

Supply Base Report: ECOINDEF LTDA

www.sbp-cert.org



Completed in accordance with the Supply Base Report Template Version 1.3

*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

On the first page include the following information:

Producer name: Asesorias Eco Indef Ltda

Producer location: KM 484, Ruta 5 Sur Interior

Geographic position: -37.482411, -72.435258

Primarycontact: Alvaro Mundaca alvaromundaca@indef.cl

Company website: <http://www.indef.cl/>

Date report finalised: 26-09-2020

Close of last CB audit: 27-09-2020

Name of CB: NEPCon

Translations from English: Yes

SBP Standard(s) used: Standard 2 version 1.0, Standard 4 version 1.0, 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: [e.g. www.bp.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
X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2 Description of the Supply Base

2.1 General description

Biomass Chile, born in 2005 for management of biomass after forest harvests.

Until then it was usual to leave the waste or burn before to plant again

Other hand, there was a growing pressure for electricity generation through NCRE, it is there that the alternative of using forest biomass for these processes emerged as a technical, environmental alternative and that also added economic value to the forest process chain, to the environment and under the principle of sustainability.

The company grew, as new customers appeared and increased demand for this resource.

The company operationally performs three tasks:

- The first corresponds to the Acopios, forest cut authorizations (CONAF) and make the recovery or collection of the remaining forest or logging waste after the harvesting activity.*
- The second activity is the Crushing wood process, whose purpose is to transform these wastes into biomass or combustible chips, intended primarily for power generation or other uses.*
- The last activity is the Transportation, whose objective is obviously to transport the production of biomass, from the forest land to the centers of industrial consumption, where they are finally used in industrial boilers for power generation.*

The company has a staff of 150 employees and an installed capacity, to produce at least a monthly rate of 200,000 m3E of biomass.

EcolnDef, born with the purpose of exploring other business areas, be linked to the biomass and that would also add value to the productive chain.

Seeing the opportunities of a lot of raw material and the contact with customers who need biomass fuel, when exploring various alternatives, born the construction of a Pellet Plant owned by EcolnDef, aimed at Industrial pellets, whose main strength is to have an important part of the raw material necessary for its process, from forest biomass of the installed capacity that Biomasa Chile .

*The above, responds to a long-way tour of the INDEF Group, which is being crowned with the **AsesoriasEcolnDefLtda** Pellet Factory Project, which is expected to be a contribution to the Chilean forestry sector.*

In Chile, the productive and intensive forestry sector points towards the introduced species such as the Pino radiata, Eucalytus Globulus and EucalytusNitens

For the government and the interior administration of the State, the territory of the Republic of Chile is currently divided into 16 regions throughout the country, which in turn are subdivided into 56 provinces; for the purposes of local administration, the provinces are subdivided into 346 communes.

Currently, forest plantations cover an area of approximately 2.87 million hectares, equivalent to 17.2% of Chile's total forests, according to the update of the Natural Vegetative Resources of Chile, period 1997-2011 (CONAF, July 2011).

Approximately 68% of this area corresponds to radiata pine, 23% to species of the eucalyptus and the rest to other species: atriplex, tamarugo and oregon pine. The plantations are located mainly between the O'Higgins and Los Lagos regions.

The logical supply Area by operational distance are:

- Maule region
- Ñuble region
- Bio bio region
- Araucania region

Covering an approximate distance of 600 km in this distance is the direct providers as well as the indirect or sub providers.

The productive area of pinus radiata for the mentioned regions are:

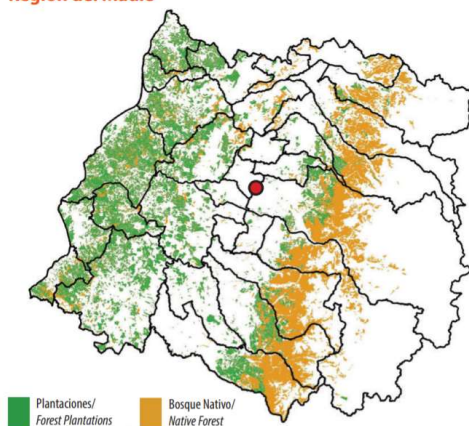
- **Maule region**

Regional Area forest plantation 430.057 Ha

Natural Forest 384.714

Pinus Radiata 382.750 Ha

Región del Maule



Forest Industry

Roundwood Consumption (x 1000 m3 SSC) 6.224

Sawnwood Production (x 1000 M3) 2014

- **Ñuble region and Bio Bio region**

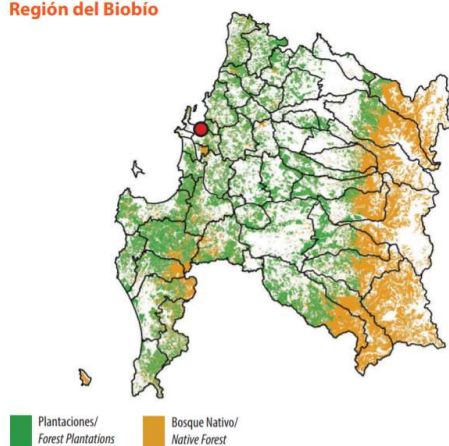
As of September 2018, the new Ñuble region was created, which is made up of the twenty-one communes that made up the Ñuble province, and that belonged to the Biobío region.

The plantation area did not change with this change.

Regional Area forest plantation 928.356 Ha

Pinus Radiata 563.512 Ha

Región del Biobío



Forest Industry

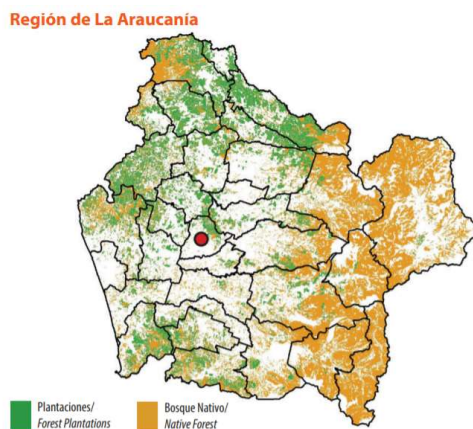
Roundwood Consumption (x 1000 m3 SSC) 25.224

Sawnwood Production (x 1000 M3) 4.347

- **Araucania region**

Regional Area forest plantation 493.013 Ha

Pinus Radiata 252.242 Ha



Forest Industry

Roundwood Consumption (x 1000 m3 SSC) 5.961

Sawnwood Production (x 1000 M3) 985

*Font https://wef.infor.cl/publicaciones/sector_forestal/2017/SectorForestal_2017.pdf

based on the standard FSC-STD-40-005 V3-1 and the current risk assessment FSC-NRA-CL-V 1-0 which also includes the native forest.

In the original project, the Biomass business would correspond to by-products of the forest harvest, that is, residues that are not yet in operation due to the lack of a dryer in the pellet factory.

The second large group are the by-products of sawmills:

- Secondary Feedstock corresponding to the purchase of green sawdust
- Tertiary Feedstock corresponding to Wood Shaving of remanufacturing factories (doors and moldings)

This last group has become the only and main method of supplying the factory until the company can build a dryer and sorter of raw material inside the pellet factory. In Chile there are no businesses dedicated 100% to the biomass business for the manufacture of pellets, there is always talk of by-products of some primary or secondary process.

The management, logging is regulated by Agricultural Ministry CONAF (www.conaf.cl) under current legislation that is formalized through the management plan or forest management standard.

The forest management plan is the instrument that plans the management of ecological heritage or the sustainable use of forest resources of a given land, safeguarding the quality of water and avoiding the danger of soils.

It will be a preservation management plan when we have as a fundamental objective to protect biological diversity, ensure the maintenance of the conditions that make possible the evolution and development of the species and ecosystems contained in the area object of its action.

Although the Management Plan or the management standard contemplates the cutting and use of the tree, it also gives a guideline on how the subsequent tasks of waste management and soil reforestation should be. In this sense, the management plan is not applicable to the extraction of the by-product from the forest, but it does reduce the damage to the soil and possible high conservation values that may be in the same land.

The extraction of native flora is not allowed without a specific Conaf management plan, so it is normally out of reach in exotic forest crops. The management plan also identifies all the protection areas of the field, as well as the high conservation values and precautions for extraction and management. Conservation endangered species are mentioned in the management plan. Regarding the material entered into the plant, some things should be noted;

CITES

Chilean Species included in CITES.

APPENDIX I (FLORA)

Common name	Scientific name
Araucaria	<i>Araucaria Araucana</i>
Alerce	<i>Fitzroyacupressoides</i>
Cipres de las Guaitecas	<i>Pilgerodendronuviferum</i>

APENDIX II (FLORA)

Family Cactaceae (cactus)	More than 150 species
Family Orchidaceae	More than 40 species
Genus Euphorbia	4 species
Genus Dicksonia	2 species

These species do not correspond to the productive species used for the manufacture of pellets

The company has a chain of custody code FSC® SA-COC-006562 corresponding to a Mutisite scheme owned by Biomasa Chile S.A. and IndefForestalItda both are suppliers of Ecoindef.

Thus, the products received through these two suppliers will arrive with statements of FSC 100% and FSC Mix Credit that would correspond to SBP Compliance Biomass and FSC Controlled Wood that corresponded to SBP Controlled Biomass.

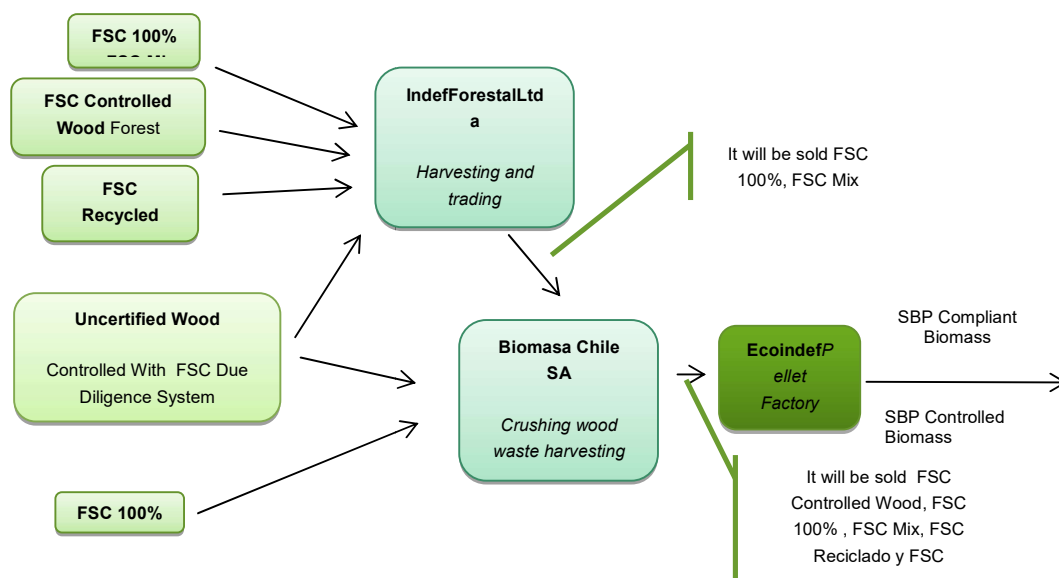
2.2 Actions taken to promote certification amongst feedstock supplier

Ecoindef has a strategic supplier that is Biomasa Chile SA (jointly owned company). This company will enter 99% of the wood inputs, it will also be the one that will carry out the greatest control with the Due Diligence System. Certification in Chile is an option to the more big suppliers and owners take, small producers or owners must be controlled and the entire related supply chain, under the FSC® scheme..

2.3 Final harvest sampling programme

Not applicable, The biomass extracted in the processes does not correspond to logging, 100% of biomass is to forest plantation residues.

2.4 Flow diagram of feedstock inputs showing feedstock type



2.5 Quantification of the Supply Base

Next, estimated metrics of the factory processing will be provided because it is in the commissioning phase where there is an estimate of consumption but it will be controlled in the next 12 months to reach the exact number.

it should be clarified that the hectares of raw material correspond to harvest waste, not to cultivated forests to produce biomass

Supply Base

- a. Total Supply Base area (ha): The total area of the supply area that includes the regions of:
 - Maule Region
 - Ñuble Region
 - Bio bio region
 - Araucania regioncorresponds to an area of 1.198.500 productive hectares approximately
- b. Tenure by type (ha): 1.198.500 hectares correspond to private owners.
- c. Forest by type (ha): 1.198.500 hectares correspond to Mediterranean-type forest
- d. Forest by management type (ha): 1.198.500 Hectares of Radiata Pine plantations correspond to a 22-year cycle of felling with intermediate grating, for the manufacture of sawn wood and by-products for wood chips.
- e. Certified forest by scheme (ha):

FSC Chile provides the following data:

Plantations FSC Area: 719.150 ha. (Radiata Pine) for supply area of point a).

Feedstock

- f. Total volume of Feedstock: *The production volume is estimated to be around 70.352,29M3 for 6month*
- g. Volume of primary feedstock: *The purchase volume is 0 Cubic Meters*
- h. List percentage of primary feedstock (g), by the following categories.

Forest Management Schemes:

- 0% FSC Certified
- 0 % FSC Controlled Wood

The purchase volume is 0 Cubic Meter

- i. List all species in primary feedstock,

The company has not purchased primary feedstock

- j. Volume of primary feedstock from primary forest

k. The company has not purchased primary feedstock

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

- Primary feedstock from primary forest certified to an SBP-approved Forest Management Scheme is 0.

- Primary feedstock from primary forest not certified to an SBP-approved Forest Management Scheme is 0.
- m. Volume of secondary feedstock: Sawdust originating in sawmills in the Maule Region, Ñuble Region, Bio Bio Region and Araucania Region
41.137,64 m3 Sawdust 10% to 12 % Moisture.
- n. Volume of tertiary feedstock: Wood Shaving originating in remanufacturing in the Maule Region, Ñuble Region, Bio Bio Region and Araucania Region
29.214,65 m3 Wood Shaving 10% to 12% Moisture.

Bands for (f) and (g) are: Non Applicable

1. 0 – 200,000 tonnes or m³
2. 200,000 – 400,000 tonnes or m³
3. 400,000 – 600,000 tonnes or m³
4. 600,000 – 800,000 tonnes or m³
5. 800,000 – 1,000,000 tonnes or m³
6. >1,000, 000 tonnes or m³

Bands for (h), (l) and (m) are: 4 of 40%-59%

2. 0%-19%
3. 20%-39%
4. 40%-59%
5. 60%-79%
6. 80%-100%

NB: Percentage values to be calculated as rounded-up integers.

3 Requirement for a Supply Base Evaluation

SBE completed	SBE not completed
<input type="checkbox"/>	x

All the material thar Ecoindef buys is entered through the subsidiary Biomasa Chile SA, Thus there is no material that enters thEcoindef facilities without FSC Certification.

In this way is not necessary to carry out a SBE to the origins of raw materialf

4 Supply Base Evaluation

4.1 Scope

N/A

4.2 Justification

N/A.

4.3 Results of Risk Assessment

N/A

4.4 Results of Supplier Verification Programme

N/A

4.5 Conclusion

N/A

5 Supply Base Evaluation Process

N/A

6 Stakeholder Consultation

N/A

6.1 Response to stakeholder comments

N/A

7 Overview of Initial Assessment of Risk

N/A

8 Supplier Verification Programme

8.1 Description of the Supplier Verification Programme

N/A

8.2 Site visits

N/A

8.3 Conclusions from the Supplier Verification Programme

N/A

9 Mitigation Measures

9.1 Mitigation measures

N/A

9.2 Monitoring and outcomes

N/A.

10 Detailed Findings for Indicators

N/A

11 Review of Report

11.1 Peer review



The report was sent to the technical area of the company Promotora de Certificación Forestal Ltda who stands out as a local expert in the implementation and monitoring of companies with chains of custody in Chile, all the document as the methodology and control systems have been revised to give Compliance with both the SBP and FSC® standards.

The team is multi-disciplinary and has experts in Occupational Health and Safety and forestry engineers with more than 15 years of experience. More reference can be found at www.procer.cl

11.2 Public or additional reviews

N/A

12 Approval of Report

Approval of Supply Base Report by senior management			
Report Prepared by:	Dalton Rebolledo 	Commercial Manager	29-09-2020
	Name	Title	Date
<p>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.</p>			
Report approved by:	Alvaro Mundaca 	Corporate Manager	30-09-2020
	Name	Title	Date

13 Updates

N/A

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

N/A

13.5 Projected figures for feedstock over the next 12 months

The following sheet contains the estimated supply projection for pellet manufacturing in the next 12 months

Production (Tons)	nov-20	dec-20	jan-21	feb-21	mar-21	apr-21	may-21	jun-21	jul-21	aug-21	sep-21	oct-21
Pellets	4.491	5.393	7.232	7.352	7.678	7.668	7.571	6.308	6.125	6.348	8.108	10.324

Raw Materials
Required

Raw Materials	nov-20	dec-20	jan-21	feb-21	mar-21	apr-21	may-21	jun-21	jul-21	aug-21	sep-21	oct-21
Volume m3E	35.971	38.644	51.149	51.965	54.182	54.114	53.060	44.471	43.227	44.743	56.711	72.174

%	Raw Material	nov-20	dec-20	jan-21	feb-21	mar-21	apr-21	may-21	jun-21	jul-21	aug-21	sep-21	oct-21
0%	Biomass	0	0	0	0	0	0	0	0	0	0	0	0
67%	Wet Sawdust	18.156	20.828	33.334	34.150	36.366	36.298	38.808	30.219	28.975	30.491	42.459	54.359
3%	Dry Sawdust	1.734	1.734	1.734	1.734	1.734	1.734	1.387	1.387	1.387	1.387	1.387	1.734
29%	Wood Shaving	16.081	16.081	16.081	16.081	16.081	16.081	12.865	12.865	12.865	12.865	12.865	16.081
100%	Totales (m3E)	35.971	38.644	51.149	51.965	54.182	54.114	53.060	44.471	43.227	44.743	56.711	72.174