and 4.24 (various “bioenergy” activities) are apparently exempted from this requirement. Instead, the GHG savings criteria requires that lifecycle emissions must be 80% below the fossil fuel comparator in the RED II of 183 g CO₂/MJ.¹³⁴ That comparator translates to 658.8 g CO₂/kWh. Reducing this by 80% (as required by the GHG criteria) results in an emission rate of 131.8g CO₂/kWh, which is considerably higher than the 100g CO₂/kWh threshold that is ostensibly required for energy technologies to qualify under the Taxonomy. Thus, bioenergy is exempted from the standard that applies to every activity that results in fossil fuel emissions, including non-fossil and gaseous renewable fuels.
307. Accordingly, the GHG “savings” criteria set by the Delegated Regulation are inappropriate to assess any effective contribution of the woody biomass bioenergy activities to climate change mitigation.
- (iii) The Efficiency and CCS criteria*
308. The Efficiency and CCS criteria are only included for “Electricity generation from bioenergy” activities (section 4.8 of Annex I of the Delegated Regulation).
309. The criteria require in substance that medium-sized electricity installations (with a total rated thermal input from 50 to 100 MW) “*apply high-efficiency cogeneration technology, or, for electricity-only installations or meet “an energy efficiency level associated with the best available techniques (BAT-AEL) ranges”* whereas the largest installations attain “*electrical efficiency of at least 36 %*” or apply “*highly efficient CHP*” or use “*carbon capture and storage technology*”.
310. Here again, such criteria are irrelevant to ensuring that the activities will not worsen climate change. Indeed, beyond influencing the amount of fuel that must be burned to generate a given amount of electricity, the efficiency of the installations in themselves does nothing to reduce or offset the

¹³² Technical Annex of the 2020 TEG Report, p. 206. At https://ec.europa.eu/info/sites/default/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy-annexes_en.pdf

¹³³ See activities 4.5 (Electricity generation from hydropower), 4.6 (Electricity generation from geothermal energy), 4.7 (Electricity generation from renewable non-fossil gaseous and liquid fuels), 4.18 (Cogeneration of heat/cool and power from geothermal energy), 4.19 (Cogeneration of heat/cool and power from renewable non-fossil gaseous and liquid fuels), 4.22 (Production of heat/cool from geothermal energy) and 4.23 (Production of heat/cool from renewable non-fossil gaseous and liquid fuels) in Annex I of the Delegated Regulation.

¹³⁴ Annex VI (B)(10).

GHG emissions that arise from the combustion and harvesting of forest biomass, which represent their key impacts on climate change.

311. In addition, for large installations, which are likely to have the worst impact on climate change because of the vast quantities of woody biomass they need to operate, the requirement that they operate at least 36% efficiency likely increases their emissions impact, since electricity-only plants are only likely to be able to achieve this efficiency level if they burn dried wood pellets, and wood pellets represent more embodied carbon than simple chipped green wood that many plants can burn. Beyond this, the option to use “*carbon capture and storage technology*” includes no condition as to the actual level of net carbon storage the CCS would need to achieve for the criteria to be met. It thus appears to just be a blanket approval for any power stations with CCS nominally installed.
312. Finally, the criteria are all the more irrelevant given that scientists¹³⁵ are very clear on the fact that the combination of biomass with CCS technologies (known as BECCS) remains largely unproven and possibly unfeasible with unknown but potentially very significant costs and broader environmental and social impacts. Even, the Commission has pointed that “*large ranges of possible costs and uncertainties are unavoidable since most of the options for carbon removals are only at an exploratory stage and none of them are sufficiently mature for large deployment (except afforestation, reforestation and ecosystem restoration)*.”¹³⁶
313. Therefore, here again, the Efficiency and CCS criteria set by the Delegated Regulation, are irrelevant to ensuring a contribution of woody biomass bioenergy activities to climate change mitigation.

*

314. It is therefore evident from the foregoing that the climate change mitigation criteria set for the Relevant bioenergy activities are incapable of preventing forest biomass bioenergy and biofuel activities from increasing GHG emissions or reducing GHG removals and cannot ensure any positive contribution of these activities to climate change mitigation. Therefore, they breach Articles 10(1) and 10(3) of the Taxonomy Regulation. The Delegated Regulation should thus be reviewed on this ground.

B.2 Breach of Articles 19 and 10(5) of the Taxonomy Regulation

(i) Breach of Article 19(1)(a) on identifying the most relevant short- and long-term impact of the economic activity on climate change mitigation

315. Article 19(1)(a) of the Delegated Regulation requires the technical screening criteria to “*identify the most relevant potential contributions to the given environmental objective while respecting the principle of technological neutrality, considering both the short- and long-term impact of a given economic activity*”.
316. The climate change mitigation criteria set for the Relevant bioenergy activities breach this requirement since they fail to identify and address the most relevant short- and long-term impacts of harvesting and burning biomass on climate change mitigation, namely the harm to the trees and forests harvested to provide woody biomass feedstock, the GHG emissions stemming from the combustion of woody biomass (see Section VI.B.1) and the potential squandering of secondary woody biomass resources for use as fuel, rather than recycling them into longer-lived material products as part of the circular economy.

¹³⁵ The IPCC Special Report on Climate Change and Land warns that high implementation of BECCS (11.3 GtCO₂ yr⁻¹ in 2050) could increase the population at risk of hunger by up to 150 million people. This concern is reiterated in IPCC, *AR6 Climate Change 2021: The Physical Science Basis, Full Report*, p. 1260.

¹³⁶ In-depth analysis in support of the Commission Communication, *A Clean Planet for all A European long-term strategic vision for a prosperous, modern, competitive and climate neutral economy*, COM(2018) 773, p. 187.

(ii) [Breach of Article 19\(1\)\(c\) on being quantitative and containing thresholds](#)

317. Article 19(1)(c) of the Delegated Regulation requires the technical screening criteria to be “**quantitative and contain thresholds to the extent possible, and otherwise be qualitative**”.
318. The climate change mitigation criteria set for the Relevant bioenergy activities breach this requirement since they are not quantitative and do not contain thresholds even though it would have been possible to do so. Instead, they merely rely on qualitative criteria.
319. In particular, the LULUCF criteria only require that either the biomass sourcing country has submitted a NDC that ensures changes in carbon stocks associated with biomass are counted in the country’s GHG accounting towards Paris targets, or, “*management systems*” are “*in place*” to “*ensure carbon stocks and sinks maintained or strengthened over long term*”. While these criteria acknowledge that harvesting biomass can cause changes in carbon stocks and sinks so that there *are* emissions, no provision in the LULUCF criteria seeks to count these emissions nor provide quantitative thresholds. It is important to note that while the RED II, and the Delegated Regulation by extension, counts CO₂ emissions from harvesting and burning biomass as “zero,” in fact the RED II does contain a basic protocol that could be adapted for valuing carbon loss from burning forest biomass, i.e., the methodology for counting carbon loss from land use change when forests are converted to agricultural energy crops. In such cases, the change in carbon stock is assessed as the difference between the reference land use (forest) and the final land use (energy crops), annualized over 20 years.¹³⁷ The annualized carbon impact of the loss in forest carbon is assigned to the energy crop’s calculated GHG emissions, which may disqualify the fuel from being classified as “renewable” under the RED II. If this protocol were applied to forest harvesting where there is no land use change, but simply a loss in forest carbon from harvesting, the forest carbon loss could be calculated, and that carbon emission could be assigned to the wood burned for biomass, with possible adjustment for carbon sequestered at the site as forests regrow. In short, an approach to quantitatively assessing carbon loss from forest harvesting does exist in the RED II, and could have been applied.
320. The criteria also could have set a quantitative emission rate for woody biomass to qualify as sustainable under the Taxonomy Regulation. For instance, it is possible to calculate an average “net” emissions rate¹³⁸ that takes into account forest regrowth offsetting emissions over time using basic modelling tools, which are publicly available.¹³⁹
321. Alternatively, the climate change mitigation criteria could have set a maximum allowable rate of reduction of the carbon stock on the logged area, constituting a quantitative measure. Or, the criteria could specify that the only woody biomass allowable under the criteria would be material that would have been burned anyway for disposal, or certain types of mill residues that would otherwise be stockpiled or disposed of because they have no material use.

¹³⁷ Annex VI (B)(7) of the RED II.

¹³⁸ The formula would reflect: (CO₂ emitted over a time-period – CO₂ sequestered by regrowth over that time period) ÷ kilowatt-hours generated over that time period.

¹³⁹ For instance, see the online configurable calculator at <https://apps-scf-cfs.mcan.gc.ca/calc/en/bioenergy-calculator>. This tool expresses the emissions rate of biomass energy in terms of how much it exceeds the emissions rate of a fossil fuel comparator, expressed as the “zero line” in the graph. The model clearly shows that emissions per unit energy (in this case, kg CO₂ /GJ) from burning forest biomass can exceed emissions from burning fossil fuels for decades to more than a century. Additionally, the UK government commissioned a study that characterized net emissions rates of woody biomass over decadal timeframes (Stephenson, A. L. and D. J. C. MacKay “Life Cycle Impacts of Biomass Electricity in 2020” (2014) UK Department of Energy and Climate Change, 154. At <https://www.gov.uk/government/publications/life-cycle-impacts-of-biomass-electricity-in-2020>).

322. On the contrary, the non-quantitative criteria **are incapable of distinguishing between the types of biomass** where use may be compatible with the objectives of the Paris Agreement, and those where it is not.
- (iii) [Breach of Article 19\(1\)\(f\) requiring criteria to be based on conclusive scientific evidence and the precautionary principle enshrined in Article 191 TFEU](#)
323. As demonstrated in detail in Section VI.A above, the climate change mitigation criteria are not based on conclusive scientific evidence nor on the precautionary principle so that they breach Article 19(1)(f) of the Delegated Regulation.
- (iv) [Breach of Article 19\(1\)\(g\) of the Taxonomy Regulation on life cycle](#)
324. The GHG emissions taken into account under the RED II are solely the GHG emissions from fossil fuels burned during biomass harvesting, processing, and transport. There is no consideration of biogenic CO₂ emissions released when woody biomass is burned for energy (treated as zero under the RED II and under the Delegated Regulation), no consideration of biogenic emissions from growing, harvesting, and processing the biomass,¹⁴⁰ and no consideration of the actual lifecycle of the fuel – e.g. how long it takes to regrow a forest after harvesting it, or how much more CO₂ is emitted from burning “waste” wood rather than letting it decompose.¹⁴¹
325. Thus, the climate change mitigation criteria also breach Article 19(1)(g) of the Taxonomy Regulation requiring the technical screening criteria to “**take into account the life cycle**”.
- (v) [Breach of Article 19\(1\)\(i\) of the Taxonomy Regulation on potential market impact of the transition to a more sustainable economy](#)
326. Article 19(1)(i) of the Taxonomy Regulation requires the technical screening criteria to “**take into account the potential market impact of the transition to a more sustainable economy, including the risk of certain assets becoming stranded as a result of such transition, as well as the risk of creating inconsistent incentives for investing sustainably.**”
327. As regards forest biomass bioenergy and biofuel, scientists – even from the Commission’s own services – are calling for an urgent change of approach towards these activities in view of their significant harmful impact on forests and climate change.
328. If, at a later stage, those concerns manage to be heard, for example in the required review of the Delegated Regulation, bioenergy activities which today automatically qualify as “environmentally sustainable” might lose this qualification. This might induce financial losses for investors and their financiers (which may result in stranded assets in a few years) as well as for States which may have to compensate them for the frustration of their “legitimate expectations”.
329. Therefore, the climate change mitigation criteria also breach Article 19(1)(i) of the Taxonomy Regulation by making the transition to a more sustainable economy more expensive and by creating inconsistent incentives.
- (vi) [Breach of Article 10\(5\) of the Taxonomy Regulation](#)
330. Pursuant to Article 10(5) of the Delegated Regulation, the Commission shall establish the technical screening criteria [...] “**taking into account the requirements of Article 19**”.

¹⁴⁰ Wood pellet manufacturing facilities burn around one-half tonnes of green wood per tonne of pellets produced. The green wood is burned for heat that is used to dry the pellets. See Booth, M. S., “Not carbon neutral: Assessing the net emissions impact of residues burned for bioenergy” (2018), *Environmental Research Letters* 13(3), <http://iopscience.iop.org/article/10.1088/1748-9326/aaac88/meta>.

¹⁴¹ *Ibid.*

331. As demonstrated above, insofar as they apply to forest biomass bioenergy and biofuel activities, the climate change mitigation criteria for the Relevant bioenergy activities breach various requirements set down in Article 19(1) of the Taxonomy Regulation. Accordingly, they also breach Article 10(5) of the Taxonomy Regulation.

C. Illegality and inadequacy of the associated DNSH criteria for the Relevant Bioenergy Activities

332. Sections 4.7, 4.8, 4.19, 4.20, 4.23 and 4.24 of Annex I of the Delegation Regulation lay down the same DNSH criteria for the Relevant bioenergy activities.¹⁴²

C.1 Illegality and inadequacy of the DNSH to climate change adaptation criteria

333. The DNSH to climate change adaptation criteria for the Relevant bioenergy activities are the same as those for forestry activities discussed above, as they both refer to the generic criteria in Appendix A to Annex I of the Delegated Regulation. Therefore, the demonstration set forth in paragraphs 161 to 176 equally applies to the Relevant bioenergy activities, as it points to the inherent shortcomings of the criteria in meeting the requirements of Articles 17(1)(b) and 19(1)(b).

334. Such DNSH criteria fail to prevent forest biomass bioenergy and biofuel activities from worsening various climate risks due to the harmful impacts of biomass harvesting and combustion that are permitted under the climate change mitigation criteria.¹⁴³ Some of those “climate risks” are listed in Appendix A: temperature-related impacts on forests (increased heat stress on plants and soils from clearcutting); changing wind intensity from loss of trees and increased structural weakness (reducing the ability of forest trees to hold each other up); heat stress; soil degradation (from intensive harvesting, stump and root-grubbing); temperature variability due to lack of forest cover; permafrost thawing in certain regions due to logging and soil exposure; increased flooding due to removal of forest cover that normally moderates water release following storms; and increased fire risk when native forests are replaced with fast-growing plantation tree species that are planted for biomass fuel.

335. The DNSH criteria for climate change adaptation are unfit to address these risks to forests, which inevitably arise from industrial forestry that is integral to providing feedstock in sufficient quantities for large-scale forest biomass energy production facilities which are allowed under the climate change mitigation criteria.

336. **There are no provisions in the DNSH criteria for adaptation that would, or even attempt to, prevent these harms from occurring.**

337. These criteria also breach Article 19(1)(c) as they are not quantitative and contain no threshold.

C.2 Illegal lack of DNSH to circular economy criteria

338. Article 17(1)(d) specifies that an “*economic activity shall be considered to significantly harm the circular economy ... where: (i) that activity leads to **significant inefficiencies in the use of materials or in the direct or indirect use of natural resources** such as non-renewable energy sources, raw materials, water and land at one or more stages of the life cycle of products, including in terms of durability, reparability, upgradability, reusability or recyclability of products*”

¹⁴² The criteria in Section 4.13 is different. It requires that « *For biogas production, a gas-tight cover on the digestate storage is applied* ». Sections 4.8, 4.20 et 4.24 also add one requirement, which is mentioned and assessed below.

¹⁴³ The kind of forest harvesting that occurs for large-scale forest biomass bioenergy and biofuel and is allowed under the climate change mitigation criteria includes clearcutting forests and stripping away forestry residues that would otherwise protect the soil.

339. The Relevant bioenergy activities cause significant harm to the circular economy by burning secondary woody biomass (mill residues, sawdust, etc.) for energy which decreases availability of these materials to be converted into long-lived durable materials compatible with the circular economy. Burning construction and demolition debris for energy also decreases its availability for recycling into other products.
340. Encouraging use of these materials as fuel unquestionably decreases their availability for other uses, therefore causing significant harm to the circular economy.
341. This is recognized by the European Commission's July 2021 draft proposal for changes to the RED II biomass provisions. The document records the Commission's concern for encouraging the circular economy and cascading the use both for forest biomass and secondary woody biomass:
- “There is a growing recognition of the need for alignment of bioenergy policies with the cascading principle of biomass use, with a view to ensuring fair access to the biomass raw material market for the development of innovative, high value-added bio-based solutions and a sustainable circular bioeconomy. When developing support schemes for bioenergy, Member States should therefore take into consideration the available sustainable supply of biomass for energy and non-energy uses and the maintenance of the national forest carbon sinks and ecosystems **as well as the principles of the circular economy and the biomass cascading use**, and the waste hierarchy established in Directive 2008/98/EC of the European Parliament and of the Council. For this, **they should grant no support to the production of energy from saw logs, veneer logs, stumps and roots and avoid promoting the use of quality roundwood for energy** except in well-defined circumstances. In line with the cascading principle, **woody biomass should be used according to its highest economic and environmental added value in the following order of priorities: 1) wood-based products, 2) extending their service life, 3) re-use, 4) recycling, 5) bio-energy and 6) disposal**”.*¹⁴⁴
342. The document also proposes that the Commission adopt a new delegated act under RED II on how to apply the cascading principle for biomass.¹⁴⁵
343. This is all the more relevant given that, as mentioned, the climate change mitigation criteria do not put any limits on use of woody biomass of any kind, therefore permitting the production of energy from secondary biomass that could be recycled or converted into useful products and thus help reduce harvesting pressure on forests.
344. The Relevant bioenergy activities also cause harm to the circular economy because of the expected increase in waste disposal needs as regards wood ash.¹⁴⁶
345. Despite this clear potential to cause significant harm to the circular economy, the Commission did not include DNSH criteria for the circular economy for the Relevant bioenergy activities, considering “*there was no risk of significant harm*” to this objective.¹⁴⁷
346. Given the clear harm caused to the circular economy by the Relevant bioenergy activities (which is recognised by the Commission itself), the failure to include DNSH criteria for this Environmental Objective is clearly in breach of Article 10(3)(b) of the Taxonomy Regulation. Such a failure also breaches Article 19(1)(b) (which requires the technical screening criteria to “*specify the minimum requirements that need to be met to avoid significant harm to any of the relevant environmental objectives*”) and Article 19(1)(f) (which requires the technical screening criteria to be based on conclusive scientific evidence and the precautionary principle). Article 19(1)(h) requires the technical screening criteria

¹⁴⁴ Commission, Proposal for a Directive amending Directive (EU) 2018/2001, Recital 4.

¹⁴⁵ Ibid, amendments to Article 3, p. 30.

¹⁴⁶ Wood is about 2% ash by weight. A typical biomass power plant producing 50 MW of power would generate around 1.5 tons of ash per hour, which needs disposal. If the plant is burning chemically treated contaminated wood then this ash may require special landfilling for disposal.

¹⁴⁷ 2021 Impact Assessment, p. 232.

to take into account “*the nature and the scale of the economic activity*” and this has also been breached given the increasing scale of woody biomass bioenergy and biofuels and the scale of the harm it is therefore capable of causing to the circular economy.

C.3 Illegality and inadequacy of the DNHS to biodiversity and ecosystems criteria

347. Pursuant to Article 17(1)(f), in assessing the harm caused by the relevant forest biomass bioenergy and biofuel activities, it is necessary to consider both the harm caused by burning the biomass and the harm caused by the harvesting of woody biomass, in line with the Taxonomy’s requirement that the full lifecycle of any activity must be taken into account.¹⁴⁸

348. The DNSH to biodiversity and ecosystem criteria for the Relevant biomass energy activities in Annex 1 of Delegated Regulation requires that “[t]he activity complies with the criteria set out in Appendix D to this Annex”, which provides that:

“An Environmental Impact Assessment (EIA) or screening has been completed in accordance with Directive 2011/92/EU. Where an EIA has been carried out, the required mitigation and compensation measures for protecting the environment are implemented. For sites/operations located in or near biodiversity-sensitive areas (including the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, as well as other protected areas), an appropriate assessment, where applicable, has been conducted and based on its conclusions the necessary mitigation measures are implemented.”

349. These provisions fail to ensure that no significant harm is caused to the protection and restoration of biodiversity and ecosystems by the Relevant bioenergy activities for the reasons described below.

350. It is unlikely that any biomass harvesting undertaken for the purposes of producing woody biomass feedstock will require an impact assessment pursuant to the EIA Directive or equivalent national requirements. This is because the only potentially relevant “projects” within the scope of the EIA Directive are “*initial afforestation and deforestation for the purposes of conversion to another type of land use*”¹⁴⁹ which entails a land use change. Any such land use change would disqualify the resulting biomass from satisfying the sustainability and LULUCF criteria discussed in paragraphs 274 to 297 above, meaning that such biomass could not be considered to satisfy the Delegated Regulation’s climate benefit analysis.

351. In addition, before the amendments of the EIA Directive in 2014, the Commission had been concerned at poor application of screening procedures, the use of blanket exemptions, and the provision of poor-quality environmental information. Commentary suggests that, despite initial proposals in 2012 for major reform of environmental impact procedures, watered-down revisions to the EIA Directive were agreed after major objections from EU Member States at the time (including the UK),¹⁵⁰ resulting in a still-poorly enforced amended EIA Directive.

352. The reference to the EIA Directive in Appendix D of Annex I of the Delegated Regulation is therefore meaningless in terms of ensuring that the Relevant bioenergy activities cause no significant harm to biodiversity and ecosystem restoration and protection.

353. The requirement in Appendix D to ensure compliance with required assessments for activities located in or near biodiversity-sensitive areas simply restates existing legal obligations for these projects and assumes that they are sufficient to prevent harm being caused to biodiversity and ecosystems. This is misguided because (i) logging that is harmful to biodiversity still occurs in e.g. Natura2000 sites despite the requirements of the Habitats Directive; and (ii) a significant amount

¹⁴⁸ Taxonomy Regulation, Recital 40: “*When establishing and updating the technical screening criteria, the Commission should ensure that those criteria [...] are developed by taking into account life-cycle considerations [...]*”. See also, Article 17(2).

¹⁴⁹ Environmental Impact Assessment Directive, Annex II, Projects referred to in Article 4(2)(d).

¹⁵⁰ Clifford Chance, *Watered-Down Revisions to EU Environmental Impact Assessment rules finalised*, page 1.

of logging for woody biomass feedstocks occurs in high-biodiversity value forests which are not formally designated as protected sites. Appendix D requires no form of assessment to be undertaken to ensure that the latter activities DNSH to the biodiversity and ecosystem and do not prevent harvesting in primary forests which, as explained in Section F above are vital for biodiversity.

354. As explained in section III above, the nature of logging undertaken to produce woody biomass feedstocks is particularly damaging to biodiversity and ecosystems. Clear examples already exist of logging being undertaken in accordance with existing legislative regimes that is causing significant harm to the protection and restoration of biodiversity and ecosystems and such activity will be permitted to continue under Appendix D of the Delegated Regulation. For example:

- (i) In Sweden, the majority of logging (including for production of biomass feedstocks) occurs in unprotected forests. The Swedish Species Information Centre has attributed the decline of three out of the four IUCN red listed forest species to the continuing conversion of natural forests to managed forests, noting that clearcutting and the practice of replanting forests with monoculture stands has the largest negative impact on forest species.¹⁵¹ These are activities which continuously occur in Sweden with no requirement for environmental impact assessments to be undertaken. Such activities are allowed under the REDII sustainability criteria.
- (ii) In Poland, between 1 January 2020 and 17 March 2021, at least 2 million cubic metres of wood was harvested without environmental impact assessments being undertaken¹⁵² and logging in at least 10% of public forests occurred without any environmental impact assessment being conducted. Even when environmental impact assessments are undertaken, there is evidence that negative assessments by Poland's nature conservation authorities highlighting the presence of species listed in Annex I of the Birds Directive have been ignored with logging continuing regardless.¹⁵³
- (iii) In Estonia, logging is regularly undertaken in Natura2000 sites without any environmental impact assessment,¹⁵⁴ causing significant harm to efforts to protect and restore biodiversity and ecosystems. Separately, many key woodland habitats in Estonia remain unprotected and are classified as "harvest-ready" due to the old age of their trees. Such logging practices, the product of which is often use for biomass feedstocks, has contributed to the decline of 50,000 breeding pairs of woodland birds in Estonian per year.¹⁵⁵

¹⁵¹ ArtDatabanken, *Tillståndet i skogen* (2011), p. 3, https://www.artdatabanken.se/globalassets/ew/subw/artd/2.-varverksamhet/publikationer/6.tillstandet-i-skogen/rapport_tillstandet_skogen.pdf. See also Naturvårdsverket, *Miljömålen: Årlig uppföljning av Sveriges nationella miljömål 2021* (March 2021), p. 299, <https://www.naturvardsverket.se/contentassets/4583bccbe9cf4395aa97dd94c8660b87/978-91-620-6968-1.pdf> at p. 299.

¹⁵² Workshop for All Beings, *Out of control: The worrying rise of logging in Polish forests* (July 2021), <https://pracownia.org.pl/upload/filemanager/pracownia.org.pl/Dokumenty/Out-of-control-The-worrying-rise-of-logging-in-Polish-forests.pdf>.

¹⁵³ *Ibid*, p. 7.

¹⁵⁴ See "June infringements package: key decisions" (2021), https://ec.europa.eu/commission/presscorner/detail/EN/INF_21_2743. See also *Hidden inside a wood pellet* (2020), p 17, https://media.voog.com/0000/0037/1265/files/Biomass_report_ENG%20_2020.pdf, recording that between 2009-2018, logging licences were issued to an area amounting to 22% of the country's Natura 2000 network without any impact assessment being undertaken.

¹⁵⁵ Estonian Fund for Nature, *Hidden inside a wood pellet* (2020), above note 157, p. 20.

- (iv) In Southeastern USA clear cutting occurs in the North American Coastal Plain which in 2016 was recognised as the 36th Global Biodiversity Hotspot¹⁵⁶ and is a unique and exceptionally diverse ecosystem.¹⁵⁷ The felled trees from such logging have been repeatedly traced to wood pellet manufacturing facilities.¹⁵⁸ Not only does such logging devastate these ecosystems and biodiversity when the trees are cut, but once felled, natural forests are often replaced with monoculture pine plantations which the US Forest Services recognises as “generally poor wildlife habitat” especially “when compared with natural pine and hardwood forests”,¹⁵⁹ as seen on the picture below.



A clearcut site in Potocasi Creek, which is a wetland and bottomland forested area near Woodland, North Carolina, 2015. The logging trucks carrying whole hardwood trees from this site were tracked back to the Enviva pelleting manufacturing facilities in Southampton and Aboskie. (Photo credit: Dogwood Alliance)

355. All of these activities cause significant harm to the protection and restoration of biodiversity and ecosystems as further explained in section III and yet would be permitted under the Delegated Regulation. There is no provision in any of the criteria that would prohibit the above activities.
356. Furthermore, Appendix D fails to provide criteria to ensure that the Relevant bioenergy activities DNSH to biodiversity and ecosystem protection outside of the EU. The criteria do not even require third country activities to be subject to an environmental impact assessment; they simply require that assessments are undertaken in accordance with any applicable national or international obligations, of which there may of course be none.

¹⁵⁶ Southern Environmental Law Center, *Burning Trees for Power: The Truth about Woody Biomass, Energy & Wildlife* (January 2018). At <https://www.southernenvironment.org/wp-content/uploads/legacy>.

¹⁵⁷ David N. Wear & John G. Greis, USDA Forest Service, *The Southern Forest Futures Project: Summary Report 28* (Oct. 2012), https://www.srs.fs.fed.us/pubs/gtr/gtr_srs168.pdf; NWF, 256-57.

¹⁵⁸ NRDC, “European Imports of Wood Pellets for “Green Energy” Devastating US Forests” (2017), https://s3.amazonaws.com/media.dogwoodalliance.org/wp-content/uploads/2017/05/NRDC_2014-2017Booklet_DigitalVersion-resize.pdf.

¹⁵⁹ David N. Wear & John G. Greis, USDA Forest Service, *The Southern Forest Futures Project: Summary Report 28* (October 2012). At https://www.srs.fs.fed.us/pubs/gtr/gtr_srs168.pdf; NWF, at 99-100; Southern Environmental Law Center: *Burning Trees for Power*.

357. Consequently, the DNSH criteria set for the Relevant bioenergy activities do not prevent significant damage to biodiversity and thus breach Article 17(1)(f) of the Taxonomy Regulation.

C.4 Illegality and inadequacy of the DNHS criteria to pollution prevention and control

358. Article 17(1)(e) of the Taxonomy Regulation provides that an economic activity “*shall be considered to significantly harm the pollution prevention and control, where that activity leads to a significant increase in the emissions of pollutants into air, water or land, as compared with the situation before the activity started*”.

359. Article 2(10) of the Taxonomy Regulation defines pollutants as “*a substance, vibration, heat, noise, light or other contaminant present in air, water or land which may be harmful to human health or the environment, which may result in damage to material property, or which may impair or interfere with amenities and other legitimate uses of the environment*”. Under this broad definition, both classical air pollutants and dust harmful to human health may constitute a pollutant. This is consistent with existing EU law that includes dust in polluting substances. For instance, Annex II to the Directive 2010/75/EU, which is referred to in the DNSH criteria, features “*dust including fine particulate matter*” in the list of polluting substances.¹⁶⁰

360. The DNSH criteria on pollution prevention and control, laid out in Sections 4.7, 4.8, 4.19, 4.20, 4.23 and 4.24 of Annex I of the Delegated Regulation, require in substance compliance with emissions limits prescribed by existing applicable EU law depending on the installations’ emission levels. For instance, large plants are recommended to use the Best Available Techniques (“**BATs**”), and should not exceed levels associated with this standard while emissions of medium-sized plants should not exceed limits set out in Annex II, part 2, to Directive (EU) 2015/2193. Sections 4.8, 4.20 and 4.24 specifically add that when these plants are located in areas where air quality limits exceed levels prescribed by Directive 2008/50/EC, measures to reduce emission levels are expected.

361. These criteria do not prevent significant pollution emissions caused by the Relevant bioenergy activities, as detailed below.

(i) Failure to prevent air pollution by biomass power plants:

362. Worldwide, burning wood is recognized as a major source of air pollution (see Section III). An impressive and increasing number of scientific reports and publications point at the scale of emissions of particulate matter and other hazardous air pollutants, including toxic volatile organic compounds such as sulphur dioxide or carbon monoxide, caused by the combustion of biomass. To this may now be added air pollution caused by the manufacture of wood pellets that are increasingly used for residential heating and as a substitute for coal in power plants.

363. In the same way as coal generation, “*solid fuel biomass generation releases criteria pollutants (including oxides of nitrogen (NO_x), sulfur oxides (SO_x), and fine particulate matter) that cause negative human health impacts, including asthma, heart disease, and premature death*”.¹⁶¹ It is even the case that biomass combustion can be “*dirtier than coal generation with regards to particulate matter and NO_x*”, since the low efficiency of

¹⁶⁰ In addition, Article 1 of Directive 2015/2193, which is also referred to in the DNSH criteria, provides that it lays down rules “*to control emissions of sulphur dioxide (SO₂), nitrogen oxides (NO_x) and dust into the air from medium combustion plants, and thereby reduce emissions to air and the potential risks to human health and the environment from such emissions*” and “*to monitor emissions of carbon monoxide (CO)*”. The TEG had also included dust as a pollutant in its analysis. See TEG, Taxonomy Report: Technical Annex, p. 236.

¹⁶¹ Sierra Club, *The Conventional Biomass Industry in California*. See also Arvesen A., *et al.* (2018), “Cooling aerosols and changes in albedo counteract warming from CO₂ and black carbon from forest bioenergy in Norway”, *Scientific Reports* 8(1), 1–12; Cai, H. & Wang, M.Q., *Estimation of Emission Factors of Particulate Black Carbon and Organic Carbon from Stationary, Mobile, and Non-point Sources in the United States for Incorporation into GREET* (2014), Argonne National Laboratory, 13 and 31, tbl.15, Listing mean black carbon emissions from biomass-fired boilers as emitting 0.273 g/kWh compared with 0.009 g/kWh from coal-fired boilers.

- biomass power plants means they can emit more particulate matter per megawatt-hour of electricity than a same-sized coal plant using the same emission controls.¹⁶² Burning biomass can be a significant source of dioxins and heavy metals, even from burning “clean” wood.
364. In fact, the BAT-AEL standards set by the Commission acknowledge this by setting very similar levels for coal and biomass.¹⁶³
365. However, the DNSH criteria simply require complying with basic requirements for pollution control under EU law (BAT-AEL standards), thus assuming that emission levels laid out in these existing rules are sufficient to prevent “*a significant increase in the emissions of pollutants [...] as compared with the situation before the activity started*”. Despite proven and well-documented air pollution risks in areas surrounding power plants, these standards are not particularly rigorous and therefore do not prevent significant pollution emissions. In short, the Taxonomy thresholds would have in any event applied to large and medium-sized combustion plants and are simply a reminder of emissions levels that must already be complied with.
366. For plants located in areas not complying with limits set in Directive 2008/50/EC, the criteria only require those plants to implement measures to reduce emission levels. There is no quantitative threshold as to by how much emissions need to be lowered and therefore any reduction in emissions will satisfy this requirement. This cannot possibly satisfy the requirement to ensure no significant increase in air pollution emissions compared to before the activity started, at which point no pollutants would be emitted.
367. In addition, in light of the newly adopted WHO Air Quality Guidelines¹⁶⁴, the existing legal obligations on which the DNHS to pollution prevention and control criteria are based no longer comply with the current international standards deemed to sufficiently protect human health. The Commission itself has started a process to align existing rules of the Directive 2008/50/EC with these new standards,¹⁶⁵ thus acknowledging their current inadequacy – which was already pointed at by some reports.¹⁶⁶ The same process has not been launched for the BAT emission levels and Directive 2015/2193. As things stand, the DNSH criteria are not sufficient for the protection of human health, particularly given the now well-documented fact that in addition to all its other health impacts, air pollution exacerbates covid.¹⁶⁷

¹⁶² M. S. Booth, “Trees, Trash, and Toxics: How Biomass Energy Has Become the New Coal” (2014), Pelham, Massachusetts, Partnership for Policy Integrity, p. 16, <https://www.pfpi.net/wp-content/uploads/2014/04/PFPI-Biomass-is-the-New-Coal-April-2-2014.pdf>.

¹⁶³ Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants. See Tables 6 and 12, which set allowable particulate matter emissions for coal and biomass plants. The values are extremely similar.

¹⁶⁴ WHO, WHO global air quality guidelines (2021), <https://apps.who.int/iris/bitstream/handle/10665/345329/9789240034228-eng.pdf?sequence=1&isAllowed=y>.

¹⁶⁵ Commission, Revision of the Ambient Air Quality Directives, https://ec.europa.eu/environment/air/quality/revision_of_the_aaq_directives.htm.

¹⁶⁶ Dene Bowdalo *et al.*, “Compliance with 2021 WHO Air Quality Guidelines across Europe will require radical measures” (2021), *Environ. Res. Lett.*, <https://iopscience.iop.org/article/10.1088/1748-9326/ac44c7/pdf>; Bankwatch, Recommendations for inclusion of the Air Quality and National Emissions Ceilings Directives in the Energy Community Treaty (2021), <https://euagenda.eu/upload/publications/2021-12-17-bwn-fb-aq-nec-directives-analysis.pdf>.

¹⁶⁷ See for instance Bourdrel, T., *et al.*, “The impact of outdoor air pollution on COVID-19: a review of evidence from in vitro, animal, and human studies” (2021), *European Respiratory Review* 30(159), 200242, <https://err.ersjournals.com/content/errev/30/159/200242.full.pdf>.

368. The criteria also fail to set any requirement that would apply to *all* biomass plants, including non-EU installations. This is highly problematic given the international scope of the Taxonomy Regulation, which could have relied on international standards for this purpose.
369. Therefore, a more thorough analysis of the impact of the use of forest biomass on a large scale would have been needed to assess whether current EU law on air pollution sets standards which effectively protect the environment and human health. Actual risks to human health¹⁶⁸ appear to be absent from the Commission's considerations in establishing the DNSH criteria.
370. Simple reference to existing emissions limits under EU law, and to the BATs criteria in particular, in essence do not serve to reduce or prevent emissions of hazardous pollutants, which is precisely the purpose of the requirement not to cause significant harm to pollution prevention and control.
- (ii) Failure to prevent dust generation:
371. Likewise, wood pellet manufacturing plants generate high levels of dust and pollutants, including carbon monoxide and PM2.5.¹⁶⁹ Although this is not an activity directly covered by the relevant sections of the Delegated Regulation, Article 19(1)(g) of the Taxonomy Regulation provides that the lifecycle of an activity must be taken into account. Given that the activity of generating heat, cold or electricity by burning biomass without biomass fuels being produced, and wood pellets constitute an increasing portion of woody biomass fuels, the plants manufacturing the wood pellets, and the pollution associated therewith, are relevant for the purposes of setting the DNSH to pollution prevention and control criteria.
372. The manufacturing of wood pellets has severe health impacts to the population living around the plants. For instance, in the US Southeast, where the increased EU demand for biomass has in fact led to a sharp increase in whole-tree harvesting (and consequently associated pollution), poor communities where wood pellet plants are located suffer acute health problems, including bad air quality that exacerbates existing health problems that tend to in any case occur at much higher rates than the US average.¹⁷⁰
373. There is nothing in the DNSH criteria that even attempts to deal with the pollution emitted at the site of manufacturing of biomass, especially where this happens outside of the EU. In particular, EU incentives for bioenergy have driven explosive development in the highly harmful wood pellet industry both in the EU and abroad, thus underscoring the need for DNSH criteria to encompass these issues.
374. In light of the foregoing, the DNSH criteria for pollution do not prevent bioenergy activities that cause significant harm to pollution prevention and control from qualifying as "environmentally sustainable" under the Taxonomy Regulation. Accordingly, the objective of air pollution prevention and control is not effectively protected, as should be the case pursuant to Articles 10(3)(b) and 17(1)(e) of the Taxonomy Regulation.

¹⁶⁸ See e.g. Chatham House, *Greenhouse gas emissions from burning US-sourced woody biomass in the EU and UK* (October 2021), https://www.chathamhouse.org/sites/default/files/2021-10/2021-10-14-woody-biomass-us-eu-uk-research-paper_0.pdf; DeSmog, "The UK's Biomass Subsidies Are Harming Residents in North Carolina Communities Like Mine" (14 December 2021), <https://www.desmog.com/2021/12/14/the-uks-biomass-subsidies-are-harming-residents-in-north-carolina-communities-like-mine/>.

¹⁶⁹ See Environmental Integrity Project, "Dirty deception: how the wood pellet industry skirts the Clean Air Act" (2018) Environmental Integrity Project, USA, <https://www.environmentalintegrity.org/wp-content/uploads/2017/02/Biomass-Report.pdf>

¹⁷⁰ CNN, "How the American South is paying the price for Europe's 'green' energy (9 July 2021)". At <https://edition.cnn.com/interactive/2021/07/us/american-south-biomass-energy-invs/>; Huffington Post, "A 'Green' Energy Project Leaves A Mississippi Town Gasping For Air" (20 December 2021), https://www.huffpost.com/entry/biomass-energy-power-plants_n_61bcb6cae4b0a3722477d16a.

Annex II of the Delegated Regulation - Climate Change Adaptation Criteria and Associated DNSH Criteria

375. Sections 4.7, 4.8, 4.13, 4.19, 4.20, 4.23 and 4.24 of Annex II (on the Relevant Bioenergy Activities) refer to a set of climate change adaptation criteria which is common to all the economic activities listed in Annex II.

D. Illegality and inadequacy of the climate change adaptation criteria

(i) Breach of Article 11(1) and 11(3)(a) of the Taxonomy Regulation

376. Article 11(3)(a) of the Taxonomy Regulation provides that the Delegated Regulation shall “*establi[sh] technical screening criteria for determining the conditions under which a specific economic activity qualifies as **contributing substantially** to climate change adaptation*”.

377. This provision shall be read in conjunction with Article 11(1)(a) that lays down the conditions to be met for an economic activity to substantially contribute to climate change adaptation:

“(a) Includes adaptation solutions that either substantially reduce the risk of the adverse impact of the current climate and the expected future climate on that economic activity or substantially reduce that adverse impact, without increasing the risk of an adverse impact on people, nature or assets”.

378. Article 11(2) specifies the requirements for adaptation solutions referred to in Article 11(1)(a). It requires that, “*at a minimum*”, they “*prevent or reduce*”:

“(a) The location-specific and context-specific adverse impact of climate change on the economic activity; or

(b) The potential adverse impact of climate change on the environment within which the economic activity takes place.”

379. Annex II to the Delegated Regulation lays down the following unique set of climate change adaptation criteria:

“1. The economic activity has implemented physical and non-physical solutions (‘adaptation solutions’) that substantially reduce the most important physical climate risks that are material to that activity.

2. The physical climate risks that are material to the activity have been identified from those listed in Appendix A to this Annex by performing a robust climate risk and vulnerability assessment with the following steps:

[...]

3. The climate projections and assessment of impacts are based on best practice and available guidance

[...]

4. The adaptation solutions implemented:

(a) do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of cultural heritage, of assets and of other economic activities;

(b) favour nature-based solutions¹⁷¹ or rely on blue or green infrastructure to the extent possible;

¹⁷¹ “Nature-based solutions are defined as ‘solutions that are inspired and supported by nature, which are cost-effective, simultaneously provide environmental, social and economic benefits and help build resilience. Such solutions bring more, and more diverse, nature and natural features and processes into cities, landscapes and seascapes, through locally adapted, resource-efficient and systemic interventions’. Therefore, nature-based solutions benefit biodiversity and support the delivery of a range of ecosystem services (version of [adoption date]: https://ec.europa.eu/info/research-and-innovation/research-area/environment/nature-based-solutions_en/).”

(c) are consistent with local, sectoral, regional or national adaptation plans and strategies;

(d) are monitored and measured against pre-defined indicators and remedial action is considered where those indicators are not met;

(e) where the solution implemented is physical and consists in an activity for which technical screening criteria have been specified in this Annex, the solution complies with the do no significant harm technical screening criteria for that activity.”

380. These “criteria” mostly consist of requiring economic activities to carry out an assessment to identify climate risks that are material to them and mitigate these risks through “adaptation solutions”, which should not affect adaptation efforts or the level of resilience to climate risks of other people or the nature, along with other minor requirements.
381. **First**, the Commission has largely overlooked the development of the criteria which are supposed to supplement Article 11(1) and (2) as it adopted vague and generic requirements applicable **to all activities** identified in Annex II (which are the same activities as in Annex I, although they are concerned with a different Environmental Objective) and cannot offer satisfactory solutions for adaptation to climate risks.
382. This is particularly the case for activities relying on forest biomass, for which climate change mitigation and adaptation are intrinsically linked, since they rely on forest harvesting and forests will continue to deteriorate under the mitigation criteria set out in Annex I of the Delegated Regulation. This is a significant “material” risk to forest biomass bioenergy and biofuel activities that should have been explicitly addressed in the criteria.
383. **Second**, the criteria are strictly substantively identical in content – despite some variation in wording – to the DNSH to climate change adaptation criteria listed in Appendix A to Annex I and discussed above in Section V.C. Therefore, the demonstration in those sections that these criteria are insufficient to prevent significant harm to climate change adaptation is *a fortiori* relevant to show they are unable to make a substantial contribution to it.
384. In particular, the criteria in Annex II only set a requirement that the “*most important*” climate risks associated with the activity are reduced. This unwarranted narrowing of the scope to the “*most important*” risks is contrary to Article 11(1), which contains no such specification. It also allows economic operators to freely determine whether a climate risk is among “*the most important*” risks.¹⁷²
385. In addition, in the same way as the DNSH to adaptation criteria, the criteria for climate change adaptation all flow from the requirement to perform a “*climate risk and vulnerability assessment*”, according to which adaptation solutions must be adopted. However, the criteria do not contain any obligation to carry out an impact assessment of climate risks to people and nature in order to qualify as “*contributing substantially*” to climate change adaptation.
386. As explained in Section V.C, the “*climate risk and vulnerability assessment*” needs only to identify risks “*that are material to the activity*”, thus addressing the first part of the sentence in Article 11(1)(a). However, it neglects the second half of this sub-paragraph, which clearly entails that risks arising from the adaptation solutions that may affect people, nature or assets should also be considered and identified (see paragraph 172 above). Therefore, these criteria are mostly concerned with the protection of the *activity* from natural risks increased by climate change and do not appropriately consider risks to people and nature.
387. **In any event**, as far as woody biomass bioenergy and biofuel activities are concerned, some of the climate-related risks to people and nature, as listed in Appendix A (such as heat and cold wave,

¹⁷² See above, paras 167-168169.

wildfires, etc.) also threaten the survival of forests so that they are also a direct risk to the activity and should have been qualified as “*most important*” risks.

388. These activities would be deemed to substantially contribute to climate change adaptation by conducting a mere risk assessment and by implementing useless (as long as the mitigation criteria remain unchanged) “*nature-based solutions*”, such as planting new trees, while continuing to contribute and be exposed to major climate risks.

389. Accordingly, these criteria fail to deliver the conditions sought by the Taxonomy Regulation and were thus adopted in breach of Articles 11(1) and 11(3)(a).

(ii) Breaches of Article 11(5) and Article 19 of the Taxonomy Regulation

390. The climate change adaptation criteria set in Appendix II for the Relevant bioenergy activities also breach the following requirements set by Article 19 of the Taxonomy Regulation:

- They are **not quantitative and contain no threshold** in breach of Article 19(1)(c).
- They **make the transition to a more sustainable economy more expensive and by creating inconsistent incentives**, thus breaching Article 19(1)(i).
- They are not based on **conclusive scientific evidence**, and thus breach Article 19(1)(f).
- They do not **take into account the actual full life-cycle and emissions** from woody biomass bioenergy and biofuel activities as explained above and, thus, breach Article 19(1)(g).

391. In addition, as Article 11(5) of the Taxonomy Regulation the Commission shall establish the technical screening criteria [...] “*taking into account the requirements of Article 19*”, the climate change adaptation criteria also breach Article 11(5) of the Taxonomy Regulation.

E. Illegality and inadequacy of the DNSH criteria

392. The DNSH criteria for the Relevant bioenergy activities at Sections 4.7, 4.8, 4.13, 4.19, 4.20, 4.23 and 4.24 of Annex II are the same as the equivalent criteria of Annex I with respect to biodiversity, pollution prevention and control, and circular economy. Thus the conclusions drawn in Section VI.C also apply to them.

393. As regards the DNSH to climate change mitigation criteria, Article 19(1)(b) of the Taxonomy Regulation, in light of the definition of significant harm to climate change mitigation in Article 17(1)(a), requires that the technical screening criteria must set a minimum level of GHG emissions at or above which the relevant activity will be deemed to do significant harm.

394. The DNSH criteria in Sections 4.8, 4.13, 4.20 and 4.24, they provide that:

“The activity meets the requirements relating to sustainability, greenhouse gas emission savings and efficiency laid down in Article 29 of Directive 2018/2001.”

395. In other words, the latter criteria replicate those for determining whether an activity substantially contributes to climate change mitigation, which were assessed above.

396. As demonstrated in Section VI.B.1, the sustainability, GHG emission savings and efficiency requirements of Article 29 of the RED II are too weak to prevent the Relevant bioenergy activities from adding net GHGs to the atmosphere over timeframes relevant to the Paris Agreement goals.

397. Thus, these criteria fail to satisfy the requirements clearly laid out in Article 17 of the Taxonomy Regulation and were adopted in breach of Article 11(3)(b).

VII. BREACHES OF THE EU TREATY AND PRINCIPLES OF EU LAW AND INTERNATIONAL LAW IN SETTING THE TECHNICAL SCREENING CRITERIA FOR FOREST MANAGEMENT AND THE RELEVANT BIOENERGY ACTIVITIES

A. Breach of the principles of sustainable development and of environmental protection

398. The principles of sustainable development and environmental protection are enshrined in a set of primary EU rules.
399. The TFEU provides that the Union policy on the environment should follow several objectives among which “*preserving, protecting and improving the quality of the environment*”, a “*prudent and rational utilisation of natural resources*” and “*promoting measures at international level to deal with regional or worldwide environmental problems and in particular combating climate change*”.¹⁷³ The EU institutions should integrate environmental protection requirements “*into the definition and implementation of their policies and activities, in particular with a view to promoting sustainable development*”.¹⁷⁴
400. The TFEU also reiterates the objective of a high level of protection of the environment in EU policy,¹⁷⁵ as well as a high level of protection of human health.¹⁷⁶ To this end, Article 194 provides that the Union policy on energy shall aim at “*promot[ing] energy efficiency and energy saving and the development of new and renewable of form of energy*.”¹⁷⁷
401. Finally, under Article 37 of the Charter of Fundamental Rights of the European Union – which can be invoked against EU institutions,¹⁷⁸ “*[a] high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development*”.
402. Hence, the principle of environmental protection and the principle of sustainable development preclude EU institutions from adopting contrary acts.
403. The purpose of the Taxonomy Regulation¹⁷⁹ is to provide for a high level of protection for the environment with a view to promoting sustainable development, in accordance with the above-mentioned provisions. It aims to achieve this by designating the conditions under which economic activities may qualify as “environmentally sustainable” and thus direct financial flows towards activities that are consistent with the Paris-aligned temperature targets and the EU’s objective of carbon neutrality by 2050.
404. However, as demonstrated above the Delegated Regulation reaches exactly the opposite result as regards forest management and woody biomass bioenergy and biofuel activities which are now automatically considered as “environmentally sustainable” within the meaning of the Taxonomy Regulation, thus allowing them to benefit from further financing and incentives. This will result in worsening the global climate and damage to the environment. This is contrary to the EU’s established standards and strategies, as well as international standards the EU has committed to uphold (see Section VII.C).

¹⁷³ Article 191(1) TFEU.

¹⁷⁴ Article 11 TFEU.

¹⁷⁵ Article 191(2) TFEU.

¹⁷⁶ Article 9 TFEU.

¹⁷⁷ Article 194(1)(c) TFEU.

¹⁷⁸ Charter of Fundamental Rights in the EU, Article 51: “*The provisions of this Charter are addressed to the institutions, bodies, offices and agencies of the Union with due regard for the principle of subsidiarity and to the Member States only when they are implementing Union law. They shall therefore respect the rights, observe the principles and promote the application thereof in accordance with their respective powers and respecting the limits of the powers of the Union as conferred on it in the Treaties.*”

¹⁷⁹ See e.g. Taxonomy Regulation, Recital 4.

405. The Commission therefore acted in breach of the principles of sustainable development and of environmental protection in adopting the Delegated Regulation.

B. Breach of Article 169(1) of the TFEU on consumer protection

406. Article 169(1) of the TFEU enshrines the principle of consumer protection in the EU, and by the EU:

“In order to promote the interests of consumers and to ensure a high level of consumer protection, the Union shall contribute to protecting the health, safety and economic interests of consumers, as well as to promoting their right to information, education and to organise themselves in order to safeguard their interests.”

407. Under this principle, EU institutions are required to act in order to protect, amongst other objectives, the health interests of the consumer, and to promote their right to information. The Directive 2005/29/EC on unfair commercial practices (“UCPD”)¹⁸⁰ was adopted on this basis. Together, these rules should normally prevent European consumers from being exposed to greenwashing practices which are included in the scope of consumer protection and the UCPD.¹⁸¹

408. It should also be recalled that avoiding greenwashing is one of the main objectives pursued by the Taxonomy Regulation,¹⁸² which precisely aims to define what is sustainable to better inform the consumer and investors.

409. However, it has been demonstrated above that the Delegated Regulation ends up offering official cover to greenwashing practices as it allows economic activities that do not comply with the requirements of the Taxonomy Regulation to qualify as “sustainable”, and thus to present themselves as such to the consumer and investors.

410. Therefore, the Delegated Regulation breaches Article 169(1) of the TFEU on consumer protection.

C. Breach of the Paris Agreement and the UNFCCC

411. The EU is a party to the United Nations Framework Convention on Climate Change (UNFCCC) and to the Paris Agreement, which was concluded under the UNFCCC.

412. International treaties concluded by the EU are, together with the EU Treaties and general principles of EU law, primary legislation that sits above secondary law such as the Taxonomy Regulation and the Delegated Regulation.¹⁸³ Under Article 216(1) TFEU, “*Agreements concluded by the Union are binding upon the institution of the Union and on its Member States*”; this is confirmed by case law that shows that the EU “*must respect international law in the exercise of its powers*”.¹⁸⁴ Accordingly, EU courts have already declared admissible an argument based on an international agreement in an annulment procedure, where the treaty is “*not strictly based on reciprocal and mutually advantageous arrangements*” and even if it “*contains provisions which do not have direct effect*”,¹⁸⁵ as is the case for the Paris Agreement.

¹⁸⁰ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32005L0029>.

¹⁸¹ Commission, Guidance for the implementation/application of Directive 2005/29/EC on unfair commercial practice, Section 2.5 “Misleading environmental claims”, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52016SC0163>.

¹⁸² Taxonomy Regulation, Recital 11.

¹⁸³ As stated by Simon Marsden in its article “Invoking Direct Application and Effect of International Treaties by the European Court of Justice: Implication for International Environmental Law in the European Union”, *The International and Comparative Law Quarterly*, vol. 60(3), 2011, citing Case C-61/94 Commission v Germany [1996] EU:C:1996:313, para 52, and Case C-311/04 Algemene Scheeps Agentuur Dordrecht [2006] EU:C:2006:23.

¹⁸⁴ Case C-162/96 Racke v Hauptzollamt Mainz [1998] EU:C:1998:293, para. 45.

¹⁸⁵ Case C-377/98 Netherlands v Parliament and Council [2001] EU:C:2001:523, paras 52-54, on the Rio de Janeiro Convention on Biological Diversity of 5 June 1992.

413. Article 2 of the UNFCCC sets out the objective of the Convention, which is the “*stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system*”. This is a stated objective of the Taxonomy Regulation.¹⁸⁶
414. The Paris Agreement represents the context in which the Taxonomy Regulation was adopted.¹⁸⁷ The Taxonomy Regulation expressly intends to further and implement the objectives set out in the Paris Agreement that are binding on the EU; it is meant to represent “*a key step towards the objective of achieving a climate-neutral Union*”.¹⁸⁸ For instance, Recital 24 states that an economic activity under the Taxonomy Regulation “*should be consistent with the long-term temperature goal of the Paris Agreement*”.¹⁸⁹ Likewise, climate change mitigation, one of the most important objectives of the Taxonomy Regulation, is defined under Article 2(5) – in clear reiteration of Article 2(1)(a) of the Paris Agreement – as “*the process of holding the increase in the global average temperature to well below 2 °C and pursuing efforts to limit it to 1,5 °C above pre-industrial levels, as laid down in the Paris Agreement*”.¹⁹⁰ The Paris temperature goals are thus used as the main criterion to define whether an activity substantially contributes to climate mitigation.¹⁹¹
415. As explained in Section III above, the Paris Agreement’s objective is to limit global temperature increases to 1.5°C above pre-industrial levels by 2050 and the Taxonomy Regulation explicitly aims to support such a target through its classification of “sustainable” economic activities.¹⁹² Consequently, the Delegated Regulation must be compatible with the Paris Agreement, which is the higher-ranking norm.
416. For the reasons discussed in Sections V and VI, the inadequacy of the criteria set for forest management and the Relevant bioenergy and biofuel activities means that the Delegated Regulation is incompatible with and in breach of the Paris Agreement.
417. The inappropriateness of the reliance on biomass energy in the context of the Paris Agreement goals is further illustrated by the JRC 2021 report. The JRC examined a number of forest biomass pathways, only one of which was deemed to offer emissions savings compared to fossil fuels in the “short” term (*i.e.* 10-20 years).¹⁹³ This scenario relied only on the burning of “*fine woody debris*”. The JRC found that it will take the majority of feedstock scenarios at least 30-50 years to even reach parity with the emissions from fossil fuels.¹⁹⁴ These pathways were therefore not considered compatible with the warming limit objectives pursued by the Paris Agreement and, *a fortiori*, the Taxonomy Regulation.

¹⁸⁶ Taxonomy Regulation, Recital 24 and Article 10(1).

¹⁸⁷ Taxonomy Regulation, Recital 3.

¹⁸⁸ Taxonomy Regulation, Recital 3. See also, Taxonomy Regulation, Article 2(5) and Article 10(1).

¹⁸⁹ Taxonomy Regulation, Recital 24.

¹⁹⁰ Taxonomy Regulation, Article 2(5).

¹⁹¹ Taxonomy Regulation, Article 10(1), stating that substantial contribution to climate mitigation requires the activity to contribute to stabilisation of GHG in atmosphere at levels consistent with temperature goal of Paris. See also Article 19(2) that directly sets a requirement of consistency with a pathway to limit the warming to 1.5°C.

¹⁹² See footnote 18 above.

¹⁹³ JRC, *The use of woody biomass for energy purposes in the EU*, p. 146. **All the other 23 scenarios either lead to no carbon savings in less than two decades, or pose a risk to biodiversity, or both.** The report itself identifies clear “lose-lose” situations as those “*whereby the pathway would damage forest ecosystems without providing carbon emission reductions in policy-relevant timeframes [...]. Lose-lose pathways include removal of coarse woody debris, removal of low stumps, and conversion of primary or natural forests into plantations.*” Considering that most forest wood burned for energy is either stemwood or large diameter forest residue, **this means that the JRC has itself identified the majority of forest biomass burned in the EU as a “lose-lose” outcome for climate and biodiversity.**

¹⁹⁴ Ibid. See also, Laganière, J., *et al.*, “Range and uncertainties in estimating delays in greenhouse gas mitigation potential of forest bioenergy sourced from Canadian forests” (2017), *GCB Bioenergy* 9(2), 358-369.

418. As already demonstrated above in Section III and accepted by the IPCC, forest biomass bioenergy and biofuel is generally not capable of delivering carbon benefits in a timeframe compatible with Paris Agreement targets.
419. Considering the urgent need to considerably reduce GHG emissions in the near term in order to limit global warming to 1.5°C or even 2°C by 2050, relying on a source of energy that would take *decades* to deliver a reduction in net GHG emissions relative to fossil fuels, and that initially increases emissions and harm forests, is not compatible with the Paris Agreement.
420. Based on the foregoing, the EU cannot incentivise the financing of woody biomass bioenergy and biofuel activities while aiming to stabilise GHG emissions and reach the warming limit objectives set out in the Paris Agreement.
421. Accordingly, the Delegated Regulation breaches Article 2(1) of the Paris Agreement and Article 2 of the UNFCCC.

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In light of the foregoing, the Applicants respectfully urge the Commission to do the following:

- **Conduct an internal review of the Delegated Regulation’s ongoing non-compliance with international and EU law, and in particular the Taxonomy Regulation;**
- **Remedy the situation in order to bring the Delegated Regulation in compliance with international and EU law, and in particular the Taxonomy Regulation;**
- **Inform the Applicants herein about its decision in relation to the Request.**

SCHEDULE OF ANNEXES

Annex 1 – Protect the Forest

- a. Protect the Forest articles of association
- b. Protect the Forest activity reports 2019 and 2020
- c. Protect the Forest legal registration with the national authority

Annex 2 – ZERO

- a. ZERO articles of association
- b. ZERO annual activity reports 2019 and 2020
- c. ZERO legal registration with the national authority

Annex 3 – Association Workshop

- a. Association Workshop articles of association
- b. Association Workshop activity reports 2019 and 2020
- c. Association Workshop legal registration with the national authority

Annex 4 – Robin Wood

- a. Robin Wood articles of association
- b. Robin Wood activity reports 2019 and 2020
- c. Robin Wood legal registration with the national authority

Annex 5 – SEF

- a. SEF articles of association
- b. SEF activity report 2020
- c. SEF legal registration with the national authority

Annex 6 – The Clean Air Committee

- a. The Clean Air Committee articles of association
- b. The Clean Air Committee biannual activity report 2019-2021
- c. The Clean Air Committee legal registration with the national authority

Annex 7 – 2C

- a. 2C articles of association
- b. 2C biannual activity report 2020-2022
- c. 2C legal registration with the national authority

Annex 8 – Letter from the Commission, 26 May 2021