SBP

Sustainable Biomass Partnership

Supply Base Report: Pinnacle Renewable Energy Inc (Armstrong Division)

www.sbp-cert.org

Completed in accordance with the Supply Base Report Template Version 1.2

For further information on the SBP Framework and to view the full set of documentation see www.sbp-cert.org

Document history

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1 Overview

Producer name:	Pinnacle Renewable Energy Inc. – Armstrong division
Producer location:	3480 Pleasant Valley Road Armstrong, British Columbia V0E 1B0, Canada
Geographic position:	119°11'43.06"W 50°26'50.03"N
Primary contact:	Joseph Aquino 8545 Willow Cale Road Prince George, BC V2N 6Z9 (250) 562-5562 ext. 2220
Company website:	www.pinnaclepellet.com
Date report finalised:	14/Feb/2017
Close of last CB audit:	09/Feb/2016 and 03/Mar/2017
Name of CB:	PricewaterhouseCoopers LLP – Vancouver, BC
Translations from English:	No
SBP Standard(s) used:	Standard 2, Standard 4, Standard 5 (version 1.0)
Weblink to Standard(s) used:	https://sbp-cert.org/documents/standards-documents/standards
SBP Endorsed Regional Risk Assessment:	Not Applicable
Weblink to SBE on Company website:	www.pinnaclepellet.com

Indicate how the current evaluation fits within the cycle of Supply Base Evaluations				
Main (Initial) Evaluation	**First Surveillance**	**Second Surveillance**	**Third Surveillance**	**Fourth Surveillance**
☒*	☐	☐	☐	☐

***Follow-up Assessment**

2 Description of the Supply Base

2.1 General description

Primary Fibre

All primary fibre supplied to Pinnacle Renewable Energy Inc. (PREI) originates in the Province of British Columbia (BC), Canada, excluding Vancouver Islands. BC's land base is 95 million hectares of which 62% or (55 million hectares) is forested, where only 24% is available for harvest. Approximately 83% of BC's forests are coniferous leading, 6% are mixed forests containing both coniferous and deciduous species, and 6% are deciduous leading. Six million hectares (approximately15%) of BC's forests are in protected areas and 13% of all forests in protected areas are 141-250 years old. BC is Canada's most ecologically diverse province containing coastal and inland temperate rainforests, dry pine forests, sub-alpine forests, and other forested ecosystems.[i]

95% of BC's forests are a government/publically owned resource. As such BC is a global leader in terms of forest legislation and certification. Approximately 52 million hectares of forest in BC is covered by third-party certification (e.g. SFI, FSC, CSA) or meets specific criteria required in environmental management systems (e.g. ISO 14001)[ii].

Forest tenure provides the authorization for companies to harvest timber from crown land. There are various forms of tenure; the two main categories of tenures are area based and volume based. Main tenure types are Replaceable Forest Licenses, Non-Replaceable Forest Licenses, Tree Farm Licenses and Woodlot Licenses. Tenures are associated with license numbers that identify the type of tenure and to whom it is issued. Under the license, the proponent can apply for cutting authority to harvest a specified area on crown land. Registered professionals who practice forestry in the Province prepare the cutting authority and submit the application to Provincial government for review. The government may approve or reject the permit application based on any number of determining factors. The cutting authority will be valid for a specified term where harvesting and silviculture are required to be completed. All cutting authorities issued in the Province are associated to a unique timbermark that tracks the timber to its origin.

Management of harvesting volume is governed under the Forest Act. Allowable annual cuts (AAC) are calculated in all districts across the Province using growth and yield data within the timber harvesting land base. An AAC is allocated to tenure holders operating in the district. The total harvested volume from each tenure holder represents the district AAC.

Management of harvesting practices is governed under the Forest and Range Practices Act (FRPA). Landscape level and site level forest management objectives are described in FRPA legislation. Proponent cutting authority applications are measured against FRPA objectives. The Provincial government has a compliance and enforcement division that inspects forest practices to ensure proponents are meeting the intent of FRPA.

Private land represents a small portion of British Columbia's overall landbase. Private land is considered outside the timber harvesting and managed forest landbase, and therefore is not reflected when determining district or Provincial level AAC's. Some parcels of private land contain treed areas that when

harvested are sold to various wood product manufacturing facilities. Of the 2% of land in British Columbia that is private forest land, 51% is managed forest land, 22% is forested farmland and 27% is forested residential[iii]. The timber and the harvesting practices on private land are governed by various pieces of Provincial, Federal legislation that ensure ownership and legality of timber is legitimate and impacts to natural systems are minimized. Less than 1% of the total fibre procured by PREI is from private land.

The province is divided into forest Regions and Districts managed by government offices that authorize access to timber resources. The Forest Regions and Districts where PREI sources fibre include[iv]:

1. Cariboo Region (Williams Lake)	**2. Kootenay/Boundary Region (Cranbrook)**
a. 100 Mile House District **b. Cariboo-Chilcotin District** **c. Quesnel District**	**a. Rocky Mountain District** **b. Selkirk District**
3. Northeast Region (Fort St. John)	**4. Skeena Region (Smithers)**
a. Peace District	**a. Kalum District** **b. Nadina District** **c. Skeena Stikine District**
5. Thompson/Okanagan Region(Kamloops)	**6. Omineca Region (Prince George)**
a. Thompson Rivers District **b. Okanagan Shuswap District** **c. Cascades District**	**a. Fort St. James District** **b. Mackenzie District** **c. Prince George District** **d. Vanderhoof District**

Secondary Fibre

Approximately 89% of the fibre procured by PREI is secondary fibre. Secondary fibre is residual material or bi-products from the lumber, plywood and remanufacturing industry in the form of bark, sawdust, shavings and hog. EC and UK feedstock types correspond to PREI feedstock types as follows:

EC Feedstock Types	Corresponding Pinnacle Feedstock Types
Forest Residues	Bush Grind - with Timber mark
	Chips – with Timber mark
Stemwood	Logs - All
	Pulp Logs
Wood Industry Residues	Sawdust
	Shavings - All
	Hog/Hog Mix
	Composer
	Trim Blocks
	Chips – All
UK Feedstock Types	**Corresponding Pinnacle Feedstock Types**
Forestry Residues	Bush Grind - with Timber mark
	Chips – with Timber mark
Tree Tops	Pulp Logs
Long Rotation Forestry (Broadleaf and Conifer)	Logs - All
Bark	Hog/Hog Mix
Sawmill Residues	Chips - All
	Sawdust
	Shavings - All
	Composer
	Trim Blocks
	Bush Grind – with Timber mark

In total, approximately 1,392,000 oven dry tonnes (odt's) of fibre are converted to biomass fuel in the form of wood pellets. Approximately 84% of the fibre procured by PREI is forest management certified where approximately 75% is accompanied by chain of custody claim certificates. All fibre supplied to Armstrong Division originates from within the supply base area.

PREI controls fibre deliveries to seven biomass production facilities strategically located in areas where residual fibre markets exist. The seven biomass production facilities include:

- Houston Pellet Limited Partnership **(HPLP)**
- Pinnacle Pellet Burns Lake **(PBL)**
- Pinnacle Pellet Meadowbank **(PPM)**
- Pinnacle Pellet Quesnel **(PPQ)**
- Pinnacle Pellet Williams Lake **(PWL)**
- Pinnacle Pellet Armstrong **(PPA)**
- Lavington Pellet Limited Partnership **(LPLP)**

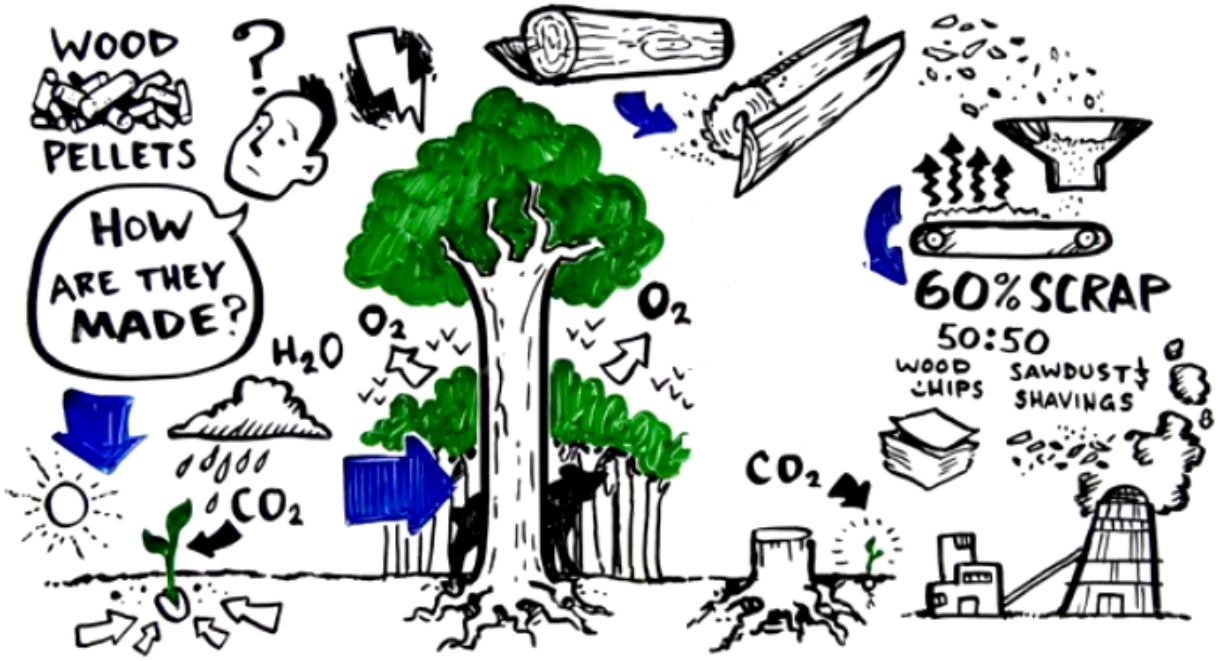
2.2 Actions taken to promote certification amongst feedstock supplier

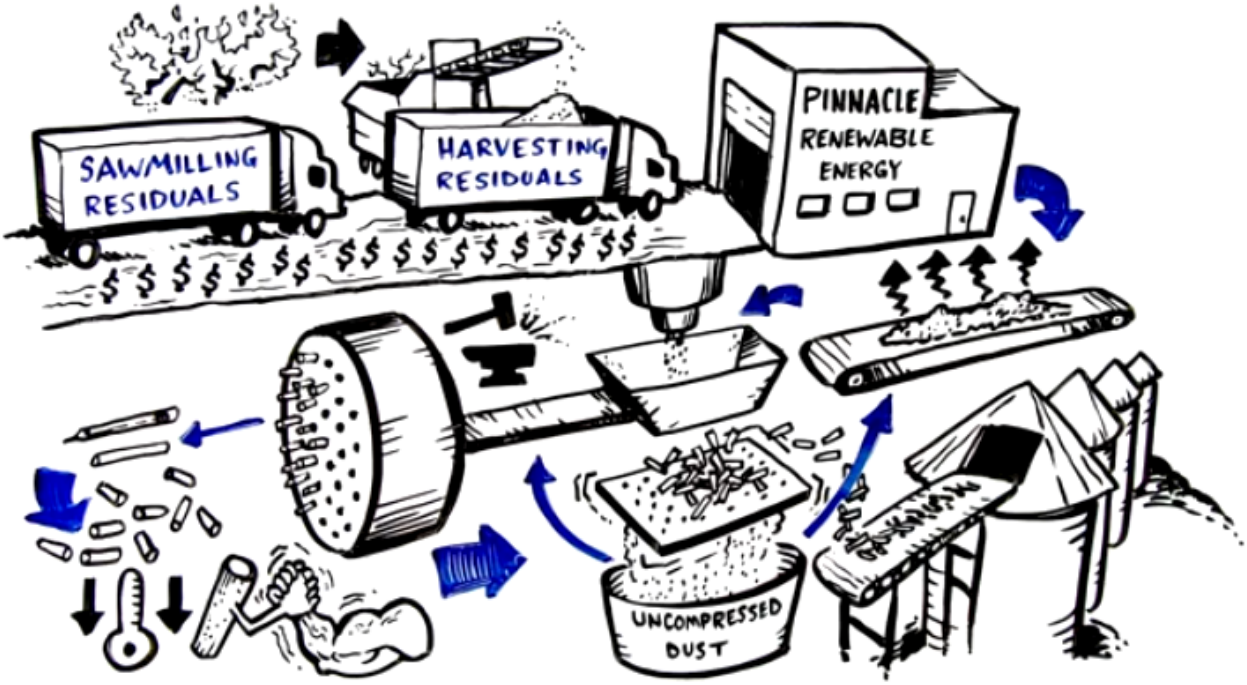
Customer demand for certified wood products drives extensive forest certification in BC. PREI requires that claim certificates for PEFC certified fibre are issued from PEFC certified suppliers. PREI requires all non-certified suppliers and certified suppliers providing non-certified fibre, sign a supplier declaration verifying that fibre is from non-controversial sources and sourced from within the supply area.

2.3 Final harvest sampling programme

N/A – No primary fibre at Armstrong division

2.4 Flow diagram of feedstock inputs showing feedstock type [optional]





2.5 Quantification of the Supply Base

Supply Base

a. Total Supply Base area (ha): **≈19,000,000ha**
b. Tenure by type (ha): **95% Crown Land, 5% Private Land**
c. Forest by type (ha): **Coastal -4,750,000ha, Interior -11,400,000ha, Boreal -950,000ha**
d. Forest by management type (ha): **100% Natural managed forest**
e. Certified forest by scheme (ha): **Approximately 95%**

Feedstock

f. **Total PPA volume of Feedstock: 67,346.76 odt**

g. **Total volume of primary feedstock: 0 odt**

h. List percentage of primary feedstock (g), by the following categories. Subdivide by SBP-approved Forest Management Schemes.

i. **PPA:**
   - Primary feedstock certified to an SBP-approved Forest Management Schemes – **0%**
   - Primary feedstock not certified to an SBP-approved Forest Management Schemes – **0%**

j. List all species in primary feedstock, including scientific name
   - **Lodgepole pine – *Pinus contorta***
   - **Hybrid white spruce – *Picea glauca x engelmannii***
   - **Engelmann Spruce – *Picea engelmannii***
   - **Douglas fir – *Pseudotsuga mensezii***
   - **Black spruce – *Picea mariana***
   - **Western hemlock – *Tsuga heterophylla***
   - **Sub-alpine fir (Balsam) – *Abies lasiocarpa***
   - **Western Red Cedar – *Thuja plicata***
   - **Western Larch – *Larix occidentalis***
   - **Paper Birch – *Betula papyrifera***
   - **Trembling aspen – *Populus tremuloides***
   - **Black cottonwood – *Populus balsamifera***

k. Volume of primary feedstock from primary forest – **0 odt**
l. List percentage of primary feedstock from primary forest (i), by the following categories. Subdivide by SBP-approved Forest Management Schemes
   - Primary feedstock from primary forest certified to an SBP-approved Forest Management Schemes – **0%**
   - Primary feedstock from primary forest not certified to an SBP-approved Forest Management Schemes – **0%**

m. **Total volume of secondary feedstock:** **67,346.76 odt**
n. **Origin: BC**
o. **Type: Sawmill residuals, sawdust, bark, shavings, hog**

p. **Total Volume of tertiary feedstock:** **0 odt**
q. **Origin:**

3 Requirement for a Supply Base Evaluation

SBE completed	SBE not completed
☐	☒

4 Supply Base Evaluation

4.1 Scope

Not Applicable

4.2 Justification

Not Applicable

4.3 Results of Risk Assessment

Not Applicable

4.4 Results of Supplier Verification Programme

Not Applicable

4.5 Conclusion

Not Applicable

5 Supply Base Evaluation Process

Not Applicable

6 Stakeholder Consultation

Not Applicable

6.1 Response to stakeholder comments

Not Applicable

7 Overview of Initial Assessment of Risk

Not Applicable

8 Supplier Verification Programme

8.1 Description of the Supplier Verification Programme

Not Applicable

8.2 Site visits

Not Applicable

8.3 Conclusions from the Supplier Verification Programme

Not Applicable

9 Mitigation Measures

9.1 Mitigation measures

Not Applicable

9.2 Monitoring and outcomes

Not Applicable

10 Detailed Findings for Indicators

Not Applicable

11 Review of Report

11.1 Peer review

The Supply Base Report (SBR) was peer reviewed by an external certification consultant, Nate Ryant – NMR Resources. Nate has extensive experience in the resource sector providing certification expertise across Canada. Nate is a Registered Professional Forester in the Province of BC and has extensive knowledge on forest legislation. PREI has contracted Nate for the past five years to provide certification services and expertise. Upon completion of the peer review, qualified PREI staff reviewed the SBR.

11.2 Public or additional reviews

Not Applicable

12 Approval of Report

Approval of Supply Base Report by senior management			
Report Prepared by:	***Joseph Aquino***	***Superintendent of Forest Biomass***	***Feb 14, 2017***
	Name	**Title**	**Date**
The undersigned persons confirm that I/we are members of the organisation's senior management and do hereby affirm that the contents of this evaluation report were duly acknowledged by senior management as being accurate prior to approval and finalisation of the report.			
Report approved by:	***Bernard Tobin***	***General Manager of Fibre***	***Feb 14, 2017***
	Name	**Title**	**Date**
Report approved by:	***Vaughan Basset***	***Senior Vice President of Sales and Logistics***	***Mar 23, 2017***
	Name	**Title**	**Date**

13 Updates

Updated figures reflect actual feedstock deliveries for 2015 and forecasted feedstock deliveries for 2017.

13.1 Significant changes in the Supply Base

N/A

13.2 Effectiveness of previous mitigation measures

N/A

13.3 New risk ratings and mitigation measures

N/A

13.4 Actual figures for feedstock over the previous 12 months

Feedstock

a. **Total PPA volume of Feedstock: 61,320.25 odt**

b. **Total volume of primary feedstock: 0 odt**

c. List percentage of primary feedstock (g), by the following categories. Subdivide by SBP-approved Forest Management Schemes.

d. **PPA:**
   a. Primary feedstock certified to an SBP-approved Forest Management Schemes – **0%**
   b. Primary feedstock not certified to an SBP-approved Forest Management Schemes – **0%**

e. List all species in primary feedstock, including scientific name
   - **Lodgepole pine – *Pinus contorta***
   - **Hybrid white spruce – *Picea glauca x engelmannii***
   - **Engelmann Spruce – *Picea engelmannii***
   - **Douglas fir – *Pseudotsuga mensezii***
   - **Black spruce – *Picea mariana***
   - **Western hemlock – *Tsuga heterophylla***
   - **Sub-alpine fir (Balsam) – *Abies lasiocarpa***
   - **Western Red Cedar – *Thuja plicata***
   - **Western Larch – *Larix occidentalis***
   - **Paper Birch – *Betula papyrifera***

- **Trembling aspen – *Populus tremuloides***
- **Black cottonwood – *Populus balsamifera***

f. Volume of primary feedstock from primary forest – **0 odt**

g. List percentage of primary feedstock from primary forest (i), by the following categories. Subdivide by SBP-approved Forest Management Schemes

   a. Primary feedstock from primary forest certified to an SBP-approved Forest Management Schemes – **0%**

   b. Primary feedstock from primary forest not certified to an SBP-approved Forest Management Schemes – **0%**

h. **Total volume of secondary feedstock: 61,320.25 odt**

i. **Origin: BC**

j. **Type: Sawmill residuals, sawdust, bark, shavings, hog**

k. **Total Volume of tertiary feedstock: 0 odt**

l. **Origin:**

13.5 Projected figures for feedstock over the next 12 months

Feedstock

a. **Total PPA volume of Feedstock: 65,000 – 75,000 odt**

b. **Total volume of primary feedstock: 0 odt**

c. List percentage of primary feedstock (g), by the following categories. Subdivide by SBP-approved Forest Management Schemes.

d. **PPA:**

- Primary feedstock certified to an SBP-approved Forest Management Schemes – **0%**
- Primary feedstock not certified to an SBP-approved Forest Management Schemes – **0%**

e. List all species in primary feedstock, including scientific name

- **Lodgepole pine – *Pinus contorta***
- **Hybrid white spruce – *Picea glauca x engelmannii***
- **Engelmann Spruce – *Picea engelmannii***
- **Douglas fir – *Pseudotsuga mensezii***
- **Black spruce – *Picea mariana***
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- **Western Larch – *Larix occidentalis***
- **Paper Birch – *Betula papyrifera***
- **Trembling aspen – *Populus tremuloides***
- **Black cottonwood – *Populus balsamifera***

f. Volume of primary feedstock from primary forest – **0 odt**
g. List percentage of primary feedstock from primary forest (i), by the following categories. Subdivide by SBP-approved Forest Management Schemes
    - Primary feedstock from primary forest certified to an SBP-approved Forest Management Schemes – **0%**
    - Primary feedstock from primary forest not certified to an SBP-approved Forest Management Schemes – **0%**

h. **Total volume of secondary feedstock: 65,000 – 75,000 odt**
i. **Origin: BC**
j. **Type: Sawmill residuals, sawdust, bark, shavings, hog**

k. **Total Volume of tertiary feedstock: 0 odt**
l. **Origin:**

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[i] Council of Forest Industries. 2016. Accessed from: http://www.cofi.org/industry-info/forest-facts/

[ii] Certification Canada. 2014. British Columbia - SFM - Year-end 2014.

[iii] Private Forest Landowners Association. 2017. Accessed from: http://www.pfla.bc.ca/managed-forest-land/

[iv] Ministry of Forest Lands and Natural Resource Operation. 2016. Accessed from: http://www.for.gov.bc.ca/