

Public report
on the assessment of

certification schemes
SFI-FMS and SFI-CoC
(request for advice from September 2018)

against the Dutch legal sustainability criteria
for solid biomass for energy applications

by the

Advisory Commission on Sustainability
of Biomass for Energy Applications

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1 Introduction

1.1 Dutch sustainability criteria for solid biomass for energy applications

In September 2013 more than 40 Dutch government bodies, companies and non-governmental organisations endorsed the National Energy Agreement for Sustainable Growth. Part of this Agreement deals with targets for the more sustainable use of energy in the years 2020 and 2023. Bio-energy plays an important role in meeting these targets. It was also agreed that sustainability criteria would be formulated for the large-scale application of biomass for cofiring in coal-fired power plants, and that these sustainability criteria would include forest management and climate aspects like greenhouse gas emissions, carbon debt and indirect land use change.

A working group with representatives from energy companies, environmental organisations and the government has further developed the sustainability criteria into principles and underlying criteria. As from 2015 these principles and criteria have been included as a condition in the subsidy regulation SDE+ for cofiring and for production of industrial steam from wood pellets, and from beginning 2018 these principles and criteria are laid down in environmental legislation. In order to demonstrate compliance with these principles and criteria, companies need to demonstrate that the biomass used fully meets the legal requirements. This can be achieved by use of certification schemes and/or by use of the verification protocol approved for this purpose by the Dutch minister of Economic Affairs and Climate Policy (minister of EZK).

1.2 The advisory commission sustainability biomass for energy applications

The independent advisory commission sustainability of biomass for energy applications (further in this document “commission” or “advisory commission” or “ADBE”) is installed by the Dutch government. The commission advises the minister of EZK on the extent to which certification schemes comply with the sustainability criteria in the Dutch legal *‘regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen’*. The commission only gives advice on request of the minister, who receives applications for approval of certification schemes and has to decide on the approval. The minister of EZK will approve certification schemes per individual sustainability criterion, and will only approve schemes which address all management criteria. The use of a certification scheme leads to one or several claims (for instance “SFI Certified Forest Content”). The ADBE will advise which Dutch sustainability criteria are covered by the claim of the scheme.

Energy companies can use the approved certification schemes and their claims to demonstrate that the solid biomass which they use complies with the Dutch legal sustainability criteria, either as “sustainable biomass” or as “controlled biomass”. Demonstrating compliance is a condition for receiving subsidy from the so-called [SDE+ subsidy scheme](#) for cofiring of solid biomass in coal-fired power stations or for the large-scale production of industrial steam from solid biomass. Certification schemes might not be approved for all sustainability criteria. In this case a combination of two or more certification schemes and/or a combination of certification and verification might be required to show compliance with all Dutch legal sustainability criteria.

1.3 Readers guide

In chapter 2 of this report the assessment procedure of the advisory commission plus the application by SFI and the timeline of the assessment are briefly explained. Chapter 3 gives a summary of the findings from the assessment by the commission for the certification schemes SFI 2015-2019 Forest Management Standard and SFI 2015-2019 Chain of Custody Standard. In chapter 4, details on the commission’s judgement are given, and chapter 5 lists the documents that were used when performing this assessment. This report comes with two annexes: the first annex gives background information on the requirements for biomass categories and the Chain-of-Custody (CoC) system from Dutch legislation, and the second annex lists the abbreviations that are used throughout this report.

2 The commissions' assessment procedure and assessment of SFI

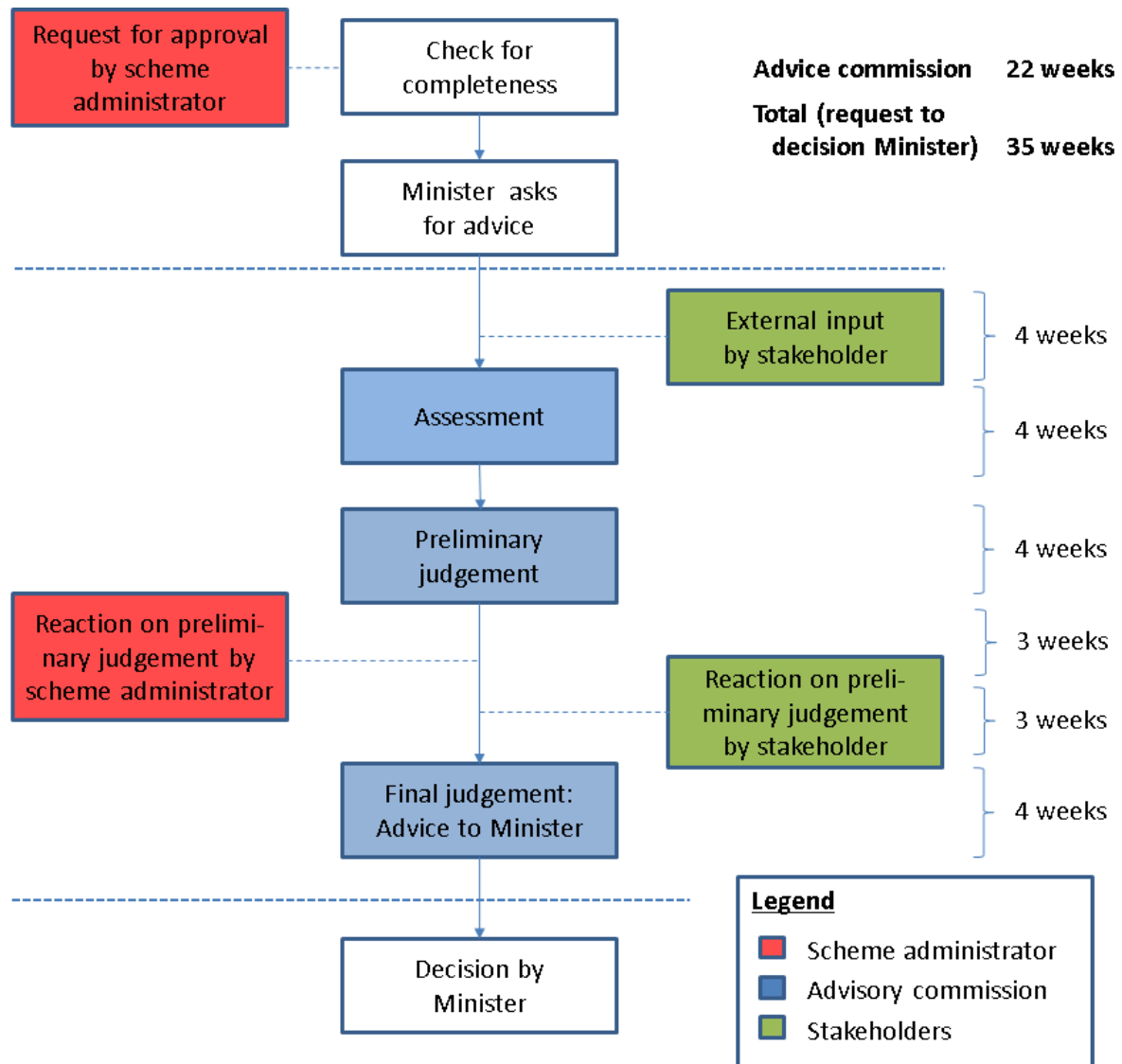
2.1 Assessment protocol

The assessment procedure of the advisory commission is described in a document called "toetsingsprotocol" (assessment protocol). The actual version of this protocol can be found on the [website of the advisory commission](#). The assessment protocol is available in Dutch language only. An English summary of the assessment procedure can be found on [this webpage](#).

The certification scheme SFI is assessed using version 2.2 of the assessment protocol.

2.2 Summary of the assessment procedure

Schematically the procedure is visualised in the figure below.



2.3 Application by SFI

The SFI scheme manager made an application to the Dutch ministry of EZK in which approval is requested for two different SFI certification schemes. The request for approval for the certification scheme SFI 2015-2019 Forest Management Standard ("SFI FMS") concerns:

- the Dutch sustainability criteria under Principles P1 and P3 - P11;

- biomass categories 1 and 2; and
- geographical coverage “USA and Canada”.

The request for approval for the certification scheme SFI 2015-2019 Chain of Custody Standard (“SFI CoC”) concerns:

- the Dutch sustainability criteria under Principles P12 and P13;
- biomass categories 1, 2 and 5; and
- geographical coverage “Global”.

In the application form, the SFI scheme manager indicated that the SFI chain of custody requirements include controlled biomass.

The SFI certification scheme can result in three claims: “SFI certified forest content”, “SFI certified sourcing” and “SFI Recycled content”. In this report all three claims will be considered.

The following scheme documents were used for the assessment of the application:

- [SFI 2015-2019 Standards and rules](#) (January 2015)
- [Interpretations for the SFI 2015-2019 Standards and Rules](#) (January 2017)
- [SFI Transparency Policy](#) (June 2018)

2.4 Timeline of the SFI assessment

The commission received a request for advice from the minister of EZK on the SFI application on September 20, 2018. This was the second request for advice which the commission received on SFI; the first request for advice received in January 2018 did not result in an advice as the SFI scheme manager has withdrawn this first request for approval in June 2018.

The commission completed its preliminary judgement on the September 2018 request for advice in December 2018. This preliminary judgement was sent for comments to the scheme manager by mid-December, and the draft stakeholder report was sent for comments to the stakeholders by mid-January 2019.

On February 14, 2019 the commission came to its final judgement, which is described in this report. The advice which the commission has sent on February 26, 2019 to the minister of EZK consists of a cover letter, this public assessment report plus a stakeholder report.

2.5 External input

Stakeholders have been given the opportunity to submit external input to the commission during the first four weeks of the procedure (see also paragraph 2.2). For the certification scheme SFI, external input from two (groups of) stakeholders was received. This input plus a response by the commission formed the input for a separate stakeholder report.

3 Summary of findings on certification scheme SFI

A summary of the commission's findings on the application for approval by the certification scheme SFI is given in this chapter 3. Further details on the commission's findings are given in chapter 4 "Full assessment tables for certification scheme SFI". The sustainability and management criteria referred to by the numbers in this chapter and listed in chapter 4 are copied from the Dutch legal regulation (the *regeling conformiteitsbeoordeling vaste biomassa voor energietoepassingen*), effective as from 1 January 2018.

The commission's final judgement, based on the combined findings as described below, is that SFI can be approved for the sustainability criteria 4.1, 6.1, 6.2, 6.3, 7.1, 7.5, 8.1, 8.2, 8.4, 8.5, 8.6, 8.8, 9.1, 9.2, 10.1, 10.3, 10.4, 10.5 and 11.1 for biomass category 1 and 2 (this judgement applies to the claim "SFI certified forest content") and for criterion 12.1 for biomass categories 1 and 5 (SFI CoC Standard). The SFI FMS standard and the resulting claim "SFI certified forest content" can be approved for the geographical scope "United States of America and Canada" whereas the SFI CoC standard can be approved for the geographical scope "global".

SFI partly addresses sustainability criterion 8.3 and 10.2 (SFI FMS) and 12.5, 12.6, 13.2 and 13.3 (SFI CoC), the table in paragraph 4.3 shows which parts of these criteria are addressed.

3.1 Findings on classification of biomass and on the first link in CoC to be certified

SFI requested approval for wood from forest land (biomass category 1 and 2) under SFI-FMS for sustainability criteria under principles P1 and P2 – P11 and for wood from forest land and for biogenic residues and waste (biomass categories 1, 2 and 5) for criteria under principles P12 and P13 (SFI-CoC). SFI also applied for approval for controlled biomass.

SFI FMS certified companies supply wood from forests (category 1 or 2 biomass). The forest owner knows the size of the forest management unit (FMU) and can make a distinction between category 1 and 2 biomass. SFI FMS certification starts at the FMU, so the conditions on the first link in the CoC from Table 2 in Annex D of the Dutch regulation are met.

As SFI does not transfer Information about the size of the FMU through the Chain-of-Custody, the commission advises to approve the SFI CoC standard only for biomass categories 1 and 5, not for biomass category 2. Further details are given in paragraph 4.1.

3.2 Findings for management criteria

A certification scheme can only be approved if the scheme complies with all management criteria. The commission concludes that the SFI certification schemes SFI FMS and SFI CoC meet all management criteria. Further details are given in paragraph 4.2.

3.3 Findings for individual sustainability criteria

The minister of EZK will approve certification schemes per claim and per individual sustainability criterion from the Dutch regulation. The commission has assessed compliance against the Dutch sustainability criteria for three SFI claims: the claim "SFI certified forest content", the claim "SFI certified sourcing" and the claim "SFI Recycled content".

In the two paragraphs below, the tables combine the findings on the SFI CoC Standard with those for SFI FMS. The tables only show the names of the principles, they do not show names or descriptions of the individual criteria. Please refer to the tables in paragraphs 4.3 and 4.4 for further details. Green and yellow colours indicate the criteria for which the ADBE gives a positive advice.

3.3.1 Findings for the claim “SFI certified forest content” and for the SFI CoC Standard

For the claim “SFI certified forest content” and for the SFI CoC Standard, the table below summarises the findings of the advisory commission per individual sustainability criterion from the Dutch regulation. The results for the claim “SFI certified forest content” based on the SFI FMS standard are summarised in the rows “P1 – P11”, the results for the SFI CoC Standard in rows “P12 - P13”.

Principle	Number of the criterion as related to the respective principle to the left							
	1	2	3	4	5	6	7	8
P1: GHG emissions	Red							
P2: Soil quality	Grey							
P3: Carbon sinks	Red	Red	Red					
P4: Long-term carbon debt	Light green	Red	Red					
P5: Indirect Land Use Change (ILUC)	Red							
P6: Laws and regulations	Yellow	Yellow	Yellow					
P7: Carbon sinks	Light green	Red	Red	Red	Yellow			
P8: Regulating effect and quality, health and vitality of forest	Light green	Light green	Orange	Light green	Yellow	Light green	Red	Yellow
P9: Production capacity, safeguard future of forests	Light green	Yellow						
P10: Management system	Dark green	Orange	Dark green	Light green	Dark green			
P11: Forest management by a group or regional association	Dark green	Red						
P12: Chain of custody system	Dark green	Red	Red	Red	Orange	Orange		
P13: Chain of custody system for a group	Red	Orange	Orange					

Legend

Dark green colour :	The sustainability criterion is fully addressed by SFI FSM or SFI CoC.
Light green colour :	The sustainability criterion is largely addressed by SFI FSM or SFI CoC. Supplementary verification or another approved certification scheme is not needed
Yellow colour:	The sustainability criterion is covered otherwise.
Orange colour :	The sustainability criterion is partly addressed by SFI. Supplementary verification or another approved certification scheme is needed for those elements that are not addressed.
Red colour :	The sustainability criterion is not or is insufficiently addressed by SFI. Additional verification or another approved certification scheme is required for the entire sustainability criterion.
Grey colour :	No request for approval.

3.3.2 Findings for the claim “SFI certified sourcing” and “SFI Recycled content”

The commission has assessed whether SFI non-controversial sources comply with Dutch sustainability criteria 1.1, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 5, 7.1 and 7.3. The commission concludes that SFI non-controversial sources do not comply with any of the Dutch sustainability criteria. Moreover, as the SFI CoC claims do not include a category “non-controversial sources” and SFI non-controversial sources material will therefore arrive as part of a larger group of material with the claim “SFI Certified Sourcing” which can also contain pre-consumer recycled content and post-consumer recycled content, this material will not comply with the Dutch definition for controlled biomass. Therefore the commission advises to not approve SFI for controlled biomass as defined in Dutch legislation.

The SFI claim “SFI Recycled content” demonstrates that material is recycled material and hence is biomass category 5 according to the classification in the Dutch legislation.

4 Assessment tables for certification scheme SFI

This chapter contains four paragraphs on respectively a number of general topics of the SFI application (4.1), on the management criteria (4.2), on the sustainability criteria for the claim “SFI certified forest content” (4.3) and on the sustainability criteria for the claim “SFI certified sourcing” (4.4). The scores “3”, “2”, “1” and “0” plus the colours that are used in the tables in this chapter, are explained in the legend on the previous page.

This chapter does not contain further details for the claim “SFI Recycled content”. SFI requires that this material consists of pre-consumer recycled material or post-consumer recycled material, which demonstrates that it is biomass category 5 according to the classification in the Dutch legislation.

4.1 Assessment of classification of biomass and on first link in CoC to be certified

Annex D of the Dutch regulation contains two tables (which are copied into Annex I of this report) with a number of general requirements on biomass categories and on the first link in the CoC to be certified. The ADBE has assessed whether SFI meets these requirements.

One important aspect is whether SFI can make a distinction between the five biomass categories. After studying the SFI scheme documents, the commission concludes that throughout the SFI CoC biomass category 5 can be distinguished from categories 1 and 2, but category 1 cannot be distinguished from category 2 and vice versa. This is the case because information on the size of the FMU is not transferred through the CoC. As a consequence the commission will advise not to approve SFI CoC for biomass category 2.

The two SFI certification schemes comply with all other general requirements on biomass categories and on the first link in the CoC to be certified.

4.2 Assessment table for management criteria

The table below contains details of the assessment of the advisory commission on the SFI-FMS and SFI-CoC certification schemes against the Dutch management criteria from the “regeling conformiteitsbeoordeling vaste biomassa voor energiedoeleinden”.

Management criterion from the Dutch “regeling conformiteitsbeoordeling vaste biomassa voor energiedoeleinden”		ADBE judgement on whether SFI FMS and SFI CoC comply with the management criteria	Score
1	A widely supported need exists for the scheme and for the conformity assessments that are performed based on the scheme.	<p>In the USA there is a clear division in roles between the PEFC-recognized schemes SFI and ATFS, where SFI serves the larger and commercial landowners in the USA. Forests certified against the SFI Standard cover a quarter-billion acres, stretching from Canada’s boreal forest to the South of the USA. SFI FMS is PEFC endorsed.</p> <p>The commission’s opinion is that a need from a number of forest owners, industries and businesses can be considered to be a “widely supported need”. The commission observes that “widely supported need” is not defined in the legislation under which this assessment is made. The commission is of opinion that “widely” does not mean “all kind of stakeholders”, but rather means “a sufficient number of stakeholders”. As quite a large number of stakeholders have an interest in the SFI scheme, the commission concludes that there is a widely supported need for the scheme</p>	3

		and for the conformity assessments based on the scheme, and hence considers SFI to fully address management criterion 1.	
2	The development of the scheme is transparent and participation in the process of development of the scheme is open to anyone.	The SFI scheme development procedures are described in paragraph 1.2 of Section 8 of the SFI 2015-2019 Standards and rules. The SFI website gives names, affiliation and expertise of SFI staff members, the SFI Board and the SFI External Review Panel. The commission concludes that the SFI standards development process is transparent. SFI Inc. Board decisions regarding final changes to the SFI Standards shall be consistent with PEFC ST 1001:2010 for consensus based decision making. SFI Standards are revised every five years following a public review process, which includes recommendations from multi-stakeholder committees. The process includes an initial 60-day open public comment period, a second 60-day open public comment period and a final draft review period of at least 45 days by the SFI Board. All public comments plus the reaction by SFI are published on the SFI website . The commission therefore concludes that Dutch management criterion 2 is fully addressed by SFI.	3
3	The methods related to the development of the scheme are documented and at least include the organisations participating in the development of the scheme and the decision-making process for the development of the scheme.	The SFI scheme development procedures are described in Section 8 of the SFI 2015-2019 Standards and rules. In this section, the organisations which participate in the development of the scheme are described, as well as the different organisational bodies that function within SFI: the SFI Board, the Resources committee, the External Review Panel and the Forum. The Forum shall maintain records regarding all comments and their disposition for review by the independent External Review Panel. Written procedures shall be publicly available to all interested parties. Additional information on the SFI Standards Development process, regional workshop reports and stakeholder comments submitted during both public comment periods and how they were addressed shall be publicly available on the SFI website and also maintained for a minimum of five years. The commission concludes that Dutch management criterion 3 is fully addressed by SFI.	3
4	It can be demonstrated that during the development of the scheme and as part of the scheme management expertise of the sustainability requirements covered by the scheme is applied.	The SFI Board of Directors, Resources Committee and the External Review Panel (independent oversight role) constitute the Forum and ensure that the revision process includes economic, environmental and social representation. <ul style="list-style-type: none"> - SFI Board members include representatives of environmental, conservation, social professional and academic groups, independent professional loggers, small family forest owners, public officials, labour and the forest products industry; - The voluntary External Review Panel is made up of 15-18 external experts and has representatives from the main geographic regions of the USA and Canada where the SFI Standards are applied. Its members bring technical skills and organizational experience, with four to six members from each of the following categories – environmental/conservation groups, professional/academic groups, and public agencies. Panel members come from universities, government agencies, foundations, professional associations, and landowner/conservation organizations. - A stakeholder mapping exercise will be used to identify which interest sectors - both public and private - are relevant (environmental, economic, social) including stakeholders who may not be able to participate by conventional means and what means of communications will be best to reach each stakeholder group. <p>The commission therefore concludes that Dutch management criterion 4 is fully addressed by SFI.</p>	3
5	The scheme is publicly available or accessible under fair, reasonable and non-discriminatory conditions.	The standards are publicly available on the SFI website at no cost. The commission concludes that Dutch management criterion 5 is fully addressed by SFI.	3
6	The scheme manager limits the use of the scheme to the conformity assessment bodies he has entered into an agreement with, unless the scheme	SFI has added to Section 9 of the 2015-2019 SFI standards that "Accredited certification bodies that provide certification services for SFI Sections 2, 3 and 4 are required to sign a SFI Inc. Notification Contract". Sections 2, 3 and 4 of the 2015-2019 standards are the SFI FMS standard, the SFI FSS standard and the SFI CoC standard,	3

	owner itself is the only conformity assessment body.	respectively. Hence SFI does require notification contracts with its CBs that conduct SFI audits. The commission concludes that Dutch management criterion 6 is fully addressed by SFI FMS.	
7	The scheme manager has enforced effective procedures for handling complaints and appeal. Appeal is treated by persons that are not directly involved in the development and the management of the document.	<p>The first part of the Dutch management criterion M7 reads “The scheme manager has enforced effective procedures for handling complaints and appeal”. The understanding of the commission is that these include procedures for handling complaints and appeal against activities and decisions by SFI itself. In addition, for the activities and decisions by certification bodies (CBs) separate complaint and appeal mechanisms apply. From section 11 of the SFI 2015-2019 standards, the commission concludes that (1) complaints can be filed against a company (a program participant), a certification body, against SFI regarding on-product label use and against the External Review Panel regarding disposition of comments, and (2) that appeal can be filed against a certification body’s certification decision.</p> <p>Procedures for handling complaints and appeal on activities and decisions by SFI itself are laid down in the SFI transparency policy from June 2018. This policy mentions that complaints related to governance can be brought to the full SFI Board. If the response is not to the satisfaction of the complainant, the complainant can appeal the decision and it will be brought to the SFI External Review Panel, which is an independent body of experts.</p> <p>Thus, procedures for handling complaints and appeal on activities and decisions by SFI itself, treated by an independent body of experts, are in place which leads to the conclusion that SFI addresses this criterion. However, these procedures (e.g. timeframe, rules on composition of expert groups) are explained only very briefly and are given in a separate document as compared to (Section 11 in) document “SFI 2015-2019 Standards and Rules”. Therefore, the commission concludes that Dutch management criterion 7 is largely addressed by SFI.</p>	2
8	The scheme manager has a scheme version management system in place.	<p>All SFI Standards are revised every five years, at the same period. There is a clear management of version of the Standard and its sections, as the current standards are numbered “2015-2019”.</p> <p>The commission concludes that Dutch management criterion 8 is fully addressed by SFI.</p>	3

4.3 Assessment tables on sustainability criteria for the claim “SFI certified forest content”

The advisory commission has assessed whether the certification scheme SFI FMS and its claim “SFI certified forest content” addresses the Dutch sustainability criteria from the Dutch “*regeling conformiteitsbeoordeling vaste biomassa voor energiedoeleinden*”. The assessment results are given in the tables below.

Two general comments		
0.1	Broad indicators	<p>The commission has noted that some of the indicators under the SFI FMS standard (e.g. under Performance Measures 3.2, 4.1, 4.2 and 4.3) are broadly formulated, for instance by referring to “programs” or “plans”. Just checking whether these programs and plans are present is not sufficient evidence for demonstrating that the overarching performance measure is complied with. The commission has contacted a number of auditors. One of these auditors indicated that – in case a certification scheme contains indicators that are incomplete or inadequate for demonstrating compliance to the overarching criterion - in principle the auditor should add additional “Means of verification”. Other auditors indicate that of course the effectiveness of plans and programs must be evaluated, as the plans and programs must include means for ensuring reaching the intended goals and as the auditor has to cross-verify this with other evidences such as field visits. From the answers of the auditors it was however also clear that there is no standard way in which auditors deal with this situation. There was however also an auditor that stated that if all indicators are met and the standard is approved by SFI it would be enough that the certificate holder has (supported/participated in) programs or plans and the criterion would be considered as in compliance. As a result the commission understands that there is no guarantee that the implementation of plans and programs is required for a positive</p>

		<p>conclusion by the auditor. Audit reports will give an indication how auditors have dealt with – and probably are continue dealing with - this issue.</p> <p>The commission has looked into public SFI audit reports. Full audit reports are not made public by the auditors and SFI, so the commission has looked into a number of the summary audit reports that can be found on the SFI website. By looking into over 20 reports on SFI Forest Management Standard audits, the commission has developed the following picture.</p> <p>The level of detail in the public audit reports varies and is in some cases low, while in some other cases details are presented. Moreover, in some of these reports the conclusions are formulated in very general terms and some reports have a focus on general implementation of plans and programs. An example of such a formulation is “Based on the results of this ..[.]. audit it has been determined that the management system is effectively implemented and meets the requirements ..[.].”. To the opinion of the commission, the auditor’s task is also to perform field trips allowing to check whether the management system and other plans and programs result in compliance to the SFI performance measures and indicators “on the ground”.</p> <p>By looking into these summary audit reports the commission has however also observed that visual observations from the field trips are taken into account and can lead to non-conformities. The commission has also noted – from a 2016 surveillance audit on New York State Department of Environmental Conservation where more information was published than just the summary audit report – that visual observations per indicator for each performance measure were taken into account although this could not be concluded from the generally worded summary audit report.</p> <p>As a result, in case of general indicators (such as “plans or programs are present”) under a more concrete performance measure, (a) the commission has the opinion that the auditor shall also perform checks whether these plans and programs have been effectuated and whether they have led to the intended results, and (b) the commission has no reasons to conclude that auditors have not done so when performing conformity assessments against the SFI Forest Management Standard.</p>
0.2	Modifying indicators to address local conditions	<p>SFI allows that indicators are modified or substituted to address local conditions based on a thorough analysis and adequate justification (e.g. consistency with the SFI FMS standard, appropriateness). The certification body is responsible for ensuring that these revised indicators meet these conditions and a rationale should be laid down in the publicly available audit report.</p> <p>The commission concluded that the substitution of indicators (based on a cross-check from audit reports and response from SFI) is a rare occasion and if this happens, there is a transparent procedure to ensure that the adapted indicator justifies the intent of the performance measure. Based on the information from SFI reports and the responses from SFI, this substitution is most likely to occur when certain measures are not needed, or differently adapted.</p> <p>Given the rare occurrence of substitution of indicators, the transparency of the procedure and the fact that substitution can only occur when they are consistent with the intent of the performance measure, under approval of SFI, the ADBE concludes that there is no indication that the indicators can be modified outside the scope of the performance measure.</p>

Principle 1: The use of biomass leads to a substantial reduction in greenhouse gas emissions calculated across the entire chain in comparison with the use of fossil fuels			
Sustainability criterion from the Dutch "regeling conformiteitsbeoordeling vaste biomassa voor energiedoelinden"		ADBE judgement on whether SFI FMS complies with the sustainability criteria	Score
1.1	<p>The reduction in CO₂-eq emissions is calculated to be a minimum of 70% per year on average based on the EU reference value. The average emissions have a maximum of 56 g CO₂-eq/MJ for electricity and 24 g CO₂-eq/MJ for heat.</p> <p>No consignment of biomass shall result in emissions above 74 g CO₂-eq/MJ for electricity and 32 g CO₂-eq/MJ for heat. The calculated maximum CO₂-eq emission levels are based on the most recent European Commission publication on sustainability criteria for biomass and on the reference values provided for fossil fuels.</p>	This sustainability criterion is not addressed by SFI FMS	0

Principle 3: Production of raw biomass does not result in the destruction of carbon sinks			
Sustainability criterion from the Dutch "regeling conformiteitsbeoordeling vaste biomassa voor energiedoelinden"		ADBE judgement on whether SFI FMS complies with the sustainability criteria	Score
3.1	Biomass is not sourced from permanently drained land that was classified as peat land on 1 January 2008, unless it can be demonstrated that the production and harvesting of the biomass does not result in water depletion of a previously undrained soil.	The SFI program does not include a specific provisions to prevent that (forest) peatlands are drained into (drier) forest areas. Also, SFI does not mention a historical cut-off date (2008) for not using drained land that was classified as peat land on 1 January 2008. As a result, the commission concludes that this criterion is insufficiently addressed by SFI FMS.	0
3.2	Biomass is not sourced from land that was converted from wetland to an alternative, dryer ecosystem after 1 January 2008.	Although wetlands are protected under the SFI Forest Management Standard, SFI does not mention a historical cut-off date (2008) for not using drained land that was classified as wetland on 1 January 2008 – there is therefore a time gap for meeting this requirement between 2008 and the moment of SFI certification, and as a result the commission concludes that the criterion is insufficiently addressed by SFI FMS.	0
3.3	Biomass is not sourced from wood plantations that were created by means of conversion of natural forests after 31 December 1997, unless the forest manager is not directly or indirectly responsible for the conversion. Biomass originating from wood plantations that were created after 1997 by means of conversion of degraded natural forests or degraded land is exempt from this requirement on condition that it is ecologically and economically	<p>SFI FMS does not provide a historic cut-off date for not allowing conversion of one forest cover type to another forest cover type and does not include the exception conditions from the Dutch criterion for allowing this conversion. This means that the requirement in SFI Forest Management Standard, Performance Measure 1.2 applies only to the current SFI-certified land. There is therefore a gap in the requirement of exempting biomass originating certification from wood plantations that were created after 1997 by means of conversion of natural forests.</p> <p>As a result the commission concludes that the SFI Forest Management Standard insufficiently addresses Dutch sustainability criterion 3.3.</p>	0

justified to do so and that the forest manager is not directly or indirectly responsible for the degradation.	
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Principle 4: The use of biomass does not result in a long-term carbon debt		
Sustainability criterion from the Dutch "regeling conformiteitsbeoordeling vaste biomassa voor energiedoeleinden"	ADBE judgement on whether SFI FMS complies with the sustainability criteria	Score
4.1 The forest management unit where the wood is sourced is managed with the aim of retaining or increasing carbon stocks in the medium or long term.	<p>SFI FMS Performance Measure 1.1 stipulates that Program Participants shall ensure that forest management plans include long-term harvest levels that are sustainable and consistent with appropriate growth-and-yield models. One of the indicators requires that documented current harvest trends fall within long-term sustainable levels identified in the forest management plan.</p> <p>SFI FMS does require various forest management measures (e.g. reforestation after harvest) with the aim to maintain long-term harvest levels, which indirectly retains carbon storage on the long term. SFI FMS does not mention an increase in carbon stocks on the long term, which is however not required as the Dutch requirement stipulates "or". As (a) SFI FMS does only indirectly address carbon stocks in Performance Measures and Indicators and as it does not address the "increased" part of the Dutch criterion, the commission concludes that Dutch criterion 4.1 is largely addressed by SFI FMS.</p>	2
4.2 Biomass is not sourced from stumps unless these stumps had to be removed from the site for other reasons than wood or biomass production.	<p>Although SFI requires to implement forest management practices to protect and maintain forest and soil productivity (Performance Measure 2.3) and recognizes the importance of stumps as wildlife habitat element for biodiversity (Performance Measure 4.1), the SFI Forest Management Standard does not explicitly exempt biomass that is sourced from stumps (unless these stumps had to be removed from the site for other reasons than wood or biomass production).</p> <p>The commission is aware that currently in the USA harvesting stumps is not economically feasible. The ADBE notes that experiences in other countries show that there can be a market for stumps. As market conditions can change (for instance through an increased demand of biomass in the energy market) and as there is no mechanism to correct the approval of certification schemes once markets change (the approval is permanent instead of temporary), this criterion can to the opinion of the ADBE only be covered if the certification scheme includes a clear requirement. Therefore the commission concludes that Dutch criterion 4.1 is insufficiently addressed by the SFI Forest Management Standard.</p>	0
4.3 On average less than half the volume of the annual round wood harvest from forests is processed as biomass for energy generation. Round wood from thinnings or from production forests with a rotation period of 40 years or less is exempt from this requirement.	SFI does not specially address (requirements on) the annual volumes of round wood harvest from forests that can be processed as biomass for energy generation, or a verification of this. Dutch sustainability criterion 4.3 is therefore not addressed by the SFI Forest Management Standard.	0

Principle 5: Biomass production does not result in Indirect Land Use Change (ILUC)		
Sustainability criterion from the Dutch "regeling conformiteitsbeoordeling vaste biomassa voor energiedoelinden"	ADBE judgement on whether SFI FMS complies with the sustainability criteria	Score
5.1 Biomass sourced from bioenergy plantation systems that were planted after 1 January 2008 have a demonstrably low ILUC risk. Biomass from forest management units smaller than 500 hectares is exempt from this requirement.	<p>Management operations that are classified as short rotation woody crops are not within the scope of the SFI 2015-2019 Standards and Rules and are excluded for SFI certification.</p> <p>The Dutch definition on bioenergy plantation systems is: "een teeltsysteem dat specifiek gericht is op de productie van biomassa voor energiedoelinden, waarbij zeer snel groeiende boomsoorten in hoge dichtheid zijn aangeplant en na een korte rotatieperiode worden geoogst". The Dutch definition includes forest plantations with rotation times of 2 - 20 years. SFI FMS does not give definitions for short rotation woody crops and forest plantations.</p> <p>As a result, a forest stand with rapid growing tree species such as poplar is for example considered a bioenergy plantation under the Dutch definition, while this might be considered a plantation forest (and not a short rotation woody crop) under the SFI definitions. This means that SFI certified forests can contain bioenergy plantation systems conform the Dutch definition.</p> <p>For the commission, it is clear that forest plantations shall also comply with criterion 5.1, as the criterion applies to biomass category 1. As SFI FMS does not include a requirement to demonstrate a low ILUC risk, the commission concludes that SFI FMS does not address Dutch sustainability criterion 5.1.</p>	0

Principle 6: Relevant international, national, regional and local laws and regulations are complied with		
Sustainability criterion from the Dutch "regeling conformiteitsbeoordeling vaste biomassa voor energiedoelinden"	ADBE judgement on whether SFI FMS complies with the sustainability criteria	Score
6.1 The forest manager holds the legal right to use the forest.	<p>The SFI Forest Management Standard applies to any organization that owns or has management authority for forestlands. Performance Measure 9.1 stipulates that Program Participants shall comply with applicable federal, provincial, state and local forestry and related social and environmental laws and regulations. Ownership or 'having management authority' therefore has to be in compliance with applicable laws on the rights to use the forest. From this it can be concluded that the forest manager holds the legal right to use the forest. In the USA and Canada, (use) rights are part of federal and state legislation.</p> <p>The commission concludes that criterion 6.1 is addressed by the SFI Forest Management Standard as a result of federal- and state legislation, and therefore scores "covered otherwise".</p>	C.O.
6.2 The forest manager complies with all obligations to pay taxes and royalties.	<p>SFI FMS Performance Measure 9.1 stipulates that Program Participants shall comply with applicable federal, provincial, state and local forestry and related social and environmental laws and regulations (with no specific mentioning of taxes and royalties).</p> <p>Compliance with this requirement (which taxes, tax policy) depends on US and Canadian Law. The commission has checked whether US and Canadian legislation includes provisions for payment of taxes and royalties and found that this is the case. The commission concludes that Dutch sustainability criterion 6.2 is covered through local or national legislation and is scored as covered otherwise (c.o.).</p>	C.O.

6.3	Anti-corruption legislation is complied with. If no anti-corruption legislation exists, the forest manager takes alternative anti-corruption measures proportionate to the scale and intensity of the management activities and the risk of corruption.	<p>Performance Measure 9.1 stipulates that Program Participants shall comply with applicable federal, provincial, state and local forestry and related social and environmental laws and regulations (with no specific mentioning of anti-corruption legislation).</p> <p>Compliance with Dutch criterion 6.3 therefore depends on US and Canadian Law. The commission concluded that both the USA and Canada have anti-corruption legislation: the US Foreign Corrupt Practices Act in the USA and the Criminal Code of Canada plus the Corruption of Foreign Public Officials Act in Canada. In addition, both Canada and the USA score high enough on the corruption perception index of Transparency International, and the commission therefore concludes that sustainability criterion 6.3 is addressed through national legislation and is scored as covered otherwise (c.o.).</p>	C.O.
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Principle 7: Biodiversity is maintained and where possible enhanced			
Sustainability criterion from the Dutch "regeling conformiteitsbeoordeling vaste biomassa voor energiedoelinden"	ADBE judgement on whether SFI FMS complies with the sustainability criteria	Score	
7.1	<p>Sites with a high conservation value and representative areas of the forest types that are found in the forest management unit have been identified and are protected and where possible enhanced. The sites may contain one or more of the following values: diversity of species, ecosystems and habitats, ecosystem services, ecosystems at landscape level and cultural values.</p>	<p>The commission observed that the indicators under some of the SFI Performance Measures (such as 4.1, 4.2 and 4.3) are rather broad, and that meeting these indicators does not automatically demonstrate compliance to the overarching Performance Measure. SFI requires in section 9 (5.4.1) that evidence shall include, amongst others, "on-the-ground field performance, and through meetings or correspondence with employees, contractors and other third parties". The commission has looked into SFI summary audit reports to assess whether SFI auditors use the above mentioned evidence to check the actual implementation and effects of programs and plans. The commission has no reasons to conclude that auditors are not doing so when performing conformity assessments against the SFI Forest Management Standard, see also general point 0.1.</p> <p>The commission concludes that identification and protection of sites with high conservation values and representative areas of the forest types is covered by SFI FMS, based on Performance Measures 4.2, 4.3, 4.4 and 6.1. Enhancement is not covered in the SFI FMS standard. As a result, the commission concludes that SFI FMS largely addresses Dutch sustainability criterion 7.1.</p>	2
7.2	<p>Measures have been taken to protect endangered plant and animal species and, if applicable, to increase the populations and enhance the habitats of these species.</p>	<p>The commission observed that the indicators under some of the SFI Performance Measures (such as 4.1, 4.2 and 4.3) are rather broad, and that meeting these indicators does not automatically demonstrate compliance to the overarching Performance Measure. SFI requires in section 9 (5.4.1) that evidence shall include, amongst others, "on-the-ground field performance, and through meetings or correspondence with employees, contractors and other third parties". The commission has looked into SFI summary audit reports to assess whether SFI auditors use the above mentioned evidence to check the actual implementation and effects of programs and plans. The commission has no reasons to conclude that auditors are not doing so when performing conformity assessments against the SFI Forest Management Standard, see also general point 0.1.</p> <p>Performance Measure 4.2 stipulates that Program Participants shall protect threatened and endangered species, Forests with Exceptional Conservation Values (FECV) and old-growth forests. Indicators include a program to protect threatened and endangered species and a Program to locate and protect known sites of flora and fauna associated with viable occurrences of critically imperilled and imperilled species and communities also known as Forests with Exceptional Conservation Value.</p>	0

		<p>"Threatened and endangered" is defined by SFI as: Listed under The US Endangered Species Act (ESA) or The Canadian Species at Risk Act (CSARA) and listed under applicable state or provincial laws requiring protection. These lists - which include federal list such as published by the US Fish and Wildlife Service (FWS) - are distinct from the IUCN International Red lists.</p> <p>Although some species may be under-recognized on Federal level (see the scientific letter in source [4]), analysis shows that the combined ESA/FWS lists also contain many species that are not included on the (global) IUCN red lists. The Dutch legislation contains a definition for endangered plant and animal species which reads (translated) "plant and animal species that at a minimum are classified as threatened on the global IUCN red list and on the IUCN guidelines for the regional application of the IUCN red list". ESA/FWS lists do not strictly follow the IUCN Classification and Criteria and the IUCN regional application guidelines.</p> <p>The commission looked in detail at two letters/papers (sources [4 and 5]), keeping in mind the definition in Dutch legislation for endangered plant and animal species. The commission has observed that – since scientific letter [4] was published in 2011 – some of the bird species changed global status within IUCN (for instance from "Endangered" to "Near threatened") and that some other species which early 2011 were included in the IUCN red list and were not included in the ESA list are included in the most recent ESA list. Nevertheless the commission has also observed some species that were included in the IUCN red list and were not included in the ESA list in 2011 and still are not included in the ESA list today.</p> <p>It might be that species that are not included in the ESA list are included in other relevant lists at US State level. However, the commission is of opinion that it would be very time-consuming – if not impossible as the lists change over time – to check that species listed as 'threatened' (including the categories Vulnerable, Endangered and Critically Endangered) on the global IUCN red list are covered either by the federal ESA list or by lists in the States where these species occur. Please note that such an exercise should be performed not only for birds but also for IUCN listed plants, insects, crustaceans, gastropods, amphibians and mammals.</p> <p>In paper [5] it is argued that – due to differences in for instance intended purpose and of scale of the analysis – it is logical that the ESA and CSARA lists differ from the IUCN lists, and that "on balance it is likely that assessments done at a finer spatial scale with local data (e.g., the US ESA) that are likely more accurate, and better reflect the actual state of extinction risk for those species."</p> <p>The commission is bound to the strict definitions in Dutch legislation. According to the Dutch legislation and the definition for endangered plant and animal species, the IUCN lists and regional application guidelines must be used to comply with Dutch sustainability criterion 7.2. As there are differences between the IUCN list and the ESA/CSARA plus federal lists, the commission cannot conclude that Dutch criterion 7.2 is addressed through the US Endangered Species Act and the Canadian Species at Risk Act plus federal/local lists.</p> <p>The commission further observes that SFI FMS does not specifically require taking measures (if applicable) to increase the populations and enhance the habitats of endangered plant and animal species.</p> <p>The commission concludes that Dutch sustainability criterion 7.2 is insufficiently addressed by SFI FMS.</p>	
7.3	<p>The conversion of forests within the forest management unit to other forms of land use, including wood plantations, is not permitted unless:</p> <ul style="list-style-type: none"> - the area concerned is small which means the total converted area over the years is no greater than 5% of the area of the forest management unit on benchmark date 1 January 2008; and 	<p>SFI FMS Performance Measure 1.2 stipulates that Program Participants shall not convert one forest cover type to another forest cover type, unless in justified circumstances.</p> <p>This Dutch criterion mentions that conversion of forests within the forest management unit to other forms of land use, including wood plantations, is not permitted unless 3 exceptions are met:</p> <ol style="list-style-type: none"> 1. <u>5% limit:</u> SFI does not mention a benchmark date of January 2008, which means that historic conversions (from previous non-certified landowners) are not included. This part of the criterion is not covered by SFI FMS. 	0

	<p>- it clearly leads to long-term advantages for nature conservation; and - there is no damage or threat of damage to sites with a high conservation value.</p>	<p>2. <u>Long-term advantages for nature conservation:</u> The SFI FMS ('avoid long-term impacts') has weaker language than the Dutch requirement (the need for long-term advantages). This part of the criterion is insufficiently covered.</p> <p>3. <u>No damage or threat to HCV sites:</u> As Indicator, there is an exempt when conversion does (i) not create significant long-term adverse impacts on Forests with Exceptional Conservation Value, old-growth forests, forests critical to threatened and endangered species, and special sites and (ii) would not convert native forest types that are rare and ecologically significant at the landscape level or put any native forest types at risk of becoming rare. The term "does not create significant long-term adverse impact" is considerably weaker compared to Dutch requirement "there is no damage or threat of damage". This part is not sufficiently covered.</p> <p>The commission concludes that – as none of the three exceptions are met by SFI, Dutch sustainability criterion 7.3 is insufficiently addressed by the SFI Forest Management Standard.</p>	
7.4	<p>In the case of wood plantations, there is a preference for native species, and a relevant percentage of the plantation must be able to revert to natural forest at a later stage.</p>	<p>The Dutch criterion 7.4 consists of two parts:</p> <p>1. <u>Preference for native species:</u> SFI FMS requires (Performance Measure 2.1) prompt reforestation without specifically mentioning the preference for native species. SFI FMS requires that "plantings of exotic tree species should minimize risk to native ecosystems" which is not the same as a preference for using native species. Therefore this part of the criterion is insufficiently covered by SFI.</p> <p>2. <u>A relevant percentage of the plantation must be able to revert to natural forest:</u> Although the SFI standard does require the conservation of native biological diversity (indicator 1 under Performance Measure 4.1), the SFI Standard does not require that a relevant percentage of the plantation must be able to revert to natural forest at a later stage. This part of the criterion is not covered by SFI.</p> <p>As a result, the commission concludes that Dutch criterion 7.4 is insufficiently addressed by SFI FMS.</p>	0
7.5	<p>Exploitation of non-timber forest products, including products from hunting and fishing, is regulated, monitored and controlled, among others to safeguard the maintenance of the biodiversity in the forests.</p>	<p>SFI refers to the existence of extensive legal requirements regulating hunting, fishing and the collection of endangered plants species in the USA and in Canada.</p> <p>State and local laws in the USA and Canada are created on a product specific basis, permits are required for fishing and hunting.</p> <p>For the USA, the commissions' findings concerning NTFP's are that:</p> <ul style="list-style-type: none"> • the US Lacey Act bans trafficking in illegal wildlife, plants and timber products – which may include NTFPs; • the US Endangered Species Act protects endangered and protected plants and animals – which may include NTFPs; • at the state and local level, laws and programs for NTFP protection are created on a product-specific basis; • Permits are required for fishing and hunting. <p>For Canada, the commission looked into a sample of the following four Canadian States: British Columbia, Ontario, Quebec and Alberta. The commission observed that all States have Laws in place to regulate fishing and hunting permits. The requirement of having Forest Management Plans / Standards / planning in place to regulate and control activities is common practice for Crown Lands (94% of forest land) but not for private forest lands (6% of forest lands). The harvesting of NTFPs itself is unregulated. For example, the Forest Practices Board from BC mentions that "The harvest of NTFPs is currently unregulated in British Colombia".</p> <p>The commission concludes, after having looked into Canadian and US federal and state laws, that in Canada and the USA hunting and fishing and the collection of endangered plants species is regulated, but that other NTFP's remain unregulated. The commission therefore concludes that Dutch criterion 7.5 is largely addressed by SFI FMS via Canadian and US federal and state legislation and therefore scores "covered otherwise".</p>	C.O.

Principle 8: The regulating effect and the quality, health and vitality of the forest are maintained and where possible enhanced		
Sustainability criterion from the Dutch "regeling conformiteitsbeoordeling vaste biomassa voor energiedoeleinden"	ADBE judgement on whether SFI FMS complies with the sustainability criteria	Score
8.1 The soil quality of the forest management unit is maintained and if necessary improved, with special attention to coasts, river banks, erosion-sensitive areas and sloping landscapes.	<p>The commission observed that the indicators under some of the SFI Performance Measures (such as 4.1, 4.2 and 4.3) are rather broad, and that meeting these indicators does not automatically demonstrate compliance to the overarching Performance Measure. SFI requires in section 9 (5.4.1) that evidence shall include, amongst others, "on-the-ground field performance, and through meetings or correspondence with employees, contractors and other third parties". The commission has looked into SFI summary audit reports to assess whether SFI auditors use the above mentioned evidence to check the actual implementation and effects of programs and plans. The commission has no reasons to conclude that auditors are not doing so when performing conformity assessments against the SFI Forest Management Standard, see also general point 0.1.</p> <p>Dutch criterion 8.1 contains two parts:</p> <ol style="list-style-type: none"> 1. <u>The soil quality of the FMU is maintained and if necessary improved...</u> Performance Measure 2.3 stipulates that Program Participants shall implement forest management practices to protect and maintain forest and soil productivity. As there is no mentioning about improvement under the SFI standard (if necessary), the commission concludes that this part of the criterion is largely covered by the SFI Forest Management Standard. 2. <u>.. with special attention to coasts, river banks, erosion-sensitive areas and sloping landscapes</u> SFI pays specific attention to erosion-sensitive and sloping landscapes: One of the indicators of Performance Measure 2.3 stipulate that there should be (i) a process to identify soils vulnerable to compaction, and use of appropriate methods... and (ii) use of erosion control measures to minimize the loss of soil and site productivity. Performance Measure 3.2 stipulates that Program Participants shall implement water, wetland and riparian protection measures based on a.o. soil type and terrain factors. Therefore, this part of the criterion is covered. <p>As the first part of the criterion is largely covered and the second part is covered, the commission concludes that Dutch criterion 8.1 is largely addressed by the SFI Forest Management Standard.</p>	2
8.2 The water balance and quality of both groundwater and surface water in the forest management unit and downstream outside the forest management unit are at least maintained and where necessary improved.	<p>The commission observed that the indicators under some of the SFI Performance Measures (such as 4.1, 4.2 and 4.3) are rather broad, and that meeting these indicators does not automatically demonstrate compliance to the overarching Performance Measure. SFI requires in section 9 (5.4.1) that evidence shall include, amongst others, "on-the-ground field performance, and through meetings or correspondence with employees, contractors and other third parties". The commission has looked into SFI summary audit reports to assess whether SFI auditors use the above mentioned evidence to check the actual implementation and effects of programs and plans. The commission has no reasons to conclude that auditors are not doing so when performing conformity assessments against the SFI Forest Management Standard, see also general point 0.1.</p> <p>SFI FMS Performance Measure 3.1 stipulates that Program Participants shall meet or exceed all applicable federal, provincial, state and local water quality laws, and meet or exceed best management practices ..[.]. Also, according to Performance Measure 3.2, Program Participants shall implement water, wetland and riparian protection measures based on soil type, terrain, vegetation, ecological function, harvesting system, state best management practices (BMPs), provincial guidelines and other applicable factors.</p> <p>SFI FMS Performance Measure 2.2 stipulates that Program Participants shall minimize chemical use with as Indicators (1) designation of streamside and other needed buffer strips and (2) use of appropriate management practices, for</p>	2

		<p>example monitoring of water quality or safeguards to ensure proper equipment use and protection of streams, lakes and other water bodies.</p> <p>Downstream impacts are sufficiently covered through a combination of SFI requirements and existing legislation (US federal Clean Water Act and Canadian federal Clean Water Act).</p> <p>As a result, the commission concludes that SFI FMS addresses Dutch criterion 8.2. As the indicators are broadly formulated, the commission concludes that Dutch criterion 8.2 is largely addressed by SFI FMS.</p>	
8.3	<p>Important ecological cycles present in the forest management unit are preserved, including carbon and nutrient cycles.</p>	<p>SFI FMS Performance Measure 1.1 stipulates that Program Participants shall ensure that forest management plans include long-term harvest levels that are sustainable and consistent with appropriate growth-and-yield models. This includes, as Indicator, a review of non-timber issues such as carbon storage.</p> <p>Also, Program Participants shall promptly reforest after final harvest (SFI FSM Performance Measure 2.1), implement forest management practices to protect and maintain forest and soil productivity (SFI FMS Performance Measure 2.3) and manage so as to protect forests from damaging agents...[...]... to maintain and improve long-term forest health, productivity and economic viability (SFI FMS Performance Measure 2.4).</p> <p>The SFI Forest Management Standard refers in its objectives to sustainable forestry and to forest productivity and health, referring to the sustainable management of ecosystem services such as the conservation of soil, air and water quality, carbon, biological diversity, wildlife and aquatic habitats, recreation and aesthetics and to the maintenance of long-term forest health and productivity.</p> <p>Although cycles are not explicitly mentioned, “including long-term harvest levels that are sustainable” does contribute to preserving the carbon cycle. As a result, the commission concludes that this part of the criterion is covered by SFI FMS. However, preserving nutrient cycles is insufficiently covered as protecting and maintaining soil productivity (2.3) and requiring soil conservation contributes to forest health (objective 2), but is not directly linked to the nutrient cycle.</p> <p>As a result the commission concludes that Dutch sustainability criterion 8.3 is partly addressed by SFI FMS.</p>	1
8.4	<p>Unnecessary damage to ecosystems is prevented by applying <i>reduced impact logging</i> and the most suitable road construction methods and techniques for local conditions.</p>	<p>The Dutch criterion consists of two parts:</p> <ol style="list-style-type: none"> <u>Reduced impact logging:</u> The Dutch definition on Reduced Impact Logging is “harvesting techniques and methods that have been developed to prevent unnecessary damage to the forest, the environment and the harvested wood while at the same time promoting safe working conditions”. SFI Program Participants shall implement forest management practices to protect and maintain forest and soil productivity (Performance Measure 2.3). The indicators under this Performance Measure cover aspects of Reduced Impact Logging, with focus on site productivity, but less on preventing damage to the forest ecosystem (e.g. flora and fauna). As a result the commission concludes that SFI FMS largely covers the first part of the criterion. <u>Road construction:</u> SFI FMS Program Participants shall also implement water, wetland and riparian protection measures based on e.g. harvesting system, state best management practices (BMPs), provincial guidelines and other applicable factors (Performance Measure 3.2). This includes as Indicator a program addressing management and protection of rivers, streams, lakes, wetlands, other water bodies and riparian areas during all phases of management, including the layout and construction of roads and skid trails to maintain water reach, flow and quality. Also, Program Participants shall implement forest management practices to protect and maintain forest and soil productivity (Performance Measure 2.3) through, as Indicator: Road construction and skidding layout to minimize impacts to soil productivity. As a result, SFI FMS covers the second part of the criterion. 	2

		As the first part of the criterion is largely covered and the second part is covered, the commission concludes that the Dutch criterion 8.4 is largely addressed by SFI FMS.	
8.5	If fires are used to achieve forest management objectives, such as regeneration of specific tree species, then adequate control measures have been taken.	<p>SFI FMS Program Participants shall manage so as to protect forests from damaging agents, such as e.g. wildfire. One of the indicators from Performance Measure 2.4 is participation in, and support of, fire and pest prevention and control programs. This indicator from Performance Measure 2.4 is thus focused on preventing wildfires (and not on controlled fire measures for forest management).</p> <p>Controlled fire measures for forest management is mentioned under the indicators from Performance Measure 4.1: For conservation of biological diversity, program participants shall consider the role of natural disturbances, including the use of <u>prescribed</u> or natural fire where appropriate.</p> <p>“Considering the role of prescribed fire” for conservation of biological diversity is weaker language than taking adequate control measures as stipulated by the Dutch requirement. However, this sustainability criterion is complemented through local or national Canadian and US legislation.</p> <p>For the USA, the commission looked into federal legislation and made a selection of states from which it studied the BMP’s. The states selected were Alabama, Georgia, South Carolina and Texas as within the USA the South-east is the most important biomass sourcing area for the Netherlands. As a result, the commission feels confident to draw conclusions based on BMP’s from this sample of four US states. On prescribed burning, the commission concludes that in the USA Dutch criterion 8.5 is covered through BMPs.</p> <p>For Canada, the commission looked into a sample of the following four Canadian States: British Columbia, Ontario, Quebec and Alberta) and concludes that in these states approval is needed to carry out a prescribed burn; approval or permits are only issued when instructions (e.g. burn plan, planning, instructions) are followed and approved.</p> <p>As a result, the commission concludes that Dutch criterion 8.5 is partly addressed by SFI and further completed through BMP’s in the USA and State legislation in Canada, and therefore the score is “covered otherwise”.</p>	C.O.
8.6	The forest management measures are designed to prevent and control diseases and pests where these form a threat to natural capital.	<p>Program Participants shall manage so as to protect forests from damaging agents, such as environmentally or economically undesirable pests and diseases, to maintain and improve long-term forest health, productivity and economic viability (Performance Measure 2.4). As indicators, there shall be a program to protect forests from damaging agents and there shall be participation in, and support of, fire and pest prevention and control programs. The SFI standard defines program as “an organized system, process or set of activities to achieve an objective of performance measure”.</p> <p>As the commission observed that the indicators under some of the SFI Performance Measures are rather broad, and that meeting these indicators does not always automatically demonstrate compliance to the overarching Performance Measure (see also general point S0.1), the commission concludes that Dutch criterion 8.6 is largely addressed by SFI Forest Management Standard, based on Performance Measure 2.4.</p>	2
8.7	The use of chemicals is only permitted if ecological processes and the optimal deployment of sustainable alternatives prove insufficient. Pesticides classified as Type 1A and 1B by the World Health Organisation and chlorinated hydrocarbons are not permitted.	<p>The Dutch criterion consists of 2 parts:</p> <ol style="list-style-type: none"> <u>The use of chemicals is only permitted if ecological processes and the optimal deployment of sustainable alternatives prove insufficient</u> <p>SFI FMS Program Participants shall minimize chemical use required to achieve management objectives while protecting employees, neighbours, the public and the environment, including wildlife and aquatic habitats (Performance Measure 2.2), with as Indicators (i) minimized chemical use required to achieve management objectives and (ii) use of least-toxic and narrowest-spectrum pesticides necessary to achieve management objectives. SFI stipulates minimized use of chemical pesticides, which is not the same, and less strict wording, as only permitting chemicals if ecological processes and the optimal deployment of sustainable alternatives prove insufficient. As a result, the commission concludes that SFI FSM insufficiently covers this part of the criterion.</p>	0

		<p>2. <u>Pesticides classified as Type 1A and 1B</u> As Indicator of Performance Measure 2.2, it is stipulated that the World Health Organization (WHO) type 1A and 1B pesticides shall be prohibited, except where no other viable alternative is available. This possibility for exception is not included in the Dutch criterion. The commission also observes that the estimate whether other viable alternatives are available are left to the certificate holder and the certification body, without any further guidance from the SFI certification scheme. Therefore, the commission concludes that this part is insufficiently covered by SFI.</p> <p>Next to that, Program Participants shall comply with applicable federal, provincial, state and local forestry and related social and environmental laws and regulations which includes Laws that prohibit the use of dangerous pesticides. The commission has already concluded that US legislation (EPA's Office of Pesticide Programs' Pesticide Chemical Registry under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) leads to conformity with the second part of this criterion for the USA.</p> <p>In Canada, WHO 1A and 1B are not illegal for use as long as they are used in accordance with label instructions for the chemical in use. A check on the product database from Canada (website http://pr-rp.hc-sc.gc.ca/lr-re/index-eng.php) learns that products are registered which are included in the lists of WHO type 1A and WHO type 1B pesticides. Examples are Brodifacoum, Bromadiolone, Bromethalin, Chlorophacinone, Difethialon and Diphacinone (Type 1A) and Acrolein, Coumaphos, Cyfluthrin, Cypermethrin and Dichlorvos (Type IB). Based on the information received, it cannot be demonstrated that the Canadian law effectively prohibits the use of Pesticides classified as Type 1A and 1B by the World Health Organisation and chlorinated hydrocarbons. Therefore, this part of the criterion is insufficiently addressed.</p> <p>As a result, the commission concludes that Dutch sustainability criterion 8.7 is insufficiently addressed by SFI FMS.</p>	
8.8	<p>The accumulation of inorganic waste and litter is prevented or such waste and litter is collected, stored in approved areas and disposed of responsibly.</p>	<p>SFI FMS Program Participants shall comply with applicable federal, provincial, state and local forestry and related social and environmental laws and regulations (Performance Measure 9.1) and shall meet or exceed all applicable federal, provincial, state and local water quality laws, and meet or exceed Best Management Practices (BMPs) (Performance Measure 3.1)</p> <p>The commission made a selection of US states from which it studied the BMPs. The states selected were Alabama, Georgia, South Carolina and Texas. According to the SFI database (source [6]) these four states cover more than one quarter of all SFI certified forest area in the USA. Moreover, within the USA the South-east is the most important biomass sourcing area for the Netherlands. As a result, the commission feels confident to draw conclusions based on BMPs from this sample of four US states.</p> <p>Dutch criterion 8.8 consists of two parts:</p> <ul style="list-style-type: none"> (i) the prevention of waste <u>OR</u> (ii) the responsible collection, storage and disposal of waste. <p>1. <u>Prevention of waste</u> None of the four BMPs from the USA that the commission has looked at, refers to the prevention of waste and litter. Similarly the Canadian Laws from two states do not focus on the prevention. Therefore, the first part of the requirement is not covered through existing legislation and policies in the four selected US States and two Canadian States.</p> <p>2. <u>Responsible collection, storage and disposal of waste:</u> All US BMPs and provided Canadian State Laws refer to responsible disposal of waste in approved areas – according to existing regulations. For the selected States, it is therefore concluded that this part of the requirement is complied with through existing legislation and regulations.</p>	C.O.

	As the Dutch criterion contains the word "or" only one of the two parts needs to be covered and this is the case. As a result, the commission concludes that Dutch criterion 8.8 is addressed by state BMPs and legislation (score "covered otherwise").	
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Principle 9: The production capacity for wood products and relevant non-timber forest products is maintained in order to safeguard the future of the forests		
Sustainability criterion from the Dutch "regeling conformiteitsbeoordeling vaste biomassa voor energiedoelinden"	ADBE judgement on whether SFI FMS complies with the sustainability criteria	Score
9.1 The production capacity of all forest types represented in the forest management unit is maintained.	<p>SFI FMS Program Participants shall ensure that forest management plans include long-term harvest levels that are sustainable and consistent with appropriate growth-and-yield models (Performance Measure 1.1). As indicators, forest management planning should be at a level appropriate to the size and scale of the operation and include a.o. a long-term resources analysis and recommended sustainable harvest levels for areas available for harvest and a review of non-timber issues. There should be periodic updates of forest inventory and recalculation of planned harvests to account for changes in growth due to productivity increases or decreases.</p> <p>SFI FMS Program Participants shall manage so as to protect forests from damaging agents to maintain and improve long-term forest health, productivity and economic viability (Performance Measure 2.4), shall implement forest management practices to protect and maintain forest and soil productivity (Performance Measure 2.3) and shall promptly reforest after final harvest (Performance Measure 2.1).</p> <p>The production capacity should be maintained under SFI, but focuses on areas available for harvest; there is no specific mentioning that this applies to all forest types represented in the forest management unit, but this is indirectly covered under other performance measures (2.3, 2.4, 2.1). As a result, the commission concludes that Dutch criterion 9.1 is largely addressed by the SFI Forest Management Standard.</p>	2
9.2 The forest management unit is sufficiently protected against all forms of illegal exploitation of timber and non-timber forest products, including hunting and fishing, illegal establishment of settlements, illegal land use, illegally initiated fires and any other illegal activities.	<p>SFI FMS Program Participants shall comply with applicable federal, provincial, state and local forestry and related social and environmental laws and regulations (Performance Measure 9.1) which includes a demonstration of commitment to legal compliance through available regulatory action information.</p> <p>SFI requires compliance with all laws, which means illegal activities are not allowed. Various Laws (on both local, State and Federal level) exist in the USA and Canada to e.g. (i) penalise illegal harvest and trade of timber (products) and protected plant and animal species, (ii) penalise illegal hunting and fishing, (ii) report, investigate and penalise timber theft and (iii) penalise illegal use of land.</p> <p>The commission obtained information on US legislation during an earlier assessment. The SFI scheme manager provided the commission with extensive information on Canadian legislation. The commission concluded from studying this federal and state/provincial legislation that in the USA and in Canada legislation exists against illegal timber harvest, fishing, hunting and the exploitation (collection, trading, killing etc) of protected plant and animal species. As a result, the commission concludes that Dutch criterion 9.2 is addressed by SFI FMS through national and regional legislation, and therefore scores "covered otherwise".</p>	C.O.

Principle 10: Sustainable forest management is achieved through a management system		
Sustainability criterion from the Dutch "regeling conformiteitsbeoordeling vaste biomassa voor energiedoeleinden"	ADBE judgement on whether SFI FMS complies with the sustainability criteria	Score
10.1 The forest management system is designed to achieve the objectives of a forest management plan and covers the inventory, analysis, planning, implementation, monitoring, evaluation and adjustment cycle.	<p>The Dutch criterion regarding the design of the forest management system consists of five parts:</p> <ol style="list-style-type: none"> <u>To achieve objectives:</u> The objectives of the forest management plan are stipulated in objective 1 and Performance measure 1.1: SFI Program Participant shall include long-term harvest levels in the forest management plan (Performance Measure 1). One of the indicators under this Performance Measure is that documented current harvest trends fall within long-term sustainable levels identified in the forest management plan. This part of the criterion is therefore covered. <u>Inventory and analysis:</u> As Indicator for Performance Measure 15.1, it is required to have a system for collecting, reviewing, and reporting information to management regarding progress in achieving SFI 2015-2019 Forest Management Standard objectives and performance measures. Furthermore Performance measure 1.1, indicator b requires a periodic or ongoing forest inventory. This part of the criterion is covered. <u>Planning:</u> Program Participants shall ensure that forest management plans include long-term harvest levels that are sustainable and consistent with appropriate growth-and-yield models (Performance Measure 1.1). As indicator, forest management planning at a level appropriate to the size and scale of the operation includes e.g. a periodic or ongoing forest inventory. This part is therefore covered. <u>Monitoring:</u> Program Participants shall establish a management review system to examine findings and progress in implementing the SFI 2015-2019 Forest Management Standard, to make appropriate improvements in programs, and to inform their employees of changes (Performance Measure 15.1). As indicator, there should be a system to review commitments, programs and procedures to evaluate effectiveness. This part of the criterion is covered. <u>Evaluation and adjustment cycle:</u> Program Participants shall establish a management review system to examine findings and progress in implementing the SFI 2015-2019 Forest Management Standard, to make appropriate improvements in programs, and to inform their employees of changes (Performance Measure 15.1). As indicator, there should be an annual review of progress by management and determination of changes and improvements necessary to continually improve conformance. This part of the criterion is covered. <p>The commission concludes that that all parts are covered and thus that Dutch criterion 10.1 is fully addressed by SFI FMS.</p>	3
10.2 A forest management plan is drawn up that at least includes: <ul style="list-style-type: none"> - a description of the current condition of the forest management unit; - long term goals for the ecological functions of the forest management unit; - the annual allowable cut per forest type and, if applicable, the annual allowable harvest of non-timber forest products based on reliable and current data; - budget planning for the implementation of the forest management plan. 	<p>The Dutch criterion 10.2 requires the presence of a forest management plan. SFI FMS Performance Measure 1.1 stipulates that Program Participants shall ensure that forest management plans include long-term harvest levels that are sustainable and consistent with appropriate growth-and-yield models. A company can address all the requirements in a single document (i.e. a forest management plan) or it can address all the requirements using multiple documents or GIS databases. The SFI Standard does not state that all the requirements of PM 1.1 must be contained in a single "plan".</p> <p>The Dutch criterion has 4 requirements for the management plan:</p> <ol style="list-style-type: none"> <u>A description of the current condition of the FMU:</u> One of the indicators of Performance Measure 1.1 stipulates that there is forest management planning at a level appropriate to the size and scale of the operation, including a long-term resources analysis, a periodic or ongoing forest inventory; a land classification system, biodiversity at landscape scales and a soils inventory and maps, where available. This requirement is covered by SFI FMS. <u>Long term goals for the ecological functions:</u> One of the indicators of Performance Measure 1.1 stipulates that there is forest management planning at a level appropriate to the size and scale of the operation, including a 	1

		<p>long-term resources analysis, periodic updates of forest inventory and recalculation of planned harvests to account for changes in growth due to productivity increases or decreases and a review of non-timber issues. SFI provides objectives in its standard but there is no principle or indicator requiring that the program participant shall develop long term goals for ecological functions. This requirement is insufficiently covered by SFI FMS.</p> <p>3. <u>The average annual allowable cut</u>: One of the indicators of Performance Measure 1.1 stipulates that there is a forest inventory system and a method to calculate growth and yield. There is forest management planning at a level appropriate to the size and scale of the operation, including access to growth-and-yield modelling capabilities and recommended sustainable harvest levels for areas available for harvest. According to SFI, the annual allowable cut is a subset of the long-term sustainable harvest level and is verified by the Auditor. Therefore the commission concludes that this requirement is covered by SFI FMS.</p> <p>4. <u>Budget planning</u>: This is not mentioned as requirement to be present in the forest management plan. This requirement is not covered by SFI.</p> <p>The commission concludes that two parts are not fully covered and thus that Dutch criterion 10.2 is partly addressed by SFI FMS.</p>	
10.3	Essential elements for the management of the forest are indicated on maps.	Mapping of essential elements is required under SFI FMS through indicators from Performance Measures 1.1 and 6.1. As no exemptions are made for smallholders, the commission concludes that Dutch criterion 10.3 is fully addressed by SFI FMS.	3
10.4	The implementation of the forest management plan is periodically monitored and the ecological effect of the forest management is evaluated.	<p>Dutch criterion 10.4 consists of 2 parts:</p> <p>1. <u>The implementation of the plan is periodically monitored</u>: SFI Program Participants shall establish a management review system to examine findings and progress in implementing the SFI 2015-2019 Forest Management Standard, to make appropriate improvements in programs (Performance Measure 15.1). Furthermore, there is as indicator an 'Annual review of progress by management and determination of changes and improvements necessary to continually improve conformance' which indicates that SFI has a periodically monitoring plan in place. As a result, this part of the criterion is covered by SFI FMS.</p> <p>2. <u>The ecological effect of the forest management is evaluated</u>: Program Participants shall have a program – an organized system to achieve the objective – to conserve biodiversity and consider the role of natural disturbances and forest health threats in relation to biological diversity when developing forest management plans (Indicator 8 under Performance Measure 4.1). Forest management planning is to be at a level appropriate to the size and scale of the operation, including a long-term resources analysis, biodiversity at landscape scales and a review of non-timber issues (Indicator 1 under Performance Measure 1.1). The forest management plan has to be monitored and there should be an annual review of progress (Performance Measure 15.1, indicator 3). The commission is of opinion that the indicators under Performance Measures 1.1, 4.1, 4.2, 4.3, 4.4 and 15.1 cover both the ecological effects and the monitoring. As the requirement on monitoring is generic and not specifically linked to monitoring/evaluation of the forest management plan and to ecological effects of the forest management, the commission concludes that this part of the criterion is largely covered by SFI.</p> <p>As the first part of this criterion is fully covered and the second part is largely covered, the commission concludes that Dutch criterion 10.4 is largely addressed by the SFI Forest Management Standard.</p>	2
10.5	The forest management is implemented by professional office and field staff, whose expertise and knowledge is maintained by means of an effective and regular training programme.	<p>FMS Program Participants shall require appropriate training of personnel and contractors so that they are competent to fulfil their responsibilities under the SFI 2015-2019 Forest Management Standard (Performance Measure 11.1). As Indicators, there is to be an assignment and understanding of roles and responsibilities for achieving SFI 2015-2019 FMS, staff education and training sufficient to their roles and responsibilities.</p> <p>As a result, the commission concludes that Dutch criterion 10.5 is fully addressed by the SFI FMS.</p>	3

Principle 11: Forest management by a group or regional association offers sufficient safeguards for sustainable forest management		
Sustainability criterion from the Dutch "regeling conformiteitsbeoordeling vaste biomassa voor energiedoelinden"	ADBE judgement on whether SFI FMS complies with the sustainability criteria	Score
11.1 A group or regional association is lead and supervised by an independent legal entity.	<p>Within SFI, a group Certification organization is defined as "a specific type of multi-site organization where forest owners, forest owners' organizations, forest managers, forest products manufacturers or forest products distributors without a pre-existing legal or contractual link can form a group for the purposes of achieving certification and gaining eligibility for a sampling approach to certification audits". As the SFI FMS scheme is on forest management, in practice only forest owners, forest owners' organizations and forest managers will be part of a group for complying with the SFI FMS standard, and hence this covers the Dutch definition for "group or regional association" (see also criterion 13.1). The Appendix on Audits of Multi-Site Organizations stipulates that a central office shall be established and that a legal or contractual link exist between all sites. While an independent legal entity may be created to manage the group, SFI does not require that the managing entity be an independent legal entity.</p> <p>The commission concludes that SFI FMS fully addresses Dutch criterion 11.1.</p>	3
11.2 A group or regional association meets the requirements of sustainable forest management (requirements 6.1 through 10.5). The separate forest management activities of the individual members of the group or regional association shall also meet these requirements if applicable for the management of the forest concerned.	<p>The Dutch criterion consists of two parts:</p> <ol style="list-style-type: none"> <u>A group or regional association meets the requirements of sustainable forest management (requirements 6.1 through 10.5).</u> A Central Function shall be established for multi-site organizations that e.g. (i) provide a commitment to establish and maintain practices and procedures in accordance with the requirements of the relevant standard and (ii) maintain an internal audit or monitoring program sufficient to ensure overall organizational conformance with the relevant standard. A central office function shall 'operate a review of the conformity of sites based on results of internal audit and/or monitoring data sufficient to assess Organizational performance as a whole rather than at the individual site level'. This part of the criterion is covered. <u>The separate forest management activities of the individual members of the group or regional association shall also meet these requirements</u> Group certification organizations formed to achieve SFI 2015-2019 Standards certification shall establish connections with all participants based on a written agreement that shall include the participants' commitment to comply with the SFI 2015-2019 Forest Management Standard and/or the SFI 2015-2019 Fiber Sourcing Standard. Also, the group entity shall have a written contract or other written agreement with all participants covering the right of the group entity to implement and enforce any corrective or preventive measures, and to initiate the exclusion of any participant from the scope of certification in the event of nonconformity with the sustainable forest management standard. The commission concludes that this part of the criterion is covered. <p>The commission is of opinion that forest management group certification is intended for smallholders. This can be implemented by limiting the size of FMU's that can be part of group certification, or by requiring that all FMU's are part of the sample for the FMU size class "> 10.000 ha". The ADBE cannot advise to approve a sample size of the square root of "y" for large FMU's (> 10.000 ha), as – by doing so – it would disregard the intention of group certification and it would contribute to creating an unlevel playing field between SFI FMS and the other schemes that honour this intention.</p> <p>As a result the commission concludes that Dutch criterion 11.2 is insufficiently addressed by the SFI FMS.</p>	0

Principle 12: A chain of custody system is in place for the biomass, that covers the entire chain from the first actor to the energy producer, that links the source to the material used in the product or product group, and provides greenhouse gas emission data of each individual link.		
Sustainability criterion from the Dutch “regeling conformiteitsbeoordeling vaste biomassa voor energiedoeleinden”	ADBE judgement on whether SFI CoC complies with the sustainability criteria	Score
12.1 Each link in the chain of custody bears final responsibility and has a quality management system in place that provides safeguards for compliance with the requirements of the chain of custody system.	<p>The organization shall operate a management system in accordance with the following elements of the SFI 2015-2019 Chain-of-Custody Standard, which ensure correct implementation and maintenance of the chain-of-custody process (5.1 General Requirements CoC):</p> <ul style="list-style-type: none"> (i) responsibilities and authorities for CoC, (ii) documented procedures, (iii) record keeping, (iv) resource management and (v) internal audit and management review. <p>The SFI 2015-2019 Chain-of-Custody Standard applies to any organization that sources, processes, manufactures, handles, trades, converts or prints forest-based products. Each link in the chain of custody bears therefore responsibility and has a quality management system in place.</p> <p>As a result the commission concludes that the SFI CoC Standard fully addresses Dutch criterion 12.1.</p>	3
12.2 Each link in the chain of custody has the relevant greenhouse gas emissions information for its own organisation, which has been obtained using a methodology that is based on the most recent European Commission publication on sustainability criteria for solid biomass and the reference values provided for fossil fuels.	<p>The SFI Chain of Custody Standard does not address GHG emissions. Dutch sustainability criterion 12.2 is not addressed by SFI CoC.</p>	0
12.3 Each link in the chain of custody keeps all necessary documentation for demonstrating compliance with the applicable sustainability requirements available for a minimum of 5 years.	<p>SFI requires (criterion 5.4.2 from SFI 2015-2019 Chain of Custody Standard) that the organization shall maintain the records for a minimum period of three years unless stated otherwise by law. This is shorter than the required five years by the Dutch criterion.</p> <p>As a result, the commission concludes that Dutch criterion 12.3 is insufficiently addressed by the SFI 2015-2019 Chain of Custody Standard.</p>	0
12.4 Each link in the chain of custody registers for all incoming or outgoing consignments the quantities and required sustainability information based on the Dutch regulation “conformity assessment sustainability biomass for energy purposes”.	<p>According to the commission, the following 8 pieces of information have to be passed on through the CoC (underlined issue):</p> <ol style="list-style-type: none"> 1. <u>Biomass category or information allowing to determine category</u> The SFI claim does not make specific reference to biomass however a seller could add information such as the SFI Certified Forest content or “Post-Consumer Recycled” to the invoice documentation at the time of the sale. The information on the transfer document provides only part of the information to classify the Dutch biomass categories. SFI CoC does not cover this part of the criterion. 2. <u>For category 2 biomass: has the sustainability been demonstrated at regional or at forest management level.</u> The SFI Forest Management Standard does not differentiate between category 1 and 2 biomass at FMU level. This information is however not relevant as SFI did not request approval for demonstration compliance for biomass category 2 by a risk based approach at regional level. 3. <u>For category 1 and 2: is the biomass controlled biomass (only required if the scheme has requested approval for criterion 12.6).</u> 	0

		<p>It can be distinguished that biomass is from "SFI certified sourcing". It is however, not possible to distinguish whether these are primary or secondary sources. SFI CoC does not meet this part of the criterion.</p> <ol style="list-style-type: none"> 4. <u>Country of origin of the feedstock.</u> The country of origin is not one of the required pieces of information to be transmitted to the buyer. If it is a primary source (roundwood or chips from the forest) then the seller's address would identify the country of origin. However, if it is a secondary product sold from one secondary manufacturer to another, the country of origin may not be included. Hence this part of the criterion is insufficiently covered by SFI. 5. <u>The kind of GHG emission value that is being used; and</u> 6. <u>In case actual values are being used: the GHG emission in g CO_{2,equivalent} per MJ or ton biomass produced.</u> SFI does not cover other sustainability aspects such as greenhouse gas emission data. Hence parts 5 and 6 of the criterion are not covered by SFI. 7. <u>The certification scheme (plus any additional verification statement(s)) which are used to demonstrate compliance with the sustainability criteria under principles P2-P11:</u> For biomass supplied with the SFI CoC claim no information is provided on which SFM scheme was originally used at the FMU level. Therefore this requirement is not covered by SFI. 8. <u>The certification scheme (plus any additional verification statement(s)) which are used to demonstrate compliance with the CoC criteria</u> The SFI CoC claim does not specify which CoC scheme(s) were used to supply the material (along part of the CoC companies might have been certified against PEFC ST 2002:2003). As a result, this requirement is not covered by SFI CoC. <p>The commission concludes that all relevant parts are not or insufficiently covered and thus Dutch criterion 12.4 is insufficiently addressed by SFI CoC.</p>	
12.5	<p>Each link in the chain of custody applies a mass balance in case of mixing or splitting of materials with different sustainability characteristics. For the mixing the following applies:</p> <ul style="list-style-type: none"> - The method shall be applied at least at the level of a location; - The organisation defines a period with a maximum of a year, during which incoming and outgoing consignments are measured and reports the results; - All sustainability characteristics of mixed biomass output can be traced back to the characteristics and quantities of the individual incoming consignments, taking account of the applicable conversion factors. 	<p>Dutch criterion 12.5 requires – in case of mixing or splitting of materials with different sustainability characteristics – that a mass balance is applied. The commission concludes that both the percentage method and the volume credit method are mass balance methods. Moreover Dutch criterion 12.5 contains the following three additional requirements:</p> <ol style="list-style-type: none"> 1. <u>The method shall be applied at least at the level of a location.</u> In the case of the percentage system, there can, however, be multiple physical (geographical) sites. As a result the commission concludes that the CoC SFI Control systems do not cover this requirement. 2. <u>The organisation defines a period with a maximum of a year, during which incoming and outgoing consignments are measured and reports the result</u> <u>Rolling Average Percentage:</u> The period over which the rolling average is calculated shall not exceed one year. The time period covered by the specified number of prior claim periods shall not exceed 12 months (3.4.6, part 3). <u>Simple Percentage:</u> The percentage calculated for wood fiber consumed in the specific product group. The claim period shall not exceed three months of production (3.4.5, part 3). <u>Volume credit:</u> The total quantity of credits cumulated at the credit account cannot exceed the sum of credits entered into the credit account during the last 12 months (3.6.8, part 3). Conclusion: this part of the requirement is fully covered by SFI. 3. <u>The sustainability characteristics of mixed biomass output can be traced back to the characteristics and quantities</u> The sustainability characteristics of SFI labelled products concern sustainable forest management and responsible fiber sourcing. The average percentage method does not show calculated percentages on the label in case the certified content is 70% or more. <u>Sales documentation</u> must include the % of Certified Forest Content and of Recycled Content. There is no mentioning about the % of certified sourcing (in combination with non-controversial sources). This can be calculated as 100% - % Certified forest content - % Recycled content. 	1

		<p>In case the certified content is less than 70%, the label contains all three percentages. Conclusion: This part of the requirement is covered by SFI.</p> <p>As a result, the commission concludes that Dutch sustainability criterion 12.5 is partially addressed by SFI CoC.</p>	
12.6	<p>When being mixed with other consignments category 1 and 2 consignments only complying with the requirements 1.1, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 5, 7.1 and 7.3 are distinguished as controlled biomass on a mass balance. For controlled biomass, the biomass producer is the first link in the chain of custody and the source is the forest management unit or a defined supply area.</p>	<p>Dutch sustainability criterion 12.6 includes a definition for controlled biomass: category 1 and 2 consignments complying with the requirements 1.1, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 5, 7.1 and 7.3. Elsewhere (see paragraph 4.4) it is assessed whether or not the claim "SFI certified sources" demonstrates compliance to these requirements. Dutch sustainability criterion 12.6 includes three requirements:</p> <ol style="list-style-type: none"> 1. <u>When being mixed with other consignments, consignments are distinguished as controlled biomass on a mass balance.</u> The SFI Fiber Sourcing Standard contains a requirement 3.4 that reads "SFI Certified Sourcing Claim: Fiber that conforms with Objectives 1-13 of Section 3, and/or from pre-consumer recycled content, and/ or from post-consumer recycled content, and/or from an acceptable forest management standard". Certified sourcing material can therefore also contain recycled material which (under the Dutch legislation) is not considered "controlled biomass". SFI does therefore not cover this part of the criterion. 2. <u>For controlled biomass, the biomass producer is the first link in the chain of custody.</u> Under the SFI CoC scheme, biomass producers must be certified, and therefore this part of the criterion is covered by SFI CoC. 3. <u>For controlled biomass, the source is the forest management unit or a defined supply area.</u> As certified sources can contain recycled material which is not sourced from an FMU or another defined supply area, SFI CoC does not cover this part of the criterion. <p>The commission concludes that SFI CoC partially addresses Dutch sustainability criterion 12.6.</p>	1

Principle 13: In case of a group management system for the chain of custody the same requirements apply to the group as a whole as to individual businesses		
Sustainability criterion from the Dutch "regeling conformiteitsbeoordeling vaste biomassa voor energiedoeleinden"	ADBE judgement on whether SFI CoC complies with the sustainability criteria	Score
13.1 A group is led by a legal entity that is responsible for the group as a whole. This entity uses a management system as well as technical and human resources that enable it to supervise the participating locations within the scope of the system. The entity conducts an annual audit of a sample of the affiliated group members.	<p>In the Dutch legal regulation, a "group or regional association" is defined as (translated) "a legal entity involving several forest managers who cooperate in a certain area, or companies that work together in a certain segment of the Chain of Custody". This term "group or regional association" is used in Dutch sustainability criteria 11.1 and 11.2. In Dutch sustainability criteria 13.1, 13.2 and 13.3 the term "group" is used, which refers to the same definition. The commission has concluded from this definition that under these Dutch criteria it is not allowed that for instance a pellet mill owner participates in a group together with a forest manager or with a trader.</p> <p>The commission concluded from answers by the SFI scheme manager in combination with the definition for "Group Certification Organization" under 3.4 in Appendix 1 to Section 9 of the SFI 2015-2019 scheme documentation, that it is in principle allowed under SFI that SFI Group Certification Organisations consist of companies from different segments of the Chain of Custody.</p> <p>The commission therefore concludes that SFI insufficiently addresses Dutch sustainability criterion 13.1, as Chain-of-Custody group certification under the Dutch criteria is only allowed if the group consists of companies that work together in a certain segment of the Chain of Custody.</p>	0

13.2	<p>The group applies to the requirements 12.1 up to and including 12.6. Furthermore, each group member individually meets these requirements insofar as applicable to their own activities.</p>	<p>Dutch criterion 13.2 consists of 2 parts:</p> <ol style="list-style-type: none"> <u>The group applies to the requirements ...</u> The SFI audit procedures (Section 9, 4.1.1c) require that it shall be demonstrated that the central office of the organization has established a management system in accordance with the SFI 2015-2019 Standards and that the whole organization meets the requirements of the standard. Also (4.1.2e) a Central Function shall be established that shall, amongst others, (i) provide a commitment on behalf of the whole multi-site organization to establish and maintain practices and procedures in accordance with the requirements of the relevant standard and (ii) maintain an internal audit or monitoring program sufficient to ensure overall organizational conformance with the relevant standard. This part of the criterion is therefore covered. <u>Each group member individually meets these requirements</u> SFI does not contain a requirement for this. Section 9, 4.1.2 stipulates under point 6 that a Central Office shall operate a review of the conformity of sites based on results of internal audit and/or monitoring data sufficient to assess Organizational performance as a whole rather than at the individual site level. As a result, this part of the criterion is not covered. <p>The commission therefore concludes that Dutch criterion 13.2 is partly addressed by the SFI CoC Standard.</p>	1
13.3	<p>The group leader uses a registration system to record:</p> <ul style="list-style-type: none"> - the names and addresses of the members; - a declaration submitted by each member in which they declare that they meet chain of custody system requirements; - incoming and outgoing consignments of each individual group member. 	<p>Dutch criterion 13.3 consists of 3 parts, it requires the presence of a registration system to record:</p> <ol style="list-style-type: none"> <u>the names and addresses of the members:</u> The Central office shall keep a register of all the sites of the multi-site organization, including (for the SFI 2015-2019 Forest Management Standard) the forest area associated with each participating site. This part is covered by SFI CoC. <u>a declaration submitted by each member in which they declare that they meet chain of custody requirements:</u> Group certification organizations formed to achieve SFI 2015-2019 Standards certification shall establish connections with all participants based on a written agreement that shall include the participants' commitment to comply with the SFI 2015-2019 Forest Management Standard and/or the SFI 2015-2019 Fiber Sourcing Standard (4.1.4) Such a commitment is not required for the CoC standard. This part is not covered by SFI. <u>the incoming and outgoing consignments of each individual group member:</u> Functions and responsibilities of individual sites shall be established for responding effectively to requests from the Central Function or certification body for relevant data, documentation or other information whether in connection with formal audits or reviews or otherwise. According to SFI, this includes the registration of incoming and outgoing consignments of each individual group member. The commission cannot find a clear written requirement on this in the standards, and therefore concludes that this part is insufficiently covered by SFI. <p>The commission concludes that Dutch criterion 13.3 is partly addressed by SFI CoC.</p>	1

4.4 Full assessment table on sustainability criteria for the claim “certified sources”

The minister of EZK will approve certification schemes per claim from the certification scheme and per individual sustainability criterion from the Dutch regulation.

A Dutch requirement (see sustainability criterion 12.6) is that the conformity assessment for controlled biomass starts at least at the biomass producer (the pellet mill). For SFI certified sources, certification either starts at the forest management unit or at the collector of recycled materials. This requirement is therefore met by SFI.

The commission has assessed whether SFI certified source material complies with Dutch sustainability criteria 1.1, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 5.1, 7.1 and 7.3. Results are listed below. The commission refers to paragraph 4.3 for the details results on sustainability criteria 12.1, 12.2, 12.3, 12.4, 12.5 and 12.6, as SFI CoC requirements apply to all SFI claims.

Principle 1: The use of biomass leads to a substantial reduction in greenhouse gas emissions calculated across the entire chain in comparison with the use of fossil fuels		
Sustainability criterion from the Dutch "regeling conformiteitsbeoordeling vaste biomassa voor energiedoelinden"	ADBE judgement on whether SFI certified sources complies with the sustainability criteria	Score
1.1 The reduction in CO ₂ -eq emissions is calculated to be a minimum of 70% per year on average based on the EU reference value. The average emissions have a maximum of 56 g CO ₂ -eq/MJ for electricity and 24 g CO ₂ -eq/MJ for heat. No consignment of biomass shall result in emissions above 74 g CO ₂ -eq/MJ for electricity and 32 g CO ₂ -eq/MJ for heat. The calculated maximum CO ₂ -eq emission levels are based on the most recent European Commission publication on sustainability criteria for biomass and on the reference values provided for fossil fuels.	This sustainability criterion is not addressed by SFI certified sources.	0

Principle 3: Production of raw biomass does not result in the destruction of carbon sinks		
Sustainability criterion from the Dutch "regeling conformiteitsbeoordeling vaste biomassa voor energiedoelinden"	ADBE judgement on whether SFI certified sources complies with the sustainability criteria	Score
3.1 Biomass is not sourced from permanently drained land that was classified as peat land on 1 January 2008, unless it can be demonstrated that the production and harvesting of the biomass does not result in water depletion of a previously undrained soil.	This sustainability criterion is not addressed by SFI certified sources.	0
3.2 Biomass is not sourced from land that was converted from wetland to an alternative, dryer ecosystem after 1 January 2008.	This sustainability criterion is not addressed by SFI certified sources.	0
3.3 Biomass is not sourced from wood plantations that were created by means of conversion of natural forests after 31 December 1997, unless the forest manager is not directly or indirectly responsible for the conversion. Biomass originating from wood plantations that were created after 1997 by means of conversion of degraded natural forests or degraded land is exempt from this requirement on	This sustainability criterion is not addressed by SFI certified sources.	0

	condition that it is ecologically and economically justified to do so and that the forest manager is not directly or indirectly responsible for the degradation.		
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Principle 4: The use of biomass does not result in a long-term carbon debt

Sustainability criterion from the Dutch “regeling conformiteitsbeoordeling vaste biomassa voor energiedoelinden”		ADBE judgement on whether SFI certified sources complies with the sustainability criteria	Score
4.1	The forest management unit where the wood is sourced is managed with the aim of retaining or increasing carbon stocks in the medium or long term.	This sustainability criterion is not addressed by SFI certified sources.	0
4.2	Biomass is not sourced from stumps unless these stumps had to be removed from the site for other reasons than wood or biomass production.	This sustainability criterion is not addressed by SFI certified sources.	0
4.3	On average less than half the volume of the annual round wood harvest from forests is processed as biomass for energy generation. Round wood from thinnings or from production forests with a rotation period of 40 years or less is exempt from this requirement.	This sustainability criterion is not addressed by SFI certified sources.	0

Principle 5: Biomass production does not result in Indirect Land Use Change (ILUC)

Sustainability criterion from the Dutch “regeling conformiteitsbeoordeling vaste biomassa voor energiedoelinden”		ADBE judgement on whether SFI FMS complies with the sustainability criteria	Score
5.1	Biomass sourced from bioenergy plantation systems that were planted after 1 January 2008 have a demonstrably low ILUC risk. Biomass from forest management units smaller than 500 hectares is exempt from this requirement.	This requirement is not included as one of the five categories of unacceptable material that cannot be mixed with SFI certified materials.	0

Principle 7: Biodiversity is maintained and where possible enhanced

Sustainability criterion from the Dutch “regeling conformiteitsbeoordeling vaste biomassa voor energiedoelinden”		ADBE judgement on whether SFI FMS complies with the sustainability criteria	Score
7.1	Sites with a high conservation value and representative areas of the forest types that are	Avoiding controversial sources: Controversial Sources are defined as: “Forest-based products that are not in compliance with: applicable state, provincial or federal laws, particularly as they may relate to: ..[...]..legally required	

	<p>found in the forest management unit have been identified and are protected and where possible enhanced. The sites may contain one or more of the following values: diversity of species, ecosystems and habitats, ecosystem services, ecosystems at landscape level and cultural values.</p>	<p>protection of threatened and endangered species, requirements of CITES (The Convention on International Trade in Endangered Species of Wild Fauna and Flora) or legally required management of areas with designated high environmental and cultural values or forest-based products from illegal logging...[...].</p> <p>In jurisdictions where no applicable legislation exists, a due diligence system must be implemented (SFI or PEFC). Where issues are identified, mitigating steps must be taken to address these issues.</p> <p>This requirement for controlled biomass is insufficiently addressed by SFI as HCV areas may also include areas that are not protected by legislation.</p>	0
7.3	<p>The conversion of forests within the forest management unit to other forms of land use, including wood plantations, is not permitted unless:</p> <ul style="list-style-type: none"> - the area concerned is small which means the total converted area over the years is no greater than 5% of the area of the forest management unit on benchmark date 1 January 2008; and - it clearly leads to long-term advantages for nature conservation; and - there is no damage or threat of damage to sites with a high conservation value. 	<p>Avoiding controversial sources: Controversial Sources are defined as: "Forest-based products that are not in compliance with: applicable state, provincial or federal laws, particularly as they may relate to conversion sources...[....]...and Forest-based products from illegal logging.</p> <p>In jurisdictions where no applicable legislation exists, a due diligence system must be implemented (SFI or PEFC). Where issues are identified, mitigating steps must be taken to address these issues.</p> <p>Conversion sources are defined as "Roundwood and/or chips produced from conversion of forestland to other land uses". Manufacturers cannot include it when calculating certified forest content.</p> <p>The commission observes that forest based products from land that was converted from natural forest to wood plantations would under SFI not be classified as controversial sources. As these products do not comply with Dutch sustainability criterion 7.3, the commission concludes that this requirement for controlled biomass is insufficiently addressed by SFI.</p>	0

Controlled biomass is defined in Dutch legislation as category 1 and 2 material complying with the Dutch legal sustainability criteria 1.1, 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 5, 7.1 and 7.3. The commission has assessed whether SFI non-controversial sources comply with these Dutch legal sustainability criteria. The commission concludes that SFI non-controversial sources comply with none of these requirements.

Moreover, the SFI CoC claims do not include a category "non-controversial sources". Instead, under SFI non-controversial sources material will arrive as part of a larger group of material with the claim "SFI Certified Sourcing", which can contain controlled biomass but which can also contain pre-consumer recycled content and post-consumer recycled content (see SFI Fiber Sourcing Standard requirement 3.4). As recycled material is not category 1 and 2 material as defined in Dutch legislation, this material will not comply with the Dutch definition for controlled biomass. As a consequence, the commission will advise to not approve SFI for controlled biomass as defined in Dutch legislation.

5 Documents used for the assessment of certification schemes SFI FMS and SFI CoC

5.1 Documents submitted by the scheme manager as part of the request for approval

1. [SFI 2015-2019 Standards and rules](#) (January 2015)
2. [Interpretations for the SFI 2015-2019 Standards and Rules](#) (January 2017)
3. [SFI Transparency Policy](#) (June 2018)

5.2 Additional documents assessed by the commission

4. Harris, J.B.C. et al, [Conserving imperiled species: a comparison of the IUCN Red List and U.S. Endangered Species Act](#), Conservation Letters 00 (2011)
5. "At risk or not: contrasting results of species at risk assessment processes", Darren J.H. Sleep, October 24, 2018
6. SFI database at www.sfidatabase.org, accessed on December 6, 2018.
7. Public audit reports available at <http://www.sfiprogram.org/audit-reports/>

Legislation and BMP's in the USA

8. US [Endangered Species Act](#) (ESA)
9. US [Fish and Wildlife Service](#) (FWS)
10. US [Foreign Corrupt Practices Act](#) (FCPA)
11. US Lacey Act
12. [US Occupational Safety and Health Standards](#) (OSHA, referring to logging operations)
13. Local legal requirements regulating hunting and fishing in [Alabama](#), [Georgia](#) and [Louisiana](#)
14. US [State specific Best Management Practices](#) (BMP's)
15. [BMP's of Florida](#)
16. [BMP's of Georgia](#)
17. [BMP's of North Carolina](#)

Canadian legislation

18. [Canada Pest control act](#) (downloaded September 16, 2018, last amended September 21, 2017).
19. [Canada List of Pest Control Product Formulants and Contaminants of Health or Environmental Concern](#) (downloaded September 16, 2018, last amended June 25, 2008).
20. Alberta - [Forests Act](#)
21. British Columbia – [Forests Act](#)
22. Ontario – [Stumpage paid on Crown \(public\) lands](#)
23. A range of further local acts (Forest Sustainability Act, Forest Development Act, Forest management planning manual, etc) from Alberta, British Columbia, Ontario and Québec
24. Local legal requirements regulating hunting and fishing in [British Columbia](#) and [Ontario](#)

5.3 Additional documents provided by stakeholders as part of external input

25. Forest Ethics. "SFI: New and Unimproved. Analysis of Revised Sustainable Forestry Initiative Standards," 2015.
<https://www.nrdc.org/sites/default/files/sfi-report-new-and-unimproved.pdf>.
26. Forest Ethics. "SFI: New and Unimproved. Analysis of Revised Sustainable Forestry Initiative Standards," 2015. Detailed analysis.
27. "On the Ground" 2011. http://www.wwf.de/fileadmin/user_upload/PDF/On_The_Ground_2011.pdf.
28. Washington Forest Law Center. Memorandum to Debbie Hammel. April 3, 2018.
29. SFI Labels & Claims
<http://www.sfiprogram.org/sfi-standards/labels-claims/>

Annex I – Biomass categories and the CoC system

The sustainability and management criteria in paragraphs 4.2 and 4.3 are a translation from the criteria in Annexes B and C of the Dutch regulation on conformity assessment of solid biomass for energy production. In Annex D of this regulation two tables show which requirements apply to the five categories and the set-up of the chain of custody. In the explanatory notes to the legislation a table can be found with additional guidance to the requirements.

Biomass categories and the chain of custody system

There are five biomass categories for which the sustainability requirements apply. In Table 1 for each category is listed which sustainability requirements apply:

Table 1. Biomass category's with the applicable sustainability requirements

Category	Sustainability requirements	Greenhouse gas emission	Soil management	Carbon and land use change	Sustainable forest management	Chain of custody
1. Woody biomass from forest management units		1.1		3.1-3.3, 4.1-4.3, 5.1	6.1-6.3, 7.1-7.5, 8.1-8.8, 9.1-9.2, 10.1-10.5, 11.1-11.2	12.1-12.6, 13.1-13.3
2. Woody biomass from forest management units less than 500 ha		1.1		3.1-3.3, 4.1-4.3	6.1-6.3, 7.1-7.5, 8.1-8.8, 9.1-9.2, 10.1-10.5, 11.1-11.2	12.1-12.6, 13.1-13.3
3. Residues from nature and landscape management		1.1	2.1			12.1-12.6, 13.1-13.3
4. Agricultural residues		1.1	2.1			12.1-12.6, 13.1-13.3
5. Biogenic residues and waste		1.1				12.1-12.6, 13.1-13.3

The source of the five categories and controlled biomass has to be known for each consignment. The conformity assessment by a conformity assessment body starts at the first link of the chain of custody. In Table 2 for each category the source of the material and the first link of the chain of custody are listed.

Table 2. Distinction between the source and the first link in the chain of custody per biomass category

Category	Source	First link chain of custody
1. Woody biomass from forest management units	Forest management unit	Forest management unit
2. Woody biomass from forest management units less than 500 ha	Forest management unit or predefined supply base of which the forest management unit <500 ha forms a part	Forest management unit or biomass producer
3. Residues from nature and landscape management	Predefined supply base	First collection point
4. Agricultural residues	Predefined supply base	First collection point
5. Biogenic residues and waste	Company that generates the residues or waste	First collection point

As part of the SDE+ subsidy scheme a temporary exemption applies for category 2 biomass regarding the first link of the chain of custody. For this category either the forest management unit or the biomass producer can be the first link. In case the biomass producer is the first link a risk based approach is used to demonstrate compliance with the sustainable forest management requirements.

Annex II – Abbreviations

ADBE	Advisory commission Sustainability Biomass for Energy applications
ATFS	American Tree Farm System
BMP	Best Management Practice
CB	Conformity Assessment Body
CITES	Convention on International Trade in Endangered Species of wild flora and fauna
CoC	Chain-of-Custody
Commission	Advisory commission Sustainability Biomass for Energy applications
c.o.	covered otherwise
CSARA	Canadian Species at Risk Act
EU	European Union
ESA	Endangered Species Act
EZK	“minister/ministry of EZK” is the Dutch minister/ministry of Economic Affairs and Climate Policy
FCPA	Foreign Corrupt Practices Act
FECV	Forests with Exceptional Conservation Values
FMU	Forest Management Unit
FWS	Fish and Wildlife Service
GIS	Geographic Information System
GHG	GreenHouse Gas
HCV	High Conservation Value
ILUC	Indirect Land Use Change
IUCN	International Union for Conservation of Nature
NTFPs	Non Timber Forest Products
OSHA	Occupational Safety and Health Standards
PEFC	Programme for the Endorsement of Forest Certification
SDE+	A Dutch subsidy scheme (feed-in tariff) for production of renewable energy
SFI	Sustainable Forestry Initiative
SFI FMS	SFI 2015-2019 Forest Management Standard
SFI FSS	SFI 2015-2019 Fiber Sourcing Standard
SFI CoC	SFI 2015-2019 Chain of Custody Standard
SFM	Sustainable Forest Management
US	Unites States
USA	Unites States of America
WHO	World Health Organization