


Indicators and research protocols for assessing timber and pulp companies

ZSL's SPOTT research protocols guide us when undertaking assessments. The purpose of these research protocols is two-fold:

- 1) To ensure a fair and consistent approach to assessing all companies on SPOTT;
- 2) To set expectations for what environmental, social and governance (ESG) data companies should publish.

The table below shows the information used to assess each indicator according to our timber and pulp indicator research protocols. To score points for an indicator, the required information must be made publicly available on a company's website, within the company's annual reports, sustainability reports, presentations or other reports, on its parent company's website or on its subsidiary's website (if applicable). In certain cases, information can be made publicly available on a third party platform (referred to as "external sources" within the research protocols).

 Sustainability policy and leadership		
ID	Indicator	Research protocols
1	Sustainable forestry policy or commitment for all its operations	Yes: 1 point. Has own policy on sustainable/responsible/ethical (or similar) forestry for all the company's forestry operations (i.e. all forest products it produces, processes, purchases and/or trades), or clearly commits to the policy of its parent company or a buyer that covers all its operations. Can be standalone document or clear policies on sustainability. The policy should cover multiple dimensions of sustainability across the company's operations covering both social and environmental issues. Partial: 0.5 points. If commits to the policy of its parent company or supplier but does not clearly state that it applies to all the company's operations; or has policy for its suppliers, but not clear that the policy applies to its own operations (i.e. all forest products it produces, purchases, processes and/or trades); or only has general commitments/policies. No: 0 points. If has no policy/commitment or only a statement that commits to sustainability or only has a corporate social responsibility (CSR) programme.
2	Sustainability policy or commitment applies to direct and third-party suppliers	Yes: 1 point. Specify policy applies to all suppliers (inclusive of smallholders, independent direct suppliers, outgrowers, etc.) and third-party suppliers, or applies to the whole supply chain. Max 0.5 points awarded if sustainability policy only partially meets assessment requirements (see above question). Partial: 0.5 points. Do not specify third-party suppliers; or not clear that the policy applies to all suppliers. No points awarded if sustainability policy only partially meets assessment requirements (see above question). No: 0 points. n.b. a company's sourcing policy may contain the requirements of its sustainability policy and so should be checked (if available).
3	High-level position of responsibility for sustainability	Yes: 1 point. Reports high-level position with sustainability responsibility e.g. board member, director of sustainability, chief sustainability officer, executive group. State in answer. Partial: 0.5 points. Sustainability team or similar, but not clear who has high-level responsibility. No: 0 points.

4	Sustainability report published within last two years	Yes: 1 point. Produced sustainability report or update within last two years. An integrated annual/sustainability report is acceptable if sufficiently detailed. Partial: 0.5 points. Produced more than two years ago. No: 0 points. No report; or update more than two years ago; or limited detail in annual report. External source: GRI database http://database.globalreporting.org/search/
5	Member of multiple industry schemes or other external initiatives to improve forest management or transparency	List in answer schemes company is part of. Yes: 1 point. Member of two or more schemes. Partial: 0.5 points. Member of only one scheme. No: 0 points. For example: FSC and/or PEFC membership (do not accept membership of other certification schemes); stepwise programmes for forest certification (e.g. RA SmartStep, TFT); WBCSD, CDP, GRI, UNGC, TFA 2020, HCS, HCVRN, WWF-GFTN, FFA, Natural Capital Coalition, ATIBT, Congo Basin Forest Partnership, European Coalition for Sustainable Tropical Timber (STTC) or others that are clearly focused on sustainability or transparency in relation to forestry and forest products (assessed on case-by-case basis). External sources: FSC http://memberportal.fsc.org/ ; PEFC https://www.pefc.org/about-pefc/membership/international-stakeholder ; RA SmartStep https://www.rainforest-alliance.org/business/forestry/verification/transparency/smartstep-participants ; TFT http://www.tft-transparency.org/product/pulp-paper/who-we-work-with/ and http://www.tft-transparency.org/product/wood/who-we-work-with/ ; UNGC www.unglobalcompact.org/what-is-gc/participants ; WBCSD http://www.wbcd.org/Overview/Our-members ; TFA 2020 https://www.tfa2020.org/en/about-tfa/partners/ ; CDP https://www.cdp.net/en/companies#a8888e63070314c2285625253a462815 ; GRI http://database.globalreporting.org/ ; HCS http://highcarbonstock.org/members/ ; HCVRN: https://www.hcvnetwork.org/resource-network/members ; FFA http://www.firefreealliance.org/feed/organizations ; Natural Capital Coalition: http://naturalcapitalcoalition.org/who/coalition-organizations/ ; WWF-GFTN http://d2ouvy59p0dg6k.cloudfront.net/downloads/gftn_participant_list_january_2018.pdf ; ATIBT https://www.atibt.org/en/members/ ; CBFP http://pfb-cbfp.org/members.html ; STTC http://www.europeansttc.com/thesttc/participants/
6	Activities with government, NGOs or academic institutions to improve the sustainability of forest products	Yes: 1 point. Activities with governments/NGOs/academic institutions focused on achieving wider sustainability where the company is operating, such as jurisdictional approaches, community collaborations, specific projects, or strengthening of certification schemes. Partial: 0.5 points. Provide examples of activities with governments/NGOs, but no/very limited details given or not clearly focused on sustainability. No: 0 points.



Landbank, Forest Management Units (FMUs) and mills

ID	Indicator	Research protocols
7	Lists countries and operations	Yes: 1 point. Provides details of countries of operation and the nature of operations within those countries (e.g. forest concessions, production facilities). Only include operations upstream and one level downstream (e.g. no sales offices, trading centres). Partial: 0.5 points. Company only provides a list of countries where it operates. No: 0 points. No information. n.b. information to be considered unavailable if hard to find/compile – e.g. can only be identified through multiple unrelated webpages.

8	Total area of natural forest designated for wood/wood fibre production (ha)	Disable if only engaged in plantation-based production. Yes: 1 point. Total area of natural forest designated for wood/wood fibre production (including outgrower scheme areas, if applicable). Partial: 0.5 points. If data more than two years old; if data provided does not cover company's known scope of operations; or if figure complicated to calculate. No: 0 points. No data; or if data more than five years old; or data is undated; or figure provided aggregates area controlled by the company and its independent suppliers.
9	Total area of forest plantation (ha)	Disable if only natural forest-based production. Yes: 1 point. Total area planted with trees for wood/wood fibre production (including outgrower scheme areas, if applicable). Partial: 0.5 points. If data more than two years old; or data provided does not cover known scope of operations; or if figure complicated to calculate. No: 0 points. No data; data more than 5 years old; or from an undated source; or figure provided aggregates area controlled by the company and its independent suppliers.
10	Area of plantation/natural forest within outgrower schemes (ha)	Disable if no outgrower scheme. Yes: 1 point. Total area natural/plantation forest within outgrower scheme. Partial: 0.5 points. If data more than two years old; or data provided does not cover known scope of operations; or if figure is complicated to calculate. No: 0 points. No data; data more than 5 years old; or from an undated source. n.b. outgrower scheme is defined as a contractual partnership between growers/landholders and a processing company for the production of commercial forest products. If it is unclear whether an outgrower scheme is in place (e.g. the company has community forests but doesn't specify whether they are contracted to supply materials), then adopt a precautionary approach and enable all outgrower indicators, whilst noting in the response that the existence of outgrower schemes needs to be confirmed by the company.
11	Unplanted (areas designated for future development as plantation forest) (ha)	Disable if only natural forest-based production. Yes: 1 point. Area not yet planted but can potentially be planted (i.e. not areas set aside as unplanted or already developed like infrastructure, mills). Partial: 0.5 points. If unclear terminology; or data more than two years old; or data provided does not cover known scope of operations; or if figure is complicated to calculate. No: 0 points. No data; data more than 5 years old; or from an undated source.
12	Conservation set-aside and/or HCV area (ha)	Yes: 1 point. Area set aside for conservation and/or HCV area (sum if figures for both provided if clearly no overlap, otherwise use largest number only), and other areas such as peatlands, steep slopes, etc. Partial: 0.5 points. If data more than two years old; or data provided does not cover known scope of operations; or if figure is complicated to calculate. No: 0 points. No data; data more than 5 years old; or from an undated source; or figure provided aggregates area set aside by the company and its suppliers.
13	Area of Intact Forest Landscape (ha)	Disable if no IFL in company's operational area. Yes: 1 point. Area of Intact Forest Landscape (IFL) found within all operations. Partial: 0.5 points. If data more than two years old; or data provided does not cover all operations. No: 0 points. No data; data more than 5 years old; or from an undated source; or figure provided aggregates area controlled by the company and its suppliers.
14	Number of Forest Management Units (FMUs)	Yes: 1 point. States total number of FMUs or concessions controlled; or this is simple to establish with high certainty using available information. Partial: 0.5 points. If data more than two years old. No: 0 points. No data; data more than 5 years old; data from an undated source; or number cannot be established with high certainty using available sources. External sources: FSC database https://info.fsc.org/certificate.php ; GFW managed forests http://data.globalforestwatch.org/datasets/8a405466bff2441794628fc5b845fadd_3?uiTab=table ; GFW wood fibre http://data.globalforestwatch.org/datasets/eca9f0db800a4d5c83bbf7f231c67949_0 ; or other publicly available platform.

15	Maps of Forest Management Units (FMUs)	Information must be in one or two locations online, rather than spread over multiple places. Yes: 1 point. If have names and georeferenced maps (e.g. shapefile or KML) for all FMUs and specify that maps represent 100% of FMUs. Maps of concessions also acceptable. Partial: 0.5 points. If have both names and georeferenced maps for some FMUs; or unclear if all FMUs; or if only have image file showing location of all/some FMUs; or data more than two years old. No: 0 points. Only names of all/some FMUs. External sources: FSC database https://info.fsc.org/certificate.php ; GFW managed forests http://data.globalforestwatch.org/datasets/8a405466bff2441794628fc5b845fadd_3?uiTab=table ; GFW wood fibre http://data.globalforestwatch.org/datasets/eca9f0db800a4d5c83bbf7f231c67949_0 ; or other publicly available platform.
16	Forest management plans available for all FMUs	Yes: 1 point. Forest management plans (or summaries of them) available for all FMUs directly controlled. Partial: 0.5 points. Only a limited number of forest management plans publicly available (or unclear whether this is the case). No: 0 points. External sources: FSC database https://info.fsc.org/certificate.php ; GFW managed forests http://data.globalforestwatch.org/datasets/8a405466bff2441794628fc5b845fadd_3?uiTab=table ; GFW wood fibre http://data.globalforestwatch.org/datasets/eca9f0db800a4d5c83bbf7f231c67949_0 ; or other publicly available platform.
17	Monitoring of forest management plan implementation	Yes: 1 point. Monitoring information available on the implementation of all FMPs (i.e. performance against management objectives). Information could be included in FSC audit reports. Partial: 0.5 points. Monitoring information available does not detail performance against FMP objectives; or monitoring information available for just some FMPs. No: 0 points. External sources: FSC database https://info.fsc.org/certificate.php ; GFW managed forests http://data.globalforestwatch.org/datasets/8a405466bff2441794628fc5b845fadd_3?uiTab=table ; GFW wood fibre http://data.globalforestwatch.org/datasets/eca9f0db800a4d5c83bbf7f231c67949_0 ; or other publicly available platform.
18	Number of company-owned pulp and paper mills	Disable if company does not own pulp and paper mills. Yes: 1 point. Number of pulp and paper mills owned by company. State if any other pulp and paper mills in development. Partial: 0.5 points. If data more than two years old, or if information stated but may not be representative of company's known scope of operations. No: 0 points. No data; data more than 5 years old; or from an undated source.
19	Maps or addresses of company-owned pulp and paper mills	Disable if company does not own pulp and paper mills. Information must be in one or two places rather than spread in multiple places. Yes: 1 point. Names and coordinates; addresses (check that these can be used to generate location using GoogleMaps – all or if many mills test a sample); or names and georeferenced maps for all mills. Partial: 0.5 points. As above, but only for some mills; or data more than two years old; or static image showing location of all mills; or only names of mills; or unclear information provided on the above points. No: 0 points. No data; data more than 5 years old; or from an undated source.
20	Number of company-owned sawmills	Disable if company does not own sawmills. Yes: 1 point. Number of sawmills owned by company. State if any other sawmills in development. Partial: 0.5 points. If data more than two years old, or if information stated but may not be representative of company's known scope of operations. No: 0 points. No data; data more than 5 years old; or from an undated source.
21	Maps or addresses of company-owned sawmills	Disable if company does not own sawmills. Information must be in one or two places rather than spread in multiple places. Yes: 1 point. Names and coordinates; addresses (check that these can be used to generate location using GoogleMaps – all or if many mills test a sample); or names and georeferenced maps for all mills. Partial: 0.5 points. As above, but only for some mills; or data more than two years old; or static image showing location of all mills; or only names of mills; or unclear information provided on the above points. No: 0 points. No data; data more than 5 years old; or from an undated source.



Deforestation and biodiversity

ID	Indicator	Research protocols
22	Commitment to zero conversion of natural forest	Yes: 1 point. Specifies clear zero/no conversion/deforestation commitment. Partial: 0.5 points. Only specifies no net deforestation. No: 0 points. No commitment. n.b. no net conversion/deforestation acknowledges that some forest loss could be offset by forest restoration such as through purchasing offsets or mitigation banking. Commitments made through outside initiatives are acceptable but must meet the requirements of the protocol (e.g. NY Declaration on Forests does not rule out a no net deforestation approach).
23	Zero conversion commitment applies to outgrower scheme and independent suppliers	Disable if have no outgrower scheme and no independent suppliers. Yes: 1 point. Commitment applies to outgrower scheme suppliers and independent suppliers (if have both). Max 0.5 points awarded if zero conversion policy only partially meets assessment requirements (see above question). Partial: 0.5 points. Commitment only applies to outgrower schemes suppliers or independent suppliers (if they have both). No points awarded if zero conversion policy only partially meets assessment requirements (see above question). No: 0 points.
24	Commitment to minimise the impact of logging roads	Disable if only plantation-based production. Yes: 1 point. Clear commitment to minimise the impact of logging roads (e.g. road planning, access controls, barriers, closure after logging operations). Partial: 0.5 points. Case study on minimising the impact of logging roads, but no commitment. No: 0 points.
25	Commitment to protect forest areas from illegal activities	Yes: 1 point. Commitment to protect forest areas from unauthorised or illegal resource use, settlement and other illegal activities. Partial: 0.5 points. Commitment to protect forest areas from certain forms of illegal activities (e.g. illegal logging, harvesting of NTFPs, mining, recreation, trapping, hunting, drug trafficking). No: 0 points.
26	Evidence of monitoring deforestation	Yes: 1 point. If specifies how deforestation is being monitored (i.e. spatial monitoring method, including the extent of the area monitored and time-frame). Partial: 0.5 points. If methodology, extent of area being monitored for deforestation, and/or time-frame is unclear. No: 0 points. Look for references to spatial monitoring, satellite data, drones, GIS, etc. that may indicate monitoring of deforestation/encroachment.
27	Amount of deforestation recorded	Yes: 1 point. Amount of deforestation recorded over company's full operational area. Partial: 0.5 points. Data reported covers less than the company's operational area; data is more than two years old. No: 0 points. No data; data more than 5 years old; or from an undated source.
28	Commitment to biodiversity conservation	Yes: 1 point. Commitment to conservation of biodiversity or species or wildlife (beyond mentioning HCVs). No: 0 points. If only mention biodiversity in relation to inside HCVs.
29	Commitment to set aside areas for conservation	Yes: 1 point. State that will and/or do set aside or protect (or similar language) areas for conservation (e.g. HCV). No: 0 points.
30	Examples of habitat management and/or habitat restoration of set-aside areas	See examples. Yes: 1 point. If multiple examples/evidence of habitat management or habitat restoration activities in company's conservation set-aside areas or in surrounding landscape where company operating (can include activities in HCV, HCS, buffer zones, forests, peatlands, mangroves, wetlands, etc.). Partial: 0.5 points. Only mention one example of habitat management or restoration. No: 0 points. Examples: rehabilitation of riparian areas, native forest restoration, enhancement of mangroves, tree planting, clearly marking boundaries, putting up signs, planting of native species, ensuring no roads, monitoring peatland subsidence, limiting access, patrols, etc.

31	Implementing a landscape-level approach to biodiversity conservation	Yes: 1 point. Clearly implementing landscape level approach with a focus on habitat/biodiversity conservation (or similar). Partial: 0.5 points. Vague statement about recognising the importance of a landscape approach. No: 0 points.
32	Commitment to protect species of conservation concern, referencing international or national system of species classification	Yes: 1 point. Commitment to protect species of conservation concern (i.e. rare, threatened, endangered), referencing an appropriate system of classification (e.g. IUCN Red List; national red list; CITES). Partial: 0.5 points. If clear commitment to protecting species, but do not mention system of species classification; or unclear commitment (e.g. only state make effort to protect) and do refer to system of species classification. No: 0 points.
33	Commitment to sustainably manage the use of non-timber forest products (NTFPs)	Disable if only plantation-based operations. Yes: 1 point. Commitment to sustainably manage and control hunting, fishing, trapping and collecting, whilst recognising the subsistence needs and customary rights of local communities and indigenous peoples. Partial: 0.5 points. Commitment does not refer to the needs and/or rights of local communities and indigenous peoples. No: 0 points.
34	Commitment not to use genetically modified organisms	Disable if only natural forest-based production. Yes: 1 point. Commitment to not use genetically modified organisms (GMOs) or transgenic species. No: 0 points. No commitment; or commitment allows the use of GMOs in some circumstances.
35	Commitment to only use alien species where impacts can be controlled	Disable if only natural forest-based production. Yes: 1 point. Commitment to not use alien species or to apply proper risk assessment before their use. No: 0 points. No commitment; or vague statement about recognising risk of use. n.b. alien species are defined as a species, subspecies or lower taxon, introduced outside its natural past or present distribution that might survive and subsequently reproduce.
36	Examples of species conservation activities	See examples. Yes: 1 point. If multiple examples/evidence of species-focused conservation activities within the company's concessions/set-aside areas or in surrounding landscape where company operating. Partial: 0.5 points. Only mention one example of species conservation; only mention species monitoring and unclear how using this information to implement species conservation; or only mention species conservation in areas where not operating (e.g. funding through philanthropic arm for species conservation abroad). No: 0 points. Examples: anti-poaching activities; training/education on biodiversity/species; addressing invasive alien species; addressing trafficking of wild-caught species; putting up signs on no hunting of species; installation of nest boxes; planting endangered trees etc.



High Conservation Value (HCV), High Carbon Stock (HCS) and impact assessments

ID	Indicator	Research protocols
37	Commitment to conduct High Conservation Value (HCV) assessments	Yes: 1 point. Commitment to conducting HCV assessments for all new timber extraction/plantation development. Partial: 0.5 points. If unclear if applies to all new timber extraction/plantation development. No: 0 points.
38	HCV commitment applies to outgrower scheme and independent suppliers	Disable if have no outgrower scheme and no independent suppliers. Yes: 1 point. Commitment applies to all suppliers (both outgrower and independent if have both; either if just one). Max 0.5 points awarded if HCV policy only partially meets assessment requirements (see above question). Partial: 0.5 points. Commitment only applies to outgrower scheme suppliers or independent suppliers (if have both). No points awarded if HCV policy only partially meets assessment requirements (see above question). No: 0 points.
39	Commitment to only use licensed High Conservation Value (HCV) assessors accredited by the HCV Resource Network's Assessor Licensing Scheme (ALS)	Yes: 1 point. If commit to use HCV ALS licensed assessors for all HCV assessments. Partial: 0.5 points. Specify use of HCVRN assessors but not clearly ALS; specify use of HCV ALS licensed assessors but only in limited circumstances. No: 0 points.
40	High Conservation Value (HCV) assessments available	Yes: 1 point. HCV assessment reports or summaries freely available online. Partial: 0.5 points. HCV assessments clearly cover only a limited portion of company operations (e.g. one specific geography the company is known to operate in); or clearly don't cover all ongoing activities (e.g. new plantation development). No: 0 points. If none available or available only on request. External source: HCVRN webpage: https://www.hcvnetwork.org/als/public-summaries
41	High Conservation Value (HCV) management and monitoring plans available	Yes: 1 point. HCV management and monitoring plans or summaries available (either as standalone documents or within HCV assessment reports). Partial: 0.5 points. HCV management and monitoring plans or summaries available for only some of the HCV assessments conducted. No: 0 points. If none available or available only on request.
42	Commitment to the High Carbon Stock (HCS) Approach	Disable if only natural-forest based operations. Yes: 1 point. Commitment to apply the HCS Approach, as defined by the HCS Approach Toolkit, to all new development/planting. Partial: 0.5 points. If unclear if applies to all new development/planting; or if not clearly using the HCS Approach, but another high carbon stock assessment methodology. No: 0 points.
43	High Carbon Stock (HCS) assessments available	Disable if only natural-forest based operations or company confirms no expansion of plantation area since April 2015. Yes: 1 point. Any HCS assessment report or summary publicly available, either using the HCS Approach or another high carbon stock method. No: 0 points. If none available; or state have done HCS assessments, but no documents or summaries available. External source: HCS Approach website http://highcarbonstock.org/registered-hcs-assessments/

44	Commitment to conduct social and environmental impact assessments (SEIAs)	Yes: 1 point. Commitment to conduct SEIAs (or both EIA and SIAs) prior to all new development/planting. Local equivalents are acceptable: e.g. AMDALs as EIA in Indonesia. Partial: 0.5 points. If not clear commitment to SEIAs prior to all new development/planting; only mention EIA or SIA. No: 0 points.
45	Social and environmental impact assessments (SEIAs) available	Yes: 1 point. At least one SEIA (full report or summary) publicly available. All SEIAs made publicly available have associated management and monitoring plans (full plans or summaries). Partial: 0.5 points. SEIAs have been made publicly available, but do not have management and monitoring plans; only SIAs or EIAs have been made publicly available. No: 0 points. If none available; or only state have done SEIAs, but no documents or summaries available. n.b. HCS assessment reports include FPIC, HCV and SEIA summaries. External sources: HCS Approach website http://highcarbonstock.org/registered-hcs-assessments/ , other NGO/consultancy websites (e.g. TFT, Daemeter).



Soils, fire and greenhouse gas (GHG) emissions

ID	Indicator	Research protocols
46	Commitment to best management practices for soils and/or peat	Yes: 1 point. Commitment to best management practices (BMPs) for soils and peat (or only soils if state no peat). For example, not degrading, reducing compaction, no erosion, or conserving soils. Must be a full commitment to best practice, not only a limited selection of practices (e.g. a simple statement on preventing erosion). Partial: 0.5 points. Only mention BMPs for soils but have landbank on peat; or only mention BMP for peat and have landbank on mineral soil. No: 0 points. None or only covers a limited selection of practices.
47	Commitment to reduced impact logging	Disable if only plantation-based operations. Yes: 1 point. Commitment to use reduced impact logging (RIL) techniques across all operations. Must be a full commitment to best practice, not limited number of techniques. Partial: 0.5 points. Vague statement about using reduced impact logging techniques; reduced impact logging case study but no policy. No: 0 points. None or only covers a limited selection of practices. n.b. example RIL techniques include: planning roads and skid trails to minimise disturbance; planning of log landings to reduce unnecessary openings and soil disturbance; low skid trail density; heli-logging; cutting of vines prior to harvesting; limiting the amount of stand basal area removed; conducting logging operations only under favourable conditions, e.g. dry soils.
48	Commitment to no planting on peat of any depth	Disable if only natural-forest based operations or company confirms that they have no operations on peatland. Yes: 1 point. Clear commitment to no planting on peat for all new development/all new planting/all sourcing for all depths or all peatlands. Partial: 0.5 points. Only certain depths or unclear if commitment applies to all new development/planting/sourcing; or commitment doesn't apply to all types of peatland (e.g. excludes non-forested). No: 0 points.
49	Commitment on peatland planting applies to outgrower scheme and independent suppliers	Disable if only natural forest-based production; or if have no outgrower scheme and no independent suppliers; or if company confirms suppliers have no landbank on peat. Yes: 1 point. Commitment applies to outgrower scheme and independent suppliers (if have both). Max 0.5 points awarded if peat policy only partially meets assessment requirements (see above question). Partial: 0.5 points. Commitment only applies to outgrower scheme suppliers or independent suppliers (if have both). No points awarded if peat policy only partially meets assessment requirements (see above question). No: 0 points.

50	Landbank or planted area on peat (ha)	Disable if company confirms that they have no operations on peatland. Yes: 1 point. Report total area that is peatland. Input figure in hectares or %. Partial: 0.5 points. If data more than two years old. No: 0 points. No data or if data more than 5 years old or undated.
51	Evidence of best management practices for soils and/or peat	Yes: 1 point. Evidence of implementation of BMPs for soils and peat (or only soils if state no peat). For example: reduced/low impact timber extraction; nutrient recycling; no planting on marginal or fragile soils; reducing erosion through terracing or ground cover; management of water levels; training courses/workshops. Partial: 0.5 points. Only show evidence of soil management but have landbank on peat; or only show evidence of peat management. No: 0 points.
52	Commitment to zero burning	Disable if only natural forest-based production. Yes: 1 point. Clear commitment to no or zero burning for all new development/planting/sourcing. Partial: 0.5 points. No burning commitment, but not clear if applies to all new development/planting/sourcing; or only a commitment to limit the use of fire. No: 0 points.
53	Commitment to zero burning applies to outgrower scheme and independent suppliers	Disable if only natural forest-based production or have no outgrower scheme and no independent suppliers. Yes: 1 point. Commitment applies to outgrower scheme and independent suppliers (if have both). Max 0.5 points awarded if zero burning policy only partially meets assessment requirements (see above question). Partial: 0.5 points. Commitment only applies to outgrower scheme suppliers or independent suppliers (if have both). No points awarded if zero burning policy only partially meets assessment requirements (see above question). No: 0 points.
54	Evidence of management and monitoring fires	Yes: 1 points. Evidence of at least one monitoring and one management activity. May also undertake other activities that show evidence of fire management and monitoring. For example: system for monitoring hotspots/fires; area monitored for hotspots/fires; how manage/deal with reported fires; measures to prevent fires (where ecologically appropriate). Partial: 0.5 points. Only one type of activity mentioned; activities only relate to one part of a company's operations. No: 0 points.
55	Details/number of hotspots/fires in FMUs controlled by the company	Yes: 1 point. Total number of hotspots/fires or details on all hotspots/fires over specified timeframe within FMUs controlled by the company. Partial: 0.5 points. Only report limited information on fires/hotspots within FMUs controlled by the company (e.g. covers a limited area), or data more than two years old. No: 0 points. No data or data more than 5 years old or undated.
56	Time-bound commitment to reduce GHG emissions intensity	Yes: 1 point. Time-bound commitment to reduce GHG intensity by specific timeframe (i.e. by X% by YYYY). Partial: 0.5 points. Commitment but not time-bound; commitment does not cover all timber and pulp operations. GHG target but does not report on intensity specifically. No: 0 points. No target just vague commitment to reduce general emissions or GHG emissions.
57	Progress towards reducing GHG emission intensity	Yes: 1 point. Met/maintaining commitment or progressing towards commitment on GHG intensity. Partial: 0.5 points. Reports GHG intensity but no target in place (input figure); reports progress but not meeting commitment or commitment does not cover all timber and pulp operations; reports progress for another form of GHG data (e.g. overall emissions); data is more than two years old. No: 0 points. Not reported or data more than 5 years old.
58	Report GHG emissions from land use change	Disable if only natural forest-based operations. Yes: 1 point. Report land use change emission figures. Partial: 0.5 points. Not clear whether the data provided covers just forestry operations or whole operations; or data is more than 2 years old. No: 0 points. No data or data more than 5 years old.
59	Methodology used to calculate GHG emissions	Yes: 1 point. State methodology used (e.g. WRI/WBCSD GHG Protocol). No: 0 points.



Water, chemical and waste management

ID	Indicator	Research protocols
60	Time-bound commitment to improve water quality (BOD and COD)	Disable if the company has neither pulp and paper mills nor sawmills. Yes: 1 point. Time-bound commitment to improve both BOD and COD across all mills; or already met target. Partial: 0.5 points. Commitment only refers to a limited sub-set of company operations (i.e. some mills); or limited set of water quality measures (i.e. only either BOD or COD); or BOD and COD commitment to improve water quality but this is not time-bound. No: 0 points.
61	Progress towards commitment on water quality (BOD and COD)	Disable if the company has neither pulp and paper mills nor sawmills. Yes: 1 point. Met/maintaining commitment or progressing towards targets on water quality for both BOD and COD; or company reports that BOD and COD are within or exceed legal limits. Partial: 0.5 points. Reporting progress on water quality, but not meeting/progressing targets for both BOD and COD; or only reports figures for BOD or COD. No: 0 points. No figures reported.
62	Protection of natural waterways through buffer zones	Yes: 1 point. State have/evidence that have buffer or riparian zones to protect natural waterways across all operations; or that waterways will be avoided and protected during all harvesting (natural-forest based operations only). Partial: 0.5 points. Buffer or riparian zones/protection not in place across all operations or unclear whether this is the case. No: 0 points.
63	Evidence of treatment of pulp and paper mill effluent	Disable if no pulp and paper mills. Yes: 1 point. Treat wastewater from pulp and paper mills (do not just discharge into waterways without treatment). Partial: 0.5 points. If mention treatment of waste water, but do not mention pulp and paper production explicitly. No: 0 points.
64	Evidence of sawmill run-off containment and wastewater treatment	Disable if no sawmills. Yes: 1 point. Treat wastewater from sawmills and control run-off from log yards. Partial: 0.5 points. Mention only treatment of wastewater or control of run-off. No: 0 points. n.b. examples of treatment and control include: use of impervious surfaces, sealed joints, and spill containment curbs to prevent leaching; recycling of irrigation water; separation of floatable solids such as wood fines using Dissolved Air Floatation (DAF); filtration for separation of filterable solids; flow and load equalisation; sedimentation for suspended solids reduction using clarifiers; biological treatment, typically aerobic treatment.
65	Time-bound commitment to improve water use	Disable if no pulp and paper mills. Yes: 1 point. Time-bound commitment to improve water use (or efficiency) across all mills. Partial: 0.5 points. Commitment refers to only a limited sub-set of company operations; commitment in place but not time bound. No: 0 points.
66	Progress towards commitment on water use	Disable if no pulp and paper mills. Input figure in figure field and unit in explanation. Yes: 1 point. Met/maintaining commitment or progressing towards commitment on water use. Partial: 0.5 points. Reporting progress or figures on water use, but not meeting commitment or have no commitment in place. No: 0 points.
67	Commitment to eliminate chlorine and chlorine compounds for bleaching	Disable if doesn't own pulp and paper mills. Yes: 1 point. Time-bound commitment to eliminate chlorine and chlorine compounds for bleaching in paper production; or statement that this has already been achieved. Partial: 0.5 points. Commitment to eliminate chlorine and chlorine compounds for bleaching in paper production but commitment is not time-bound. No: 0 points. No commitment. n.b. elemental Chlorine Free (ECF) technology is not acceptable, only Total Chlorine Free (TCF) technology.

68	Evidence of minimising or recycling wood waste produced during sawmilling processes	Disable if don't have sawmills. Yes: 1 point. Evidence of activities to reduce generated wood waste and/or treat/recycle wood waste that is generated. Generation of power is acceptable. No: 0 points.
69	Commitment to minimise the use of chemicals, including pesticides and chemical fertilisers	Yes: 1 point. Commitment to minimise, reduce or limit the use of chemicals/toxins, mentioning both (chemical) fertilisers and pesticides (if both used). Partial: 0.5 points. If only generally mention reducing chemical/pesticides/fertilisers use. No: 0 points.
70	No use of World Health Organisation (WHO) Class 1A and 1B pesticides	Yes: 1 point. Do not use or only use in emergency/exceptional circumstances (e.g. have a Pesticide Derogation from the FSC). Partial: 0.5 points. Time-bound plan for phasing out or only use on specific circumstances. No: 0 points. No or general statement on phasing out and no time-bound plan.
71	No use of chemicals listed under the Stockholm Convention and Rotterdam Convention	Yes: 1 point. Do not use or only use in emergency/exceptional circumstances (e.g. have a Pesticide Derogation from the FSC). Partial: 0.5 points. Time-bound plan for phasing out; or only use on specific circumstances; or only mention one of the conventions. No: 0 points. No or general statement on phasing out and no time-bound plan.
72	Integrated Pest Management (IPM) approach	Yes: 1 point. Clearly have an integrated pest management (IPM) approach – e.g. clear statement about the use of IPM or provide evidence of using natural pest control, figures showing reduction in chemical pesticide use, etc. Partial: 0.5 points. Mention IPM, but unclear if implementing this; simply describe what IPM is. No: 0 points.
73	Chemical usage per ha or list of chemicals used	Yes: 1 point. Chemical usage figures per ha (e.g. fertiliser use or toxicity level); or list of chemicals used in timber and pulp operations. Partial: 0.5 points. Chemical usage figures only for some parts of company, or unclear what figures relate to. No: 0 points. No data or data more than 5 years old.



Community, land and labour rights

ID	Indicator	Research protocols
74	Commitment to human rights, referencing the UN Declaration of Human Rights or UN Guiding Principles on Business and Human Rights	Yes: 1 point. Have commitment to respect/recognise human rights and refer to UN Declaration on Human Rights or UN Guiding Principles on Business and Human Rights (also known as the UN Ruggie Principles or Ruggie Framework of “Protect, Respect and Remedy”); or commit to human rights principles as part of being UN Global Compact member. Partial: 0.5 points. Only mention human rights. No: 0 points. n.b. record if reference found to another international declaration on human rights. To be reviewed on a case by case basis.

75	Commitment to human rights applies to outgrower scheme and independent suppliers	Disable if have no outgrower scheme and no independent suppliers. Yes: 1 point. Commitment applies to outgrower scheme and independent suppliers (if have both, or only to one if only have one). Max 0.5 points awarded if human rights policy only partially meets assessment requirements (see above question). Partial: 0.5 points. Commitment only applies to outgrower scheme suppliers or independent suppliers (if have both). No points awarded if human rights policy only partially meets assessment requirements (see above question). No: 0 points.
76	Commitment to respect indigenous and local communities' rights	Yes: 1 point. Commitment to indigenous and local communities' rights that includes reference to the UN Declaration on the Rights of Indigenous Peoples or ILO Indigenous and Tribal Peoples Convention (no. 169). Can reference UNDRIP/ILO 169 elsewhere if clearly commit to it. Partial: 0.5 points. Do not reference the UN Declaration/ILO but do commit to local communities and/or indigenous rights; or only mention local communities and indigenous rights in relation to land tenure or FPIC. No: 0 points. n.b. record if reference found to another international declaration on indigenous rights. To be reviewed on a case by case basis.
77	Commitment to respect legal and customary property rights	Yes: 1 point. Commitment/respect for legal and customary (or traditional) land tenure (or property) rights; or for ownership and access/use land rights. Partial: 0.5 points. Only commits to customary/traditional/use land rights; or only legal land rights. No: 0 points. Only mentions legal land ownership. n.b. commitment to legal and customary rights may not be in the same place.
78	Commitment to free, prior and informed consent (FPIC)	Yes: 1 point. Commitment applies to all new development/all new planting or state that FPIC is respected across all operations or similar. Partial: 0.5 points. If unclear commitment or if clearly limited in scope. No: 0 points.
79	FPIC commitment applies to independent suppliers	Disable if no independent suppliers. Yes: 1 point. FPIC commitment applies to independent suppliers or all suppliers. Partial: 0.5 points. If only have partial commitment for indicator above or unclear commitment. No: 0 points.
80	Details of free, prior and informed consent (FPIC) process available	Yes: 1 point. Flowchart or series of steps taken or description of methodology setting out in detail how FPIC principle is operationalised. Partial: 0.5 points. Flowchart or steps available but limited detail. No: 0 points. n.b. HCS assessment reports include FPIC, HCV and SEIA summaries. External sources: HCS Approach website http://highcarbonstock.org/registered-hcs-assessments/ , other NGO/consultancy websites (e.g. TFT, Daemeter).
81	Details of process for addressing land conflicts available	Yes: 1 point. Reports that has process for addressing land conflicts, such as land conflict resolution process, or similar. Partial: 0.5 points. Reports that have land conflict process, but very limited detail; or that have conflict process, but unclear if covers land conflicts. No: 0 points.
82	Commitment to mitigate impacts on food security	Yes: 1 point. Commitment to ensure local food security through assistance with crop diversity and/or security of food prices. Partial: 0.5 points. If only mention food security or access to food, but not clearly in relation to local needs; or food security case study but no policy. No: 0 points. n.b. food security can be defined as physical and economic access to sufficient, safe and nutritious food to meet dietary needs.
83	Commitment to provide essential community services and facilities	Yes: 1 point. Commitment to provide essential community services and facilities. Company provides at least one example of how facilities and/or services have been provided to communities. Partial: 0.5 points. Commitment in place, but no examples; or examples but no commitment. No: 0 points. n.b. examples of community services and facilities include: schools built and/or maintained; medical centres built and/or maintained; access to vaccines and medication; access to clean, drinkable water; access to electricity; housing provided and/or maintained; other buildings provided, as agreed with the local communities.

84	Commitment to respect all workers' rights	Yes: 1 point. Commitment to respect workers' or labour rights and specify all workers, including direct, indirect, migrant, temporary, casual, etc. Partial: 0.5 points. If only mention workers' rights without specifying scope of the commitment (i.e. whether it covers all types of employee). No: 0 points.
85	Reference to Fundamental ILO Conventions	Yes: 1 point. Refer to all Fundamental ILO Conventions either by stating commit to all Fundamental ILO Conventions; referring to ILO number; or referring to the same language as the title (i.e. state "freedom of association"); or state they commit to the ILO's Declaration on Fundamental Principles and Rights at Work; or commit to Free and Fair Labour Principles. Partial: 0.5 points. Refer to four or more ILO Conventions. No: 0 points. Refer to fewer than four ILO conventions. Eight Fundamental ILO Conventions: Freedom of Association (No. 87); Right to Organise and Collective Bargaining (No. 98); No Forced Labour (No. 29 & No. 105); Minimum Age (No. 138); Worst Forms of Child Labour (No. 182); Equal Remuneration (No. 100); No Discrimination (No. 111).
86	Total number of employees	Yes: 0.5 points. Across all operations or for timber and pulp operations, if specified. Calculate total if data available and easy to sum. No: 0 points. Figure is difficult to calculate using available data (e.g. not simple addition or subtraction of clearly related figures) or not reported or data more than two years old or undated.
87	Percentage or number of temporary employees	Yes: 1 point. Across all operations or for timber and pulp operations, if specified. May also be called casual, contract or seasonal employees. Partial: 0.5 points. Data more than two years old. No: 0 points. Not reported or data more than 5 years old or undated.
88	Percentage or number of women employees	Yes: 1 point. Across all operations or for timber, pulp and paper operations, if specified. Partial: 0.5 points. Data more than two years old; figure clearly does not cover all employees (e.g. is only reported for operations in one country); or if figure is difficult to calculate using available data (e.g. not simple addition or subtraction of clearly related figures). No: 0 points. Not reported or data more than five years old or undated.
89	Commitment to pay minimum wage	Yes: 1 point. Evidence that all workers are paid the minimum wage (e.g. using ratio of entry level wage to local minimum wage in line with GRI reporting). Partial: 0.5 points. Company states that a minimum wage is paid to all workers, but no evidence provided; if state minimum wage paid or that pay legal minimum wage, but this is not paid to all workers (e.g. temporary workers paid less); or data more than two years old. No: 0 points. No data or if data more than 5 years old or undated.
90	Commitment to address occupational health and safety, referencing the ILO Code of Practice on Safety and Health in Forestry Work	Yes: 1 point. Commitment to address health and safety at work or similar for all workers, referencing the ILO Code of Practice on Safety and Health in Forestry Work. Partial: 0.5 points. Commitment does not cover all employees; or does not reference ILO Code of Practice on Safety and Health in Forestry Work. No: 0 points.
91	Time lost due to work-based injuries	Yes: 1 point. For whole company or for timber, pulp and paper operations (i.e. FMUs, processing facilities, etc.). Acceptable metrics include lost time accident rate, lost days rate, accident frequency rate or equivalent. Partial: 0.5 points. If unclear what the provided data relates to; or data more than two years old; or data clearly does not cover all employees (e.g. is only reported for operations in one country). No: 0 points. No data; or over five years old; or undated; or data does not cover forestry operations.

92	Number of fatalities as a result of work-based accidents	Yes: 1 point. For whole company or for timber and pulp operations (FMUs, processing facilities etc.). Partial: 0.5 points. If unclear what the provided data relates to; or data more than two years old; or data clearly does not cover all employees (e.g. is only reported for operations in one country or does not include temporary employees). No: 0 points. No data, or over 5 years old, or doesn't cover timber and pulp operations (e.g. only rubber operations).
93	Provision of personal protective equipment and related training	Yes: 1 point. Specify that company provides personal protective equipment (PPE) and related training (e.g. pesticide or chainsaw training) to all employees involved in timber and pulp operations. Partial: 0.5 points. Only mention PPE or training; or data clearly does not cover all employees (e.g. is only reported for operations in one country or does not include temporary employees). No: 0 points.



Certification standards

ID	Indicator	Research protocols
94	Percentage area (ha) verified as being in legal compliance by a third party	Indicator refers to landbank directly controlled (i.e. excluding independent smallholders and outgrower schemes). Award points based on % of land bank verified as being in mandatory (e.g. SVLK) or voluntary (e.g. Rainforest Alliance Timber Legality Verification, NEPCon LegalSource) legal compliance (VLC) by a third party – including percentage certified under FSC or PEFC (or other SFM standard that provides legality verification): 1 point: 75%-100%; 0.5 points: 50-74%; 0 points: 0-49%; or not third party verified; or report verified legal origin (VLO) only; or not reported in terms of percentage of FMU area; or percentage cannot be accurately calculated using available figures, or data over 5 years old. n.b. if multiple schemes used total percentages (if clearly exclusive of each other); or use % figure for the largest amount verified (if cannot determine whether schemes overlap).
95	Percentage wood/wood fibre supply verified as being in legal compliance by a third party	Disable if no independent or outgrower scheme suppliers. Award points based on % of supply verified as being in mandatory (e.g. SVLK) or voluntary (e.g. Rainforest Alliance Timber Legality Verification, NEPCon LegalSource) legal compliance (VLC) by a third party – including percentage certified under FSC or PEFC (or other SFM standard that provides legality verification): 1 point: 75%-100%; 0.5 points: 50-74%; 0 points: 0-49%; or not third party verified; or report VLO only; or not reported in terms of percentage of wood/wood fibre supply; or percentage cannot be accurately calculated using available figures or data is over 5 years old. n.b. if multiple schemes used total percentages (if clearly exclusive of each other); or use % figure for the largest amount verified (if cannot determine whether schemes overlap)
96	Time-bound plan for achieving 100% FSC FM certification of FMUs	Target can refer to all FMUs directly controlled or all those eligible for FSC FM certification given 1994 cut-off. Yes: 1 point. If target within 5 years or already met. No: 0 points. If target over 5 years or if missed target.
97	Commitment to source only wood/wood fibre that meets FSC Controlled Wood requirements	Disable if no independent or outgrower scheme suppliers. Yes: 1 point. Commitment to only source wood/wood fibre that meets FSC Controlled Wood requirements (or mention all requirements individually). Award point automatically if all wood/wood fibre sourced is FSC certified (see indicator). No: 0 points. n.b. PEFC certified material is not currently considered to meet the requirements of FSC Controlled Wood. (FSC categories of unacceptable material: harvested illegally; harvested in violation of traditional and civil rights; harvested from forests with a high conservation value that is threatened by management activities; harvested from forests being converted to plantations or non-forest use; wood from forests in which genetically modified trees are planted.)

98	Percentage area (ha) FSC FM certified	Indicator refers to landbank directly controlled (i.e. excluding independent smallholders and outgrower schemes). Award different points based on %: 2 points: 75%-100%; 1.5 points: 50-74%; 1 point: 25-49%; 0.5 points: 1-24% or data more than two years old; 0 points: 0% or no data or data over 5 years old; or percentage figure cannot be calculated using available data; or if it is not clear whether figure quoted refers only to operations directly controlled or includes that of independent suppliers. If company is disassociated from the FSC still assess against indicator. n.b. acceptable certificates must have FM or FM/COC codes. CW codes are not acceptable – these refer to forests assessed against the FSC Controlled Wood Standard.
99	Percentage of wood/wood fibre supply from outgrower scheme and/or independent suppliers that is FSC FM certified	Disable if company has neither outgrower scheme nor independent suppliers. Both 100% FSC FM certified and FSC Mix acceptable. Award different points based on %: 2 points: 75%-100%; 1.5 points: 50-74%; 1 point: 25-49%; 0.5 points: 1-24% or data more than two years old; 0 points: 0% or no data or data over 5 years old; or percentage figure cannot be calculated using available data.
100	Percentage area (ha) PEFC certified	Disable if do not operate in a country with a PEFC-endorsed SFM standard; or if company has 100% FSC certification of its landbank; or a time-bound plan for achieving 100% FSC certification. Indicator refers to landbank directly controlled (i.e. excluding independent smallholders and outgrower schemes). 2 points: 75-100% of non-FSC certified FMUs certified by a PEFC-endorsed SFM standard; 1.5 points: 50-74%; 1 point: 25-49%; 0.5 points: 1-24% or data more than two years old; 0 points: 0% or no data or data over 5 years old; or percentage figure cannot be calculated using available data; or if it not clear whether figure quoted refers only to operations directly controlled or includes that of independent suppliers. (List of endorsed national standards: https://www.pefc.org/standards/national-standards/endorsed-national-standards). External sources: List of IFCC (Indonesian PEFC standard) certified companies including landbank: http://www.ifcc-ksk.org/2015-02-17-06-11-24/2015-02-17-06-12-36.html ; list of Cerflor (Brazilian PEFC standard) certified companies including landbank: http://www.inmetro.gov.br/qualidade/pdf/empresas-cerflor.pdf



Smallholders and suppliers

ID	Indicator	Research protocols
101	Programme to support outgrower scheme smallholders	Disable if no outgrower scheme smallholders. Yes: 1 point. Has programme to support outgrower scheme smallholders and provides details of types of support. Partial: 0.5 points: Has programme to support outgrower scheme smallholders. No: 0 points. (Example activities include: yields and productivity, health and safety training, good forestry practices, financial management, increasing access to inputs and markets, cooperative development, securing land tenure, certification, etc.)
102	Percentage of outgrower scheme smallholders involved in programme	Disable if no outgrower scheme smallholders. Yes: 1 point. Clearly state number or percentage of smallholders supporting. Partial: 0.5 points. Provides some details on numbers of smallholders, but unclear how many supported directly. No: 0 points. No data; data more than 5 years old; or from an undated source. External source: TFT Transparency Hub.

103	Process used to prioritise, assess and/or engage suppliers on compliance with company's policy and/or legal requirements	Disable if no independent or outgrower suppliers. Yes: 1 point. Describe the tools or method that the company uses to prioritise, assess and/or engage suppliers on legal or policy compliance (e.g. risk assessments, monitoring, details of engagement process, etc.). Partial: 0.5 points. If only describe for ensuring compliance with some parts of legal or policy requirements (i.e. only refer to human rights compliance). No: 0 points.
104	Suspension or exclusion criteria for suppliers	Disable if company has no independent or outgrower suppliers. Yes: 1 point. If clearly state criteria by which suppliers are excluded, such as steps that will be taken and timeframes for action. No: 0 points.
105	Percentage of suppliers assessed and/or engaged on compliance with company requirements	Disable if no independent or outgrower suppliers. Yes: 1 point. Clearly provide figure on number or percentage of suppliers assessed/engaged. Partial: 0.5 points. Unclear figures; or information only relates to one part of company's operations (i.e. only one country it operates in). No: 0 points. No data; data more than 5 years old; or from an undated source.



Governance and grievances

ID	Indicator	Research protocols
106	Commitment to ethical conduct and prohibition of corruption	Yes: 1 point. Commitment to both (1) ethical/fair conduct and (2) prohibition of corruption (such as bribery and fraud). Partial: 0.5 points. Only mentions one. No: 0 points.
107	Whistleblowing procedure	Yes: 1 point. Flowchart or clear description of steps taken, including how whistleblowers are protected. Partial: 0.5 points. If only state that they allow for whistleblowing. No: 0 points.
108	Own grievance or complaints system	Yes: 1 point. Clear grievance or complaints system e.g. employees can fill in a specific form if they have a grievance. Partial: 0.5 points. If only mention they have grievance system, but no other details, or only system for certain issues or in relation to only certain policies. State in answer. No: 0 points
109	Grievance or complaints system is accessible to internal and external stakeholders	Yes: 1 point. Grievance or complaints system is accessible to internal and external stakeholders. Partial: 0.5 points. Grievance or complaints system is accessible to only internal or external stakeholders. No: 0 points.
110	Details of grievances disclosed	Details of grievances disclosed, if anonymity not requested, including the following details: date; issue; complainant category; actions taken; status. 2 points: all details disclosed; 1 point: three or four details; 0.5 points: one or two details; 0 points: none or only provide a summary table on number and type of grievances.