



CERTIFICATION SCHEME ASSESSMENT

OUTLINE ANALYSIS AND OPTIONS

January 2019

Prepared for: The Dutch Biomass Certification Foundation (DBC)



Recommendations
for actions to be
taken by pellet
producers and
utilities to enable
biomass to meet
SDE+
requirements

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Certification Scheme Assessment. Outline analysis and options.

Recommendations for actions to be taken by pellet producers and utilities to enable biomass to meet SDE+ requirements.

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1 Summary of Findings of analysis

- 1- The analysis covers Dutch government approvals of six schemes, including forecast approval for one scheme (GGL). The analysis does not include SFI, which has not yet been approved.
- 2- The analysis excludes 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*) as ADBE has determined that this can only be evaluated at the Energy Producer.
- 3- No schemes have been approved for a regional risk-based approach. As such, evaluation of category 2 biomass (from forests <500ha) will be made at the forest level and by default will be considered category 1 biomass.
- 4- All category 1, 2 and 5 biomass must be supplied with either SBP, GGL or Better Biomass claims, as only the chain of custody systems of these schemes have been approved.
- 5- If Better Biomass resubmits documents to demonstrate compliance with criterion 7.2 and this revision is approved then a 'Better Biomass certified' claim would meet the sustainability requirements for category 1-5 biomass. It is anticipated that the revision would be relatively minor and could be approved relatively quickly by ADBE - before 31 December 2019.
- 6- The following meet the SDE+ sustainability requirements for sustainable biomass:
 - a. Category 1-5 biomass received with an 'SBP-compliant' claim and Dynamic Batch Sustainability (DBS) data that demonstrates compliance. Category 1-4 biomass must have been produced by sourcing through the SBP Group Scheme.
 - b. Category 3, 4 and 5 biomass received with a 'Better Biomass-certified' claim.
 - c. Should Better Biomass submit a revised application that is approved then approval would cover categories 1-5 biomass.
 - d. Category 5 biomass received with a 'GGL-certified' claim.

No other combination of biomass category and scheme claims completely meet the SDE+ sustainability requirements.
- 7- Uptake of the SBP Group Scheme will be problematic for pellet producers without strong upstream links in the feedstock supply chain and where cultural factors do not facilitate operational oversight of forests by pellet mills. Where mills do have good links into the forest and in areas where there is an existing history of forest level and group certification it will provide a route for category 1 and 2 biomass.
- 8- RVO has announced that principles 3, 4, and 5 (carbon and iLUC) may be evaluated at the regional level¹.

¹ <https://www.adviescommissiedbe.nl/blog/view/50707559/adviescommissie-neemt-standpunt-in-over-drie-onderwerpen>

- 9- Approval of FSC applies only to 'version 5²', countries and these do not currently include key supply areas. Additional countries are expected to be achieve version 5 in 2019 but there is limited visibility on progress. Feedstock supplied under FSC version 5, and in combination with a regional evaluation of Principle 3, 4 and 5 and supplied with an SBP, GGL or Better Biomass claim could be considered sustainable biomass.
- 10- An FSC version 4 claim on feedstock could provide a strong evidence base for demonstrating compliance using the Verification Protocol. The evidence base would be strengthened further if applied in combination with a regional evaluation of principle 3, 4 and 5 and if the biomass is supplied with an SBP, GGL or Better Biomass claim. In this scenario the additional burden on the pellet mill in implementing an SBP Group Scheme would be significantly reduced.
- 11- Existing ATFS group schemes in the US provide a solid starting point for the establishment of SBP Group Schemes. The approval of ATFS for some criteria will reduce the burden on pellet mills for forests also covered by ATFS.
- 12- SDE+ requirements for controlled biomass³ apply only to category 1 and 2 biomass. The following meet the SDE+ sustainability requirements for controlled biomass:
- a. Category 1-2 biomass received with an 'SBP-compliant' claim and Dynamic Batch Sustainability (DBS) data that demonstrates compliance. Biomass must have been produced by sourcing through the SBP Group Scheme. Note this can be also considered sustainable biomass. Where feedstock sourced through an SBP Group Scheme is only shown to be compliant with criteria 3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 5, 7.1 and 7.3 this can be supplied as controlled biomass.
 - b. Category 1-2 biomass produced from feedstock supplied with a 'Better Biomass-certified' claim meets (and exceeds) the requirements for controlled biomass.
- Analysis presented in [Appendix 1](#) shows that no other scheme (including FSC CW) meets the controlled biomass requirements. In summary, controlled biomass does not currently offer a significant route to SDE+ compliance.
- 13- RVO has announced:
- a. For consignments that the Energy Producer took legal ownership of in 2018 the sustainability requirements of 2018 are applicable, provided that the biomass is burnt before 31 December 2019.
 - b. During 2019, FSC and PEFC 100% claims can be used to demonstrate compliance for Principles 3 to 11. For consignments burnt after 31 December 2019, the 2020 sustainability requirements apply, irrespective of the date that the Energy Producer took legal ownership of the biomass.
 - c. After the date of endorsement by FSC of the national standard under version 5, all feedstock from that country may be considered to have been produced under version 5. This is irrespective of whether individual forest suppliers have transitioned to certification under the new version.

² FSC is approved on a country by country basis. Countries are updating their national standards inline with revised FSC requirements from version 4 to version 5.

³ Controlled biomass - 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 designated as controlled biomass on a mass balance basis.

2 Recommendations

For biomass burnt before 31 December 2019, the Dutch government permits FSC and PEFC claims on feedstock to be used for category 1 and category 2 biomass. Category 5 biomass may be burnt with a Better Biomass, GGL or SBP claim at any time. The following recommendations are made to enable biomass to be burnt after 31 December 2019:

- 1- Category 5 biomass supplied using SBP (preferred due to fungibility), GGL or Better Biomass (least favourable option due to lack of supply). This will be the simplest option for meeting SDE+ sustainability requirements.
- 2- Selected producers implement the SBP Group Scheme for category 1-4 biomass. Additional information below in [Section 6](#).
- 3- For some pellet producers a realistic option will be to implement the Verification Protocol, using a combination of:
 - a. Regional evaluation for Principles 3, 4 and 5 (carbon and iLUC);
 - b. Feedstock sourced with an FSC version 4 100% claim (preferably) or PEFC endorsed 100% claims, including ATFS and SFI;
 - c. Other measures to reduce the risk of non-compliance in feedstock, for example, limiting suppliers, restricting harvesting regions, feedstock species;
 - d. A Mass Balance system to allocate the SDE+ lowest risk biomass to the NL markets;
 - e. Supply using SBP, GGL or Better Biomass Chain of Custody system.

Additional information below in [Section 7](#).

- 4- Better Biomass could be used for category 3 and 4 biomass.

The options for promoting the submission for approval of FSC version 4 and the application of version 5 by FSC in key supply areas could be explored.

3 Review of schemes

3.1 ATFS

<p>Overview Approved for 15 of the 33 criteria, P2 – P11. 15 of 25 criteria P 6-11. Pellet mills have already established ATFS Group Schemes. Biomass produced from feedstock supplied under ATFS will require additional verification to be included in an SBP Group Scheme.</p>	
<p>Positives Good working relationship between DBC and ATFS. Provides a realistic option for increasing forest certification in SE US.</p>	<p>Negatives Not approved for 18 of the 33 criteria under P3 – P11 and 10 of 25 criteria P 6-11.</p>
<p>Outlook Continued engagement between DBC and ATFS to promote forest level certification in SE US. ATFS may bring forest owners into certification but the scheme itself has been approved for only a sub-set of the criteria. Existing ATFS Group Schemes provide a strong foundation for establishing SBP Group Schemes</p>	

3.2 Better Biomass

<p>Overview Approved for 32 of the 33 criteria, P2 – P11. 24 of 25 criteria P 6-11. The scheme is one of three schemes (BB, GGL, SBP) with an approved chain of custody system, one of which must be used to supply biomass into NL. Better Biomass has been approved for category 5 biomass and all but one criterion for category 1-4 biomass. It is likely that the remaining criteria (7.2) will be approved before 31 December 2019 and hence will be fully compliant for all biomass categories. The scheme is not active in key supply areas</p>	
<p>Positives Approved for all forest sustainability criteria (P3-P11), except one. It is expected that this will be closed in the short term and before 31 December 2019. The two CBs are already accredited to operate globally so there would be no requirement to expand their accreditation. Expansion of accreditation could be expected to take 6 months- 24 months depending on geographies added.</p>	<p>Negatives No certificates in key supply markets Lack of experience in key sourcing areas No demonstrated ability to certify large biomass producers in key production areas Only 2 certification bodies (DEKRA and QS). Limited opportunity to expand Better Biomass certification for category 1-2 biomass before 31 December 2019.</p>
<p>Outlook Possible option for category 3 and 4 biomass in the short term and categories 1 and 2 in the medium term if certification bodies develop capacity to audit in key markets. To do so they would require clear market demand for certification.</p>	

Current valid Better Biomass certificates that include production or processing, by product type and country.

Product type	Belgium	Netherlands	Norway	Total
Woodchips	5	20	2	27
Wooden residuals		6		6
Woodpellets		6		6
Other	1	45		46
Total	6	77	2	85

Better Biomass certified pellet producers.

Plospan Bio-Energy BV

Martens Eko B.V.

Energy Pellets Moerdijk BV

Dutch Milling Group B.V.

Beelen Rotterdam B.V.

Zijderlaan Handel Maatschappij (ZHM) BV

Distribution of all Better Biomass certificates by certification body and country.

CB	Belgium	Switz.	Germany	UK	NL	Norway	Sweden	Total
DEKRA	2		4		29	4		39
QS Certification	4	1		2	66	2	2	77
Grand Total	6	1	4	2	95	6	2	116

3.3 GGL (forecast approval)

<p>Overview</p> <p>GGL is forecast to be approved for category 5 biomass. In this case the scheme is one of three schemes (BB, GGL, SBP) with an approved chain of custody system, one of which must be used to supply biomass into NL.</p> <p>Although there is limited uptake of the scheme with eight pellet producers certified, combined they represent a significant potential supply.</p>	
<p>Positives</p> <p>Category 5 biomass compliant and provides a Chain of Custody solution.</p> <p>Large pellet producers producing category 5 biomass are already certified.</p> <p>The one GGL certification body is also the only certification body approved to implement the Verification Protocol.</p>	<p>Negatives</p> <p>Not recognised by other regulators and cannot be used to supply other member states.</p>
<p>Outlook</p> <p>GGL provides a realistic alternative to SBP for category 5 biomass.</p> <p>A future application during 2019 may provide a solution for category 1-4 biomass.</p>	

Current valid GGL pellet producer certificates.

Canfor Energy North Limited
 Georgia Biomass LLC
 Graanul Invest AS
 Pacific Bioenergy
 Pinewells SA
 Pinnacle Renewable Energy
 Premium Pellet Ltd.
 SIA Newfuels RSEZ

3.4 FSC 100% - version 5⁴.

<p>Overview</p> <p>The national FSC sustainability standards are in transition from version 4 to version 5 on a country by country basis. Version 4 is widely used but has not been approved. Version 5 is currently used only in the following countries: Australia, Bulgaria, China, Denmark, France, Germany, Italy, Japan, Kyrgyzstan, Malaysia, Portugal, Rwanda, South Africa, Tanzania, UK⁵. Approved for 27 of the 33 criteria, P2 – P11. 25 of 25 criteria P 6-11</p>	
<p>Positives</p> <p>In combination with an approved Chain of Custody system claim (BB, GGL, SBP) and application of the regional approach for evaluation of P3-P5 an FSC 100% claim meets all of the forest sustainability criteria. There is extensive uptake of FSC 100% version 4 in Canada, Baltics and Russia. Additional national version 5 standards will be approved during 2019, but there is no clear visibility on timeframe for this.</p>	<p>Negatives</p> <p>Approval does not cover key supply areas other than Denmark and Portugal. No clear timeline for approval of version 5 for other markets. No clear mechanism for supporting ADBE review of FSC version 4. No clear mechanism for supporting development of version 5 by FSC in key sourcing areas.</p>
<p>Outlook</p> <p>There is an opportunity to explore options to support the submission for approval of version 4 and for promoting the development of version 5 by FSC in key supply areas. Even though not formally approved, claims under FSC 100% version 4 could provide a strong evidence base for feedstock supplied under the Verification Protocol.</p>	

⁴ FSC-STD-01-001 (V5-2) FSC Principles and Criteria for Forest Stewardship

⁵ List of approved countries at <http://www.fsc.nl/nl-nl/certificeren/bosbeheer/bosbeheer-internationaal>

3.5 FSC Controlled Wood

<p>Overview FSC Controlled Wood approval is independent of the version 4 or 5 approval for FSC 100% and is applicable globally. There is widespread adoption of FSC CW in key supply areas, excluding the US. FSC Controlled Wood is not approved for SDE+ controlled biomass. Approved for 2 of the 33 criteria, P2 – P11. 2 of 25 criteria P 6-11.</p>	
<p>Positives Extensive uptake of FSC Controlled Wood in Canada, Baltics and Russia.</p>	<p>Negatives Meets few of the forest sustainability criteria. Is not approved for controlled biomass.</p>
<p>Outlook FSC Controlled Wood does not provide a significant advantage in demonstrating compliance with SDE+ sustainability requirements</p>	

3.6 SBP

<p>Overview The scheme is one of three schemes (BB, GGL, SBP) with an approved chain of custody system, one of which must be used to supply biomass into NL. Approved for 33 of the 33 criteria, P2 – P11. 25 of 25 criteria P 6-11 SBP is approved for category 1-5 biomass and has been widely adopted by pellet producers.</p>	
<p>Positives Widespread industry uptake Category 1-5 biomass compliant and provides a Chain of Custody solution.</p>	<p>Negatives Biomass producers must be certified to ID-5D to enable DBS data to be communicated to meet SDE+ requirements. The ‘SBP-compliant’ claim is not itself enough to demonstrate compliance with the NL requirements. A new system, the SBP Group Scheme, needs to be implemented for category 1-4 biomass. This may prove difficult to implement at scale in some regions.</p>
<p>Outlook SBP is likely to provide a central role in demonstrating compliance with SDE+ requirements. Biomass Producers will need to be ID-5D certified and all legal owners in the supply chain SBP-certified. Implementation of the SBP Group Scheme should begin in 2019 to ensure supplies are secured by 2020. Effective uptake will be variable across different pellet producers as a result of factors such as differing cultural perspectives, relationships with suppliers, the proportion of feedstock sourced from large land owners.</p>	

4 Graphical analysis of compliance against the SDE+ criteria by scheme

For each scheme the criteria that have been approved are shown below.

(Note GGL compliance is forecast and has not been officially confirmed.)

Analysis, including the text of criteria and notes, is presented in [Appendix 2](#).

Criterion found to be compliant by ADBE	•
Criterion not compliant	

4.1 Table 1. Compliance of each criteria as determined by ADBE for 6 schemes.

		Scheme (Categories)	ATFS (1,2)	BB (1,2,3,4,5)	FSC v5 100% (1,2)	FSC CW (1,2)	GGL (5)	SBP (1,2,3,4,5)
Criterion								
1.1a	GHG calc							
1.1.b								
2.1	Cat 3,4		•					•
3.1	Assessed regionally		•					•
3.2			•					•
3.3			•	•				•
4.1			•	•				•
4.2			•					•
4.3			•					•
5.1			•					•
6.1	Assessed in Forest	•	•	•				•
6.2		•	•	•				•
6.3		•	•	•				•

	Scheme (Categories)	ATFS (1,2)	BB (1,2,3,4,5)	FSC v5 100% (1,2)	FSC CW (1,2)	GGL (5)	SBP (1,2,3,4,5)
Criterion							
7.1	Assessed in Forest		•	•	•		•
7.2				•			•
7.3			•	•	•		•
7.4			•	•			•
7.5		•	•	•			•
8.1		•	•	•			•
8.2		•	•	•			•
8.3			•	•			•
8.4		•	•	•			•
8.5		•	•	•			•
8.6		•	•	•			•
8.7			•	•			•
8.8		•	•	•			•
9.1			•	•			•
9.2		•	•	•			•
10.1		•	•	•			•
10.2			•	•			•
10.3		•	•	•			•
10.4			•	•			•
10.5			•	•			•
11.1	•	•	•			•	
11.2	•	•	•			•	

	Scheme (Categories)	ATFS (1,2)	BB (1,2,3,4,5)	FSC v5 100% (1,2)	FSC CW (1,2)	GGL (5)	SBP (1,2,3,4,5)
Criterion							
12.1	Chain of Custody		●	●	●	●	●
12.2			●			●	●
12.3			●	●	●	●	●
12.4			●			●	●
12.5			●			●	●
12.6				●	●	●	●
13.1	Group CoC		●	●	●		●
13.2			●	●	●		●
13.3			●	●	●		●

4.2 Table 2. Compliance of each criterion evaluated at the forest level for six schemes

If biomass is supplied:

- 1 - Using a Better Biomass, GGL or SBP chain of custody claim.
- 2 – Without the need for compliance with Principles 1 and 13 regarding GHG calculation and Group Chain of Custody.
- 3 – As category 1 or 2 such that Principle 2 is not required.
- 4 – After implementing a regional evaluation of Principles 3, 4 and 5.

The resulting principles, 3-11, are those required to demonstrate sustainability of feedstock for category 1 and 2 biomass.

The tables shows that SBP and FSC 100% meet all of the criteria and that Better Biomass meets all but one of the criteria (7.2). This remaining criterion is expected to be compliant by 31 December 2019.

Criteria	Scheme (Categories)	ATFS (1,2)	BB (1,2,3,4,5)	FSC v5 100% (1,2)	FSC CW (1,2)	GGL (5)	SBP (1,2,3,4,5)
6.1	Assessed in Forest	•	•	•			•
6.2		•	•	•			•
6.3		•	•	•			•
7.1			•	•	•		•
7.2				•			•
7.3			•	•	•		•
7.4			•	•			•
7.5		•	•	•			•
8.1		•	•	•			•
8.2		•	•	•			•
8.3			•	•			•

	Scheme (Categories)	ATFS (1,2)	BB (1,2,3,4,5)	FSC v5 100% (1,2)	FSC CW (1,2)	GGL (5)	SBP (1,2,3,4,5)
Criteria							
8.4	Assessed in Forest	•	•	•			•
8.5		•	•	•			•
8.6		•	•	•			•
8.7			•	•			•
8.8		•	•	•			•
9.1			•	•			•
9.2		•	•	•			•
10.1		•	•	•			•
10.2			•	•			•
10.3		•	•	•			•
10.4			•	•			•
10.5			•	•			•
11.1		•	•	•			•
11.2		•	•	•			•

5 Options for Biomass Producers and Utilities:

For biomass burnt before 31 December 2019, the Dutch government permits FSC and PEFC claims on feedstock to be used for category 1 and category 2 biomass to demonstrate compliance with Principles 3 - 11. Category 5 biomass may be burnt with a Better Biomass, GGL or SBP claim at any time. The following recommendations are made to enable biomass to be burnt after 31 December 2019:

- 1- Category 5 biomass supplied using SBP (preferred due to fungibility), GGL or Better Biomass (least favourable option due to lack of supply). This will be the simplest option for meeting SDE+ sustainability requirements.
- 2- Selected producers implement the SBP Group Scheme for category 1-4 biomass. Additional information below in [Section 6](#).
- 3- For some pellet producers a realistic option is to implement the Verification Protocol, using a combination of:
 - a. Regional evaluation for Principles 3, 4 and 5 (carbon and iLUC);
 - b. Feedstock sourced with an FSC version 4 100% claim (preferably) or PEFC endorsed 100% claims, including ATFS and SFI;
 - c. Other measures to reduce the risk of non-compliance in feedstock, for example, limiting suppliers, restricting harvesting regions, feedstock species;
 - d. A Mass Balance system to allocate the SDE+ lowest risk biomass to the NL markets;
 - e. Supply using SBP, GGL or Better Biomass Chain of Custody system.

Additional information below in [Section 7](#).

- 4- Better Biomass could be used for category 3 and 4 biomass.

The options for promoting the submission for approval of FSC version 4 and the application of version 5 by FSC in key supply areas could be explored.

6 Implementation of the SBP Group Scheme

6.1 Background

The SBP Group Scheme has been developed specifically to enable Category 1 and 2 biomass to be supplied to the NL market. There are currently no pellet producers operating SBP Group Schemes although pellet producers do operate similar Group Schemes under other certifications (e.g. ATFS, SFI, FSC).

Where pellet mills implement the SBP Group Scheme requirements (Instruction Document 2D) this will enable category 1-4 biomass supplied with an SBP-compliant claim to be SDE+ compliant.

Where FMUs in the Group Scheme are supplying feedstock with:

- a. A Better Biomass claim, then only criterion 7.2 must be checked by the pellet mill group manager. Note however that there are no Better Biomass suppliers in current supply areas.
- b. An FSC 100% claim, then no additional criteria need to be checked by the pellet mill group manager. [Note, this only applies to areas operating FSC version 5].
- c. An ATFS based claim, then multiple criteria (3.1, 3.2, 3.3, 4.1, 4.2, 4.3, 5.1, 7.1, 7.2, 7.3, 7.4, 8.3, 8.7, 9.1, 10.2, 10.4, 10.5) need to be checked by the pellet mill group manager.

The SFI Small Lands Group Certification Module has not yet been submitted for evaluation by ADBE and is unlikely to be approved before 31 December 2019.

6.2 Factors for success

Successful implementation of the Group Scheme will depend on the characteristics of individual pellet mills and their supply areas. Factors will include:

6.2.1 Proportion of long-term suppliers

A Group Scheme will be most effective with suppliers that provide feedstock over the long-term given the establishment costs of membership of the Group. Additionally, there is a reputational risk for the pellet mill if forest owners join the scheme only shortly before harvest and leave the scheme shortly after harvest. This behaviour has been observed in other certification system Group Schemes and has led to criticism of the economic operator implementing the Group Scheme.

6.2.2 Proportion of large volume forest suppliers supplying the pellet mill.

This factor is related to long-term supply relationships as large volume forest suppliers will tend to be longer term suppliers. There will be diminishing returns relating to effort as regards bringing smaller volume suppliers into the Group Scheme, hence limiting the total proportion of category 1 and 2 feedstock that can be sourced through a Group Scheme.

6.2.3 Cultural attitudes to certification and oversight

Group Scheme members will be subject to monitoring by the pellet mill. To bring forest owners into Group Schemes will require a culture that accepts oversight by a customer.

6.2.4 Supplier relationship with pellet mill

Group Schemes will be more successful where there is a positive working relationship between the forest owner and the pellet mill. This will depend both on local working relationship, the nature and length of supply chains from forest to pellet mill and cultural factors.

6.2.5 Exiting certifications in supply base

Where there is significant uptake of existing certification in a supply area, e.g. ATFS, FSC, PEFC, SFI, there is a higher chance of cultural acceptance of Group Schemes. Additionally, where these schemes meet some or all of the sustainability requirements for category 1 and 2 there will be a reduced level of effort required by the pellet mill.

Where pellet mills are already operating Group Schemes the modifications to implement the SBP Group Scheme will be relatively straightforward.

6.3 Implementation and expected time scale

Initially the pellet mill will need to develop an internal management system to operate the Group Scheme. This could be undertaken in-house or with the support of external consultants. At the same time the pellet mill will need to engage with forest owners.

Creation of a Group Scheme management system can be estimated to take up to approximately two months. Implementation and initial refinements will take in the region of up to six months. The level of uptake by forest owners to join the Group will depend on commercial factors and those set out above.

Subject to cultural and commercial considerations a Group Scheme could work well with large forest owners that are also FSC or PEFC certified.

6.4 Resource expectations

Resource requirements will depend on the context of the pellet mill, including if the pellet mill is part of a wider group of mills where resources can be shared.

It is anticipated that establishment and management of the Group Scheme would require a mid-level experienced procurement forester with a strong understanding of certification and good existing relationships with forest owners.

It is estimated that the resource requirements would be in the region of 0.5 to 1.0 full-time equivalent to establish and maintain the Group Scheme.

7 Implementation of the Verification Protocol

7.1 Background

Verification is undertaken after delivery of biomass, which presents a significant business risk where sustainability may not be verified for biomass already purchased or burnt. However, actions can be taken to minimise the risk of non-compliance

7.2 Minimising risk in implementing the Verification Protocol

Prior to sourcing using the Verification Protocol the following actions can be taken to minimise risk.

If possible, the evaluations and outputs should be presented to RVO for assessment prior to sourcing significant volumes. One option for this would be to include the risk evaluations in the 2018 Conformity Year Statement during 2019.

Verification reports should be undertaken more frequently than annually to confirm that biomass remains compliant with the SDE+ requirements before completing the Conformity Year Statement.

7.2.1 Desk-based regional evaluation for Principles 3, 4 and 5 (carbon and iLUC)

Engagement of a competent body to identify risks related to carbon and Indirect Land-use Change (iLUC) at the regional level. The Dutch government will accept evidence of compliance with Principles 3, 4 and 5 at the regional level.

7.2.2 Feedstock is sourced with an FSC version 4 100% claim or other established forest certification claims

Feedstock supplied with an established forest certification claim will be considered to be compliant with SDE+ principles as per the approvals published by RVO. Where schemes have not been formally approved, e.g. FSC version 4, and the SFI Small Lands Group Certification Module, these claims could be used to provide evidence under the Verification Protocol.

7.2.3 Desk-based evaluation of Principles 6-11 (forest sustainability)

Engagement of a competent body to identify risks in the forest supply areas. Useful sources of information will include SBP Regional Risk Assessments and FSC Controlled Wood National Risk Assessments. Identified risks would need to be avoided.

7.2.4 Taking measures to avoid identified risks

In addition to using certified feedstock, actions should be taken on feedstocks identified as higher risk. Appropriate actions will be risk specific but could include identifying that where conservation risks are associated with hardwood and not with softwood feedstock then only the softwood is used for supplying the NL.

7.3 Implement a Mass Balance system

Feedstock that does not comply with the SDE+ requirements may still be sourced in a Mass Balance system and used to supply markets other than the NL.

The pellet mill would need to demonstrate as part of the Verification Protocol that the non-compliant biomass was not being used, on a Mass Balance basis, to supply the NL.

7.4 Biomass supplied through an approved Chain of Custody system

Supplying biomass with an SBP, GGL or Better Biomass claim will minimise risks related to Chain of Custody non-compliance (Principle 12).

Appendix 1. Table of compliance for six schemes against controlled biomass criteria.

		Scheme (Categories)	ATFS (1,2)	BB (1,2,3,4,5)	FSC v5 100% (1,2)	FSC CW (1,2)	GGL (5)	SBP (1,2,3,4,5)
Criteria								
1.1a	GHG calc							
1.1.b								
2.1	Cat 3, 4		•					•
3.1	Assessed regionally		•					•
3.2			•					•
3.3			•	•				•
4.1			•	•				•
4.2			•					•
4.3			•					•
5.1			•					•
6.1		Assessed in Forest	•	•	•			
6.2	•		•	•				•
6.3	•		•	•				•
7.1			•	•	•	•		•
7.2					•			•
7.3			•	•	•	•		•
7.4			•	•	•			•
7.5	•		•	•	•			•
8.1	•		•	•	•			•
8.2	•		•	•	•			•

	Scheme (Categories)	ATFS (1,2)	BB (1,2,3,4,5)	FSC v5 100% (1,2)	FSC CW (1,2)	GGL (5)	SBP (1,2,3,4,5)
Criteria							
8.3	Assessed in Forest		•	•			•
8.4		•	•	•			•
8.5		•	•	•			•
8.6		•	•	•			•
8.7			•	•			•
8.8		•	•	•			•
9.1			•	•			•
9.2		•	•	•			•
10.1		•	•	•			•
10.2			•	•			•
10.3		•	•	•			•
10.4			•	•			•
10.5			•	•			•
11.1		•	•	•			•
11.2		•	•	•			•
12.1		Chain of Custody		•	•	•	•
12.2			•			•	•
12.3			•	•	•	•	•
12.4			•			•	•
12.5			•			•	•
12.6				•	•	•	•
13.1	Group CoC		•	•	•		•

	Scheme (Categories)	ATFS (1,2)	BB (1,2,3,4,5)	FSC v5 100% (1,2)	FSC CW (1,2)	GGL (5)	SBP (1,2,3,4,5)
Criteria							
13.2	Group CoC		•	•	•		•
13.3			•	•	•		•

Appendix 2. Table of compliance for six schemes against each criteria, showing criteria text and notes.

		Scheme (Categories)	ATFS (1,2)	BB (1,2,3,4,5)	FSC v5 100% (1,2)	FSC CW (1,2)	GGL (5)	SBP (1,2,3,4,5)
Principles /Criteria	Principles / Criteria text							
P1	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							
1.1a	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.							
1.1.b	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.							
P2	Soil quality shall be maintained and where possible improved							
2.1	Best practices are applied for the maintenance or improvement of the soil and soil quality in relation to production, or the management objectives as these have been included in a management plan.			•				•

P3	Production of raw biomass does not result in the destruction of carbon sinks
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.
3.2	Biomass is not sourced from land that was converted from wetland to an alternative, dryer ecosystem after 1 January 2008.
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 justified to do so and that the forest manager is not directly or indirectly responsible for the degradation.
P4	The use of biomass does not result in a long-term carbon debt
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.
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.
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.

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P5	Biomass production does not result in Indirect Land Use Change (ILUC)
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.
P6	Relevant international, national, regional and local laws and regulations are complied with
6.1	The forest manager holds the legal right to use the forest.
6.2	The forest manager complies with all obligations to pay taxes and royalties.
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.
P7	Biodiversity is maintained and where possible enhanced
7.1	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.
7.2	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.

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7.3	The conversion of forests within the forest management unit to other forms of land use, including wood plantations, is not permitted unless: <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.
7.4	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.
7.5	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.
P8	The regulating effect and the quality, health and vitality of the forest are maintained and where possible enhanced
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.
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.
8.3	Important ecological cycles present in the forest management unit are preserved, including carbon and nutrient cycles.
8.4	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.
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.
8.6	The forest management measures are designed to prevent and control diseases and pests where these form a threat to natural capital.

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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.
8.8	The accumulation of inorganic waste and litter is prevented or such waste and litter is collected, stored in approved areas and disposed of responsibly.
P9	The production capacity for wood products and relevant non-timber forest products is maintained in order to safeguard the future of the forests
9.1	The production capacity of all forest types represented in the forest management unit is maintained.
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.
P10	Sustainable forest management is achieved through a management system
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.
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.
10.3	Essential elements for the management of the forest are indicated on maps.

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10.4	The implementation of the forest management plan is periodically monitored and the ecological effect of the forest management is evaluated.		•	•				•
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.		•	•				•
P11	Forest management by a group or regional association offers sufficient safeguards for sustainable forest management							
11.1	A group or regional association is lead and supervised by an independent legal entity.	•	•	•				•
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.	•	•	•				•
P12	A chain of custody system is in place for the biomass, covering 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.							
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.		•	•	•	•	•	•
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.		•				•	•
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.		•	•	•	•	•	•

12.4	Each link in the chain of custody registers for all incoming or outgoing consignments the quantities and required sustainability information under these regulations. ^[1]							
12.5	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: - 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 incoming consignments, taking account of the applicable conversion factors.							
12.6	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 designated 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.							
P13	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							
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.							
13.2	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.							
13.3	The group leader uses a registration system to record: - 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.							
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^[1] Criteria 12.4. Referring to Dutch legislation on conformity assessment of solid biomass sustainability for energy production (<https://zoek.officielebekendmakingen.nl/stcrt-2017-70368.html>)