Plastic Waste Reduction Standard

JOINT VALIDATION AND VERIFICATION OF VERDE POLYSFY PLASTIC RECYCLING PROJECT

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Client	Verde Polysfy Private Limited
Project Title	Verde Polysfy Plastic Recycling Project
Project ID	PWRP 4740
Project Location	Giridih, Jharkhand, India
Monitoring Period	18-02-2022 to 30-11-2023

Summary

- A description of the project

Verde Polysfy Private Limited (VPPL) had initiated project activity "Verde Polysfy Plastic Recycling Project" at Giridih city of Jharkhand in India with the aim to recycle PET bottles into recycled polyester staple fiber (R-PSF) using a state-of-the-art recycling technology.

The process involved a streamlined process of collecting and sorting of PET bottle, followed by washing and cleaning to remove any contaminants. Before drawn into fibre decontaminated PET bottles are grounded into flakes and melted. The drawn fibers from PET bottles undergoes to crimping process to create crimp pattern. Finally, these fibres undergo to drying process for removal of unwanted moisture followed by cutting it into the desired length. The staple fibres are then baled for shipping and storage. The production capacity of the project activity is about 14,400 metric tons per annum that is gathered from different Indian states. The Project Proponent also having planning to increase capacity to 18,000 MT/year by adding a capacity of 20 MT/day in the existing running capacity.

In the R-PSF production under the project "Verde Polysfy Plastic Recycling Project" at Giridih city of Jharkhand in India, Verde Polysfy Private Limited is using a sustainable and environmentally friendly process The project activity is playing a major role in the fight against plastic pollution in the project area as the activity involved recycling of PET bottles which helps in reduction in the amount of plastic waste that ends up in landfills and creates a high-quality product that is used in a variety of applications.

The major use of R-PSF is in the needle-punched non-woven fabric industry. Solid non-siliconized R-PSF in white, black and other colors is used. Main application is in automotive segment (carpet, upholstery, trunk liner, roof insulation etc.), carpet segment (exhibition, floor, wall carpets & backing), filter segment and geo-textiles. The other major use of R-PSF is in the Yarn spinning industry. Spun yarn is used in textiles, bed sheets, pillow covers, sportswear, athletic shoes etc.

As per the approach described for finding out the configurations of the projects in the section 3.3 of the Plastic Waste Reduction Standard v1.0 /B01/, the project is a Single installation of an activity. The single instances project designed Plastic Waste recycling as per the Verra's Plastic Waste Reduction Standard v1.0 /B01/, and Plastic Waste Recycling Methodology v1.1 /B03/ respectively.

The project involved the collection of post-consumer PET waste from informal, formal collectors, scrap dealers and traders from different localities in the regions. The collected post-consumer PET waste is being transferred to the recycling plants at Giridih for making Recycled polyester staple fibre (RPSF). The recycled plastics are subsequently sold to third-party manufacturers who utilize it for the weaving into fabric which further processed into garments.

Thus, by implementing this project, Verde Polysfy Private Limited is not only preventing the quantity of waste being sent to landfills, illegal dumpsites or leaking to the waterways but also providing employment opportunity for the workers engaged in the waste collection, sorting and recycling.

- A description of the validation and verification

Verde Polysfy Private Limited & EKI Energy Services Limited had appointed the VVB, Carbon Check (India) Private Limited, vide agreement /03/ dated 18/10/2023 as an independent joint validation and verification agency for the project "Verde Polysfy Plastic Recycling Project" to assess the process of the project against the requirements of Plastic Waste Reduction Standard v1.0 */B01/* along with the applied Plastic Waste Recycling Methodology v1.1 */B03/*. The combined validation and verification were conducted through the desk review of the Plastic Program Joint PD&MR v2.0 */01/*, corresponding estimated plastic credit spreadsheet and other relevant supporting documents made available by the

project proponent to the validation and verification team as well as on-site visit and interviews with PP and stockholders involved in the project. This verification of project was conducted for the period of 18-February-2022 to 30-November-2023.

- **The purpose and scope of validation and verification**

Purpose:

Carbon Check (India) Private Limited (CCIPL) is engaged in the project with its clear objective to perform a thorough and independent assessment and validation of the project activities to assess the conformance of activities as per the requirements of the VERRA Plastic Program guide.

The purpose of this joint validation and verification was to assess the conformance of the project activities with respect to the requirements set out in the Plastic Program rules for project. During the joint validation and verification process, the project components were assessed to verify the compliance with the Plastic Waste Reduction Standard v1.0 (dated 10-February-2021) */B01/* rules and requirements along with the applied Plastic Waste Recycling Methodology v1.1 (dated 30-June-2022) */B03/*

Scope:

The scope of the validation and verification includes an independent and objective review of the Plastic Program Joint Project Description and Monitoring report (Plastic Program Joint PD&MR v2.0 dated 02/02/2024) against the relevant criteria and guidance laid down in the documents under the Plastic Program which includes the following: The Plastic Waste Reduction Standard v1.0 (dated 10-February-2021) */B01/* rules and requirements along with the applied Plastic Waste Recycling Methodology v1.1 (dated 30-June-2022) */B03/*. This review was also conducted to assess the claims and assumptions made in the Plastic Program Joint PD&MR v2.0 */01/* without limitation provided by the project proponent.

- **The method and criteria used for validation and verification.**

For conducting validation and verification process smoothly, the entire process is conducted in three stages. Following are the details of the activities carried out at the various stages.

A) Pre-execution phase:

- Preparation of Validation and verification plan. This plan indicates the period of the assessment, list of documents to be reviewed, date and locations for onsite visit and stakeholders to be consulted.
- Preparation of checklist, of documents required and observations to be made during the onsite visit, based on the documents of Verra (the Verra plastic standard, the methodologies, and the format for this report).
- Review of the Project description and monitoring report (PD&MR) prepared by PP.

B) Execution phase:

To obtain the evidence during validation and verification following process were adopted:

- Review of the Document
  - desk review of the Joint Plastic Project Description for application of methodology
  - desk review of Monitoring Report for authenticity of the data and information.
  - Traceability assessment through cross checking between information provided in the JPD&MR and information from sources with all necessary means without limitations to the information provided by the project proponent.

- **On-site visit,**
  - Assessment of the implementation and operation of the proposed Plastic Program project activity as per the Plastic Program Joint PD&MR.
  - Verification of implemented monitoring plan as per the Plastic Program Joint PD&MR as well as applied baseline and monitoring methodology.
  - Review of information flows for generating, aggregating, and reporting the monitoring parameters.
  - Interview with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in the Plastic Program Joint PD&MR.
  - To cross-check between information provided in the monitoring report and data from other sources such as inventories, purchase records, or similar data sources.
  - To check the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the Plastic Program Joint PD&MR and the selected methodology.
  - Review of calculations and assumptions made in determining the plastic waste recycling and plastic credit generation.
  - Identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

During the onsite visit of the execution phase the conditions were taken into account by the validation and verification team are Location/region, Project activity, Quantity/Volumes of plastic waste recycled.

C) Compilation of data and report preparation

- Resolving CARs, CLs and open questions.
- Sharing improved or missing documents.
- Clarification calls where needed.
- Release of final validation and verification report

The certificate is based on the assessment of the Plastic Program Joint PD & MR v2.0 /01/ undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews and stakeholder interviews, review of the applicable/applied Plastic Waste Recycling Methodology v1.1 /B03/ and their underlying calculations of plastic credits spreadsheet.

- **The number of findings raised during validation and verification.**

During the joint validation and verification exercise, the following findings were observed and raised by the VVB.

- 05 Corrective Action Requests (CARs)
- 24 Clarification Requests (CLs)
- 03 Forword Action Request (FARs)

- **Any uncertainties associated with the validation and verification.**

There are no uncertainties associated with the joint validation & verification of the project activity. The validation and verification have been done with a reasonable level of assurance.

The Plastic Program Joint PD&MR v2.0 /01/, the calculations for quantification of recycled plastic waste /02/ along with the supporting documents provided are in line with Section 3.11 of the Plastic Waste Reduction Standard v1.0 */B01/* and Sections 8 of the applied methodologies Plastic Waste Recycling Methodology v1.1 */B03/*. The validation and verification team has detected no further uncertainties or quality restriction.

- **Summary of the validation and verification conclusions**

Carbon Check (India) Private Ltd. concludes the validation and verification with a positive opinion that the Plastic Project "Verde Polysfy Plastic Recycling Project" at Giridih city of Jharkhand in India as described in the Plastic Program Joint PD&MR v2.0, dated 02/02/2024, /01/, meets all applicable Plastic Project requirements, including those specified in the Plastic Waste Reduction Standard v1.0 (dated 10/02/2021) /B01/, relevant methodology, tools, and guidelines.

The baseline and the selected monitoring Plastic Waste Recycling Methodology v1.1 (dated 30/06/2022) /B03/ is applicable to the project and correctly applied. Carbon Check (India) Private Ltd., therefore, requests the registration of the project as a Plastic Project.

The average annual estimated quantity for recycled plastic waste is 15,254 tons/year.

In CCIPL's opinion, the plastic credits reported for the "Verde Polysfy Plastic Recycling Project" at Giridih in the Plastic Program Joint PD&MR v2.0, dated 02/02/2024. /01/ are fairly and correctly stated. CCIPL is therefore able to certify for the plastic credits of the project "Verde Polysfy Plastic Recycling Project". According to the risk-based assessment conducted during the validation and verification, we can state that the project is in line with what was described in the project description as well as also is in line with the VERRAs plastic standard and applicable methodologies for plastic waste reduction. The average annual plastic waste credits for 07 years are estimated as 15,254 tons/year for recycling.

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1 VALIDATION AND VERIFICATION PROCESS

1.1 Objective

Verde Polysfy Private Limited & EKI Energy Services Limited had commissioned Carbon Check (India) Private Limited through agreement /03/ dated 18/10/2023 to perform validation and verification of the project "Verde Polysfy Plastic Recycling Project" developed by Verde Polysfy Private Limited (VPPL) as per VERRA Plastic Standard.

The objective under this validation and verification process is to:

- Validate the methodology adopted by the PP for the project through evaluating the different components of project design against the requirements of Plastic Standards
- Verify the data provided by PP for quantity of plastic waste collected and/or recycled under this project activity during the project's monitoring period through assessment and cross verification of the monitoring period reports available.

The Validation of the methodology involved in the project will provide confidence to the project stakeholders for the quality of the project and Verification of the data generated during the monitoring period of the project will provide assurance to the project stakeholders for the quantity of plastic wastes collected and recycled for the generate plastic credits.

1.2 Scope and Criteria

The scope under the validation and verification process includes conducting a thorough, independent, and objective review of the project description, project design, baseline scenario, monitoring plan and quantification approaches of recycled waste and other relevant documentation as relates to the single instances project to provide a conclusion with reasonable level of assurance to the project stakeholders for the quality of the project and the quantity of plastic wastes recycled within a specified time. To provide reasonable level of assurance to the project stakeholders, Carbon Check India (Private) Limited had applied a risk-based approach for the validation and verification of the activities of the single instances project using the Plastic Program standard Version v1.0 /B01/ as the principal criteria to complete this exercise.

During the validation and verification process of the project, Carbon Check India (Private) Limited Team had reviewed and evaluated the project documents i.e., Plastic Program Joint PD&MR v2.0 /01/ against the relevant criteria of the Plastic Standard, including approved baseline and monitoring methodologies.

The validation and verification exercise were not intended to extend consulting towards the project proponents, but it may have provided input toward improvement of the overall multiple project activities through seeking for clarifications and/or propose corrective actions.

The validation and verification exercise were conducted based on the following requirements as applicable to the project:

- Plastic Waste Reduction Standard v1.0 /B01/
- Plastic Program Guide v1.0 /B02/
- Plastic Waste Recycling Methodology (PWRM0002) v1.1 /B03/

- Applicable host country's legislations /B04/

1.3 Level of Assurance

A reasonable level of assurance has been achieved for this joint validation and verification, adhering to the ISO 14064-3 guidelines and the requirements of the VERRA plastic standard. In order to achieve the reasonable level of assurance, VVB team conducted thorough review of the supporting documents and conducted onsite visit to recycling facility at Giridih, jharkhand, in India to cross check the statements through verification of the monitoring records and interviewing with employees & stakeholders involved in project activity.

1.4 Summary Description of the Project

The project entitled "Verde Polysfy Plastic Recycling Project" was initiated by Verde Polysfy Private Limited at Giridih city of Jharkhand in India with the aim to reduce the amount of plastic waste that ends up in landfills and creates a high-quality product that is used in a variety of applications. The project activity involves one mechanical recycling instance located in Giridih, Jharkhand, India for recycling post consumed PET waste in the project area.

The process involved a streamlined process of collecting and sorting of PET bottle, followed by washing and cleaning to remove any contaminants. Before drawn into fibre decontaminated PET bottles are grounded into flakes and melted. The drawn fibers from PET bottles undergoes to crimping process in order to create crimp pattern. Finally, these fibres undergo to drying process for removal of unwanted moisture followed by cutting it into the desired length. The staple fibres are then baled for shipping and storage. The production capacity of the project activity is about 14,400 metric tons per annum that is gathered from different Indian states. The Project Proponent also having planning to increase capacity to 18,000 MT/year by adding a capacity of 20 MT/day in the existing running capacity.

As per the approach described for the finding out the configurations of the projects in the section 3.3 of the Plastic Waste Reduction Standard v1.0 /B01/, the projects consist of one project activity at one location should be considered as single installation of an activity. Thus, project entitled "Verde Polysfy Plastic Recycling Project" is a "Single installation of an activity," as the project activity involves one mechanical recycling instance located in Giridih, Jharkhand, India.

The project involved in the collection of PET waste by unofficial traders and collectors from different regions of India and the sources of these wastes are private & public establishments as well as households. The collected post consumed PET plastics are brought to the recycling plants in Giridih, Jharkhand for recycling to produce Recycled polyester staple fibre (RPSF). The to produce Recycled polyester staple fibre (RPSF) are subsequently sold to third-party manufacturers who utilize it for the weaving into fabric which further processed into garments.

The project crediting period is 7 years, and the project has opportunity to renew twice, each time for seven years, up to 21 years total. The crediting period starts from 18/02/2022 /03/ to 17/02/2029, which was coincides from the starting date of the project activity and last for 7 years.

The estimated quantity of the plastic waste recycled/ to be recycled at project installation is given in the following tables,

Estimated annual net amounts of plastic waste recycled.

Year	Estimated Net Recycled Plastic Waste (tonnes)
18-February-2022 to 31-December-2022	5,689
01-January-2023 to 31-December-2023	9,621
01-January-2024 to 31-December-2024	17,104
01-January-2025 to 31-December-2025	18,000
01-January-2026 to 31-December-2026	18,000
01-January-2026 to 31-December-2026	18,000
01-January-2028 to 31-December-2028	18,000
01-January-2029 to 17-February-2029	2,367
Total estimated amount	106,781
Total number of crediting years (where applicable)	7 years (Which can be Renewable twice)
Average annual amount	15,254 (tonnes)

As mentioned in methodology, credits can only be produced by the entity using the plastic waste; hence, the plastic waste providers and consumer have no right to ownership of the plastic credits.

1.5 Audit Team Composition

Validation and Verification team

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Document review	On-site inspection	Interviews	Verification findings
1.	Team Leader	IR	Dimri	Anubhav	CCIPL	Y	N	N	Y
2.	Technical expert	IR	Attaluri	Abhinav	CCIPL	Y	Y	Y	Y

Technical reviewer and approver of the joint validation & verification report

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	IR	Anand	Amit	CCIPL
2.	Technical Expert to Technical Reviewer	IR	Rai	Bhuvaneshwar	CCIPL
3.	Approver	IR	Suman	Priya	CCIPL

1.6 Method and Criteria

The project was implemented in line with the ISO 14064-3 standard, Verra plastic waste reduction rules and requirements, the Verra Plastic Program guidelines and the Plastic Program Validation and Verification Manual. These protocols were adapted to plastics and the necessity to conduct the validation and verification.

For conducting validation and verification process smoothly, the entire process is conducted in three stages. Following are the details of the activities carried out at the various stages.

A) Pre-execution phase:

- Preparation of Validation and verification plan. This plan indicates the period of the assessment, list of documents to be reviewed, date and locations to for onsite visit and stakeholders to be consulted.
- Preparation of checklist, of documents required and observations to be made during the onsite visit, based on the documents of Verra (the Verra plastic standard, the methodologies, and the format for this report).
- Review of the Project description and monitoring report (PD&MR) prepared by PP.

B) Execution phase:

To obtain the evidence during validation and verification following process were adopted:

- Review of the Document
  - desk review of the Joint Plastic Project Description for application of methodology
  - desk review of Monitoring Report for authenticity of the data and information.
  - Traceability assessment through cross checking between information provided in the JPD&MR and information from sources with all necessary means without limitations to the information provided by the project proponent.
- On-site visit,
  - Assessment of the implementation and operation of the proposed Plastic Program project activity as per the Plastic Program Joint PD&MR.
  - Verification of implemented monitoring plan as per the Plastic Program Joint PD&MR as well as applied baseline and monitoring methodology.

- ❖ Review of information flows for generating, aggregating, and reporting the monitoring parameters.
- ❖ Interview with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in The Plastic Program Joint PD&MR.
- ❖ To cross-check between information provided in the monitoring report and data from other sources such as inventories, purchase records, or similar data sources.
- ❖ To check the monitoring equipment including calibration performance and observations of monitoring practices against the requirements of the Plastic Program Joint PD&MR and the selected methodology.
- ❖ Review of calculations and assumptions made in determining the GHG data and emission reductions.
- ❖ Identification of quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

During the onsite visit of the execution phase the conditions were taken into account by the validation and verification team are Location/region, Project activity, Quantity/Volumes of plastic waste recycled.

C) Compilation of data and report preparation

- ➢ Resolving CARs, CLs and open questions.
- ➢ Sharing improved or missing documents.
- ➢ Clarification calls where needed.
- ➢ Release of final validation and verification report

The Validation and Verification team confirms the contractual relationship signed between the VVB, CCIPL and the PP. The team assigned to the Plastic Project verification meets the CCIPL's internal procedures including the Plastic waste reduction requirements for the team composition and competence.

The certificate is based on the assessment of the Plastic Program Joint PD&MR v2.0 /01/ undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews and stakeholder interviews, review of the applicable/applied Plastic Waste Recycling Methodology v1.1 /B03/ and their underlying calculations of plastic credits spreadsheet.

PLASTIC PROGRAM Validation and Verification Time Frame:

A time frame envisaged for this assignment is as follows:

Milestone description	Time
Date of contract signing with the VVB	18/10/2023
Submission of On-site audit plan to Client	29/11/2023
Submission of NOVS for to VERRA	29/11/2023

Submission of requisite documents to the VVB by client	29/11/2023
On-site Audit	19/12/2023 to 20/12/2023
Submission of DVR to Client	22/12/2023

1.7 Document Review

CCIPL conducted a comprehensive document review using standard auditing techniques, which including but not limited to document review and on-site interviews. The assessment also involved evaluating the applied methodology, its underlying monitoring parameters, and calculations to ensure the accuracy and reliability of the information provided. The validation and verification process primarily relied on scrutinizing the Plastic Program Joint PD&MR v1.0 */01/* and the supporting documentation to assess the project's quality and compliance.

For validation, this process includes:

- A review of data and information presented to verify completeness and consistency in accordance with Plastic Waste Standard v1.0 */B01/* requirements.
- A review of the project description and monitoring methodology, paying particular attention to the applicability conditions of the methodology, baseline, and additionality related requirements
- A review of the monitoring plan and the project's compliance with relevant requirements of applied Plastic Waste Recycling Methodology v1.1 */B03/*.

For verification, this process includes:

- A review of data and information presented by the PP to verify their completeness.
- A review of the monitoring plan and monitoring methodology, paying particular attention to the frequency of measurements, the competency of personnel performing the monitoring, and the QA/QC procedures, and
- An evaluation of data management and the QA/QC system in the context of their influence on the generation and reporting of plastic waste collection and recycling.

The Joint PD&MR v1.0 */01/* was reviewed and CCIPL requested the PP to present the supporting list of documents mentioned in the Validation and Verification plan shared with the PP and after receiving, the received supporting information and documents will be reviewed by CCIPL. Through the process of the validation and verification, the PD&MR v2.0 */01/*, monitoring report and the supporting documents was evaluated to confirm the actions taken by the PP against the CARs and CLs issued by the CCIPL team.

The list of documents referred during validation and verification has been provided in Appendix-1.

1.8 Interviews

Sr. No.	Date	Name	Organization	Topic
1.	19/12/2023	Sachin Bajoria	Verde Polysfy Private Limited	• PP's roles and responsibilities. • Ownership of plastic credits • Company incorporation • EPR regulation • Eligibility criteria as per PWRS v1.0. • Applicability criteria as per applied methodologies • Project start and crediting period • Project location including geodetic coordinates and KML files of all recycling facilities and collection points. • Project boundary. • Monitoring plan including competence of MRV personnel, data collection and record keeping and • Ex-ante and ex-post plastic collection and recycling calculation sheets. • Types of plastic recycled as per section 2.1 of Plastic Standard, v1.0. • Activities included in the project activity (collection & recycling) • Project configuration as per section 3.3 of PWRS v1.0. • Review of Documentation process implemented & Trainings. • Baseline and additionality
2.	19/12/2023	Bhaskar Datta	EKI	
3.	19/12/2023	Abhisek	EKI	Project start and crediting period • Project location

				including geodetic coordinates and KML files of all recycling facilities and collection points. • Project boundary.
4.	19/12/2023	Sunil Kumar	Verde Polysfy Private Limited	• Compliance with applicable health & safety and labour laws • Social and Environmental Impacts • Stakeholder consultation and grievance redressal procedure.
5.	19/12/2023	Kapil Dev Singh	Verde Polysfy Private Limited	• Stakeholder consultation and grievance redressal procedure • Activities included in the project activity (collection & recycling)
6.	19/12/2023	Sunil Mahesh Agrahari	Verde Polysfy Private Limited	• Safety measures to be followed while visiting different, facilities (recycling centre / collection points) • Compliance w.r.t the local labour and employee laws • Social and Environmental Impacts
7	19/12/2023	Bablu Yadav	Verde Polysfy Private Limited	• Waste segregation, storage procedure and use of PPE.
8	19/12/2023	Sonu Gautam	Verde Polysfy Private Limited	• Certificate and licenses including environmental registration to set up a recycling facility.
9	19/12/2023	Lokendra Yadav	Verde Polysfy Private Limited	• Working hours • Implementation of health and safety
10	19/12/2023	Prashanta Babu	Verde Polysfy Private Limited	• Collection and recycling process & technical specifications of the machines/equipment. • Details of end users for recycled plastic.
11	19/12/2023	Vijay Kumar Saha	Verde Polysfy Private Limited	• Purchase records of collected plastic waste

				and sale of recycled plastic.
12	19/12/2023	Prakash Ch Sahoo	Verde Polysfy Private Limited	• Quality Assurance Management
13	20/12/2023	Nilesh Kothari	Arbind Enterprise	• Source of waste • Knowledge about project
14	20/12/2023	Mo. Sohel Amin	Sobrnya Plastic	• Stockholder consultation • Source of waste
15	20/12/2023	Arvind Kumar	Verde Polysfy Private Limited	• Recycling process • Waste handling
16	20/12/2023	Dinesh Ravene	Village Resident	• Stakeholder consultation
17	20/12/2023	Sandeep Rai	Village Resident	• Knowledge about project
18	20/12/2023	Ram Malov	Verde Polysfy Private Limited	• Waste handling procedure
19	20/12/2023	Jaliman Kondoon	Verde Polysfy Private Limited	• Medical benefits • Duty hours
20	20/12/2023	Vijay Kumar	Verde Polysfy Private Limited	• Sorting procedures • PPE Kit uses
21	20/12/2023	Nikhil Goyal	Verde Polysfy Private Limited	• Quality procedure

1.9 Site Inspections

On-site inspections were carried out between December 19th to 20th 2023, to accomplish the following objectives.

- Determine the physical project location as well as establish the status of the grouped project as per the Plastic Program Joint PD&MR v2.0 */01/* Conducted interviews with relevant personnel to determine that the existing scenario is consistent with the baseline information as provided by the Project Proponent (PP).
- Cross-check information provided in the Plastic Program Joint PD&MR v2.0 */01/* with other relevant data sources.
- Review appropriateness of the calculations and assumptions made, if any, regarding determining the volumes of plastic waste collected and recycled and the corresponding plastic credits claimed.

Sr. No.	Date	Site(s) Inspected	Nature of operation
1.	19/12/2023	Recycling facility at Giridih, Jharkhand	Recycling process.
2.	20/12/2023	Recycling facility at Giridih, Jharkhand	Recycling process.

1.10 Public Comments

The project document was published for public comments during 26/10/2023 to 25/11/2023 and no comment received.

1.11 Resolution of Findings

The validation and verification process involved in addressing of outstanding issues, if any (issues that require further elaboration, research or expansion), through seeking clarification and/or by proposing corrections, prior to making final VVB's conclusions on the project's baseline, monitoring plan from the Plastic Program PD and subsequently the project implementation, monitoring practices and achieved plastic recycling from the MR. Material discrepancies identified during the validation and verification are addressed either as CARs, CLs or FARs.

Corrective Action Requests (CAR) had been issued, where mistakes have been made with the direct influence on project results requiring adjustments of the VERs in monitoring report and applicable methodological specific requirements have not been met.

Clarification Requests (CL) had been asked, where additional information is required to fully clarify an issue or where the information is not transparent enough to establish whether a requirement is met.

The VVB on every issue raised during the validation process has used the table format given below:

CL/CAR/FAR ID		**Section no.**		**Date:** DD/MM/YYYY
Description of CL/CAR				
Project participant response				**Date:** DD/MM/YYYY
Documentation provided by project participant				
VVB assessment				**Date:** DD/MM/YYYY

A total of 05 CARs and 24 CLs were identified and raised during this joint validation & verification by the Carbon Check (India) Private Limited team,

Please refer to Appendix-3 below for the details of the CARs/CLs and their status.

1.11.1 Forward Action Requests

Forward Action Request (FAR) has been issued, where the actual project monitoring and reporting practices requires attention and /or adjustment for the consecutive verification period, or an adjustment of the MP is recommended.

In the context of FARs, risks have been identified, which may endanger the delivery of plastic waste recycling in the future, i.e., by deviations from standard procedures as defined by the MP. Therefore, such aspects should receive a special focus during the consecutive verification. A FAR may originate from lack of data sustaining claimed plastic waste recycling.

There were 03 FARs raised in the Validation and Verification process.

2 VALIDATION FINDINGS

2.1 Project Details

2.1.1 Description of the Project Activity

The project entitled "Verde Polysfy Plastic Recycling Project" was initiated by Verde Polysfy Private Limited at Giridih city of Jharkhand in India with the aim to create a robust value chain for plastic waste by creating a circular economy. The project activity involves one mechanical recycling instance located in Giridih, Jharkhand, India for recycling post consumed PET waste in the project region.

Verde Polysfy Private Limited had targeted the PET waste, being generated in the private & public establishments as well as households, which are not being disposed in proper manner due to lack of efficient waste collection and transport system. The collected post consumed PET plastics are brought to the recycling plants in Giridih, Jharkhand for recycling to produce Recycled polyester staple fibre (RPSF).

The entire recycling process is divided in the following three major sections:

- **Waste logistics:** PET bottle collection and waste separation,
- **Flake production:** production of clean PET bottle flakes, and
- **Flake processing:** conversion of flakes to final product.

The final product which is being under this project is recycled polyester fibre (RPSF) and is being used by the textile industries for the weaving into fabric which further processed into garments.

As per the approach described for the finding out the configurations of the projects in the section 3.3 of the Plastic Waste Reduction Standard v1.0 /B01/, the projects consist of one project activity at one location should be considered as single installation of an activity. Thus, project entitled "Verde Polysfy Plastic Recycling Project" is a “Single installation of an activity,” as the project activity involves one mechanical recycling instance located in Giridih city of Jharkhand in India.

During the on-site inspection, VVB visited recycling facilities at Giridih to cross verify the information and documents provided by PP through reviewing the monitoring data and conducting interviews with stakeholders.

At the plastic recycling facility, VVB observed the waste PET bottles are being processed to remove the labels and washed before passing through the dry trommel and under a magnet to remove any loose parts and metal debris respectively. The Bottles are being send for further sorting using a conveyor belt where workers are involved in manual separation of the bottles based on the colour, size and stack them individually. The sorted waste PET bottles are being crushed in small pieces to make flakes which are further being washed in a floatation tank to remove the floatable HDPE rings and caps as well as the dust and dirt completely. These washed PET flakes are then being collected in jumbo bags to make stack in the warehouse before recycling. Finally, the PET bottle flakes are being processed for converting it into final product i.e., recycled polyester fibre (RPSF) before sending to the textile industries for making fabric, garments & technical textiles.

Review of the Plastic Program JPD&MR /01/, along with documents provided by PP and stakeholder interviews, VVB affirms that the project description comprehensively articulates the project activity.

Furthermore, following on-site visit to recycling facilities in Giridih, Jharkhand, India, VVB confirms that the project has been executed in accordance with the details outlined in the project description.

2.1.2 Project Type and Eligibility

It is mentioned in the section 1.2 of the Plastic Program Joint PD&MR v2.0 /01/, provided by PP, the project fulfils the eligibility under the scope of the plastic program based on the following criteria:

As demonstrated below, the project fulfils the eligibility under the scope of plastic program.

a) The plastic material managed by the project activity is the post consumed PET waste.

b) The project is a plastic recycling project.

c) The project activity involved recycling, which utilize the post consumed PET waste originated from various regions of India. This waste is collected, sorted, and washed at the individual aggregator levels. The sorted PET waste is then bought into the recycling facility to be remanufactured as Recycled polyester staple fibre.

d) The plastic waste which is recycled during the project activity is post consumed PET bottles which are collected from the local municipalities, and 3rd party collectors/aggregators. This kind of plastic is generally not collected or disposed of properly. Through this recycling activity Verde Polysfy Private Limited has connected activities various small-scale collectors to aggregators, helping in building a circular economy and value chain. The mechanical recycling facility sorts, cleans, and processes the plastic to form bales. The plastic in the bale forms is remanufactured to form Recycled polyester staple fibre.

During the validation and verification process, team reviewed the section 1.2 of the Joint PD&MR v2.0 /01/ and cross verified the statements mention in it through reviewing the supporting documents & monitoring records as well as interview conducted with the stakeholders during onsite visit. The findings outlined by VVB are as:

1. During the site visit and review of the tax invoices it was observed that project activities involved in managing post-consumer PET waste under the project activity. The materials being handled under the project are covered in the section 2.2.1 & Table 1 of Plastic Waste Reduction Standard V1.0 /B01/.

2. The review of documents viz. equipment technical specifications /09/ and tax invoices /11/ confirms that at the project activity involved in sorting and mechanical recycling of post-consumer PET waste. The same was also observed during the site visit. The activities involved in the project are covered in the section 2.2.2 of Plastic Waste Reduction Standard V1.0 /B01/.

3. The review of the documents i.e., Tax Invoice /11/ of purchased waste and interview conducted with stockholders during site visit confirms that the plastic waste materials are not being generated primarily for the purpose but are being collected from local municipalities, and 3rd party collectors.

Above observations made by VVB Team during validation and verification process, shows that the project compliance meeting with the project type and eligibility criteria laid down in requirements of VERRA Plastic Waste Reduction Standard v1.0.

2.1.3 Project Configuration

It is mentioned in the section 1.2 of the Plastic Program Joint PD&MR v1.0 /01/, the project configuration is “single installation of recycling facility,” as the project consists of only one mechanical recycling instance located in the Giridih city of Jharkhand located in India.

Validation and Verification team had crossed checked the above statements through the review of approvals received from concern authorities /04/ and installation report for equipment /09/.

From the above observation made by the Validation and Verification team during the assessment, it is concluded that project entitled "Verde Polysfy Plastic Recycling Project" is a “Single installation of an activity,” as per the description made in the section 3.3 of the Plastic Waste Reduction Standard v1.0 /B01/.

2.1.4 Project Proponent and Other Entities Involved in the Project

As per the section 1.4 of the Plastic Program Joint PD&MR v2.0 /01/, Verde Polysfy Private Limited is acting as the Project Proponent activity, whereas EKI Energy Services Limited is the Project Consultant.

Name	Title/ Organisation/ Community	Role
Mr. Sachin Bajoria	Verde Polysfy Private Limited	Director
Mr Manish Dabkara	EKI Energy Services Limited	MD & CEO

Validation and Verification team had cross examined the above statement through the verification of agreement made between Verde Polysfy Private Limited and EKI Energy Services Limited for the project during the review of documents as well as interviews with stakeholders during site visit.

2.1.5 Ownership

As per the section 1.5 of the PD&MR v2.0 */01/*, Verde Polysfy Private Limited is the parent firm and project proponent (PP), holds the ownership to control and manage the project activity. Additionally, EKI Energy Services Limited, is involved as project consultant also acts as a co-proponent alongside Verde Polysfy Private Limited

In order to validate and verify that Verde Polysfy Private Limited is owns and oversees the recycling activity to control and manage the project for the recycling activity, VVB had reviewed the commissioning certificate of project activity and approvals received from concern authorities /04/ as the supporting documents to demonstrate the project ownership to operate the recycling facility. Further, to validate and verify the involvement of EKI Energy Services Limited as a co-proponent, VVB had reviewed the agreement made between Verde Polysfy Private Limited and EKI Energy Services Limited.

Based on the observation made during the assessment, VVB confirms that Verde Polysfy Private Limited, holds the ownership to control and manage the project activity and EKI Energy Services Limited, acts as a co-proponent. The project is implemented as per the Plastic Program JPD&MR v2.0 /01/ and is in compliance with Section 3.4.1 of the Plastic Waste Reduction Standard V1.0 */B01/*.

2.1.6 Project Start Date

As per the section 1.7 of the Plastic Program JPD&MR v2.0 */09/* it is mentioned that the start date for the project is 18-February-2022.

VVB had validated the start date of the project through reviewing the Certificate of date of commercial production issued by the government of Jharkhand */09/* which says that all the Major Equipment were Successfully Installed at the Recycling Facility and Project Activity Started Recycling the Plastic Waste from 18-February-2022.

Based on the observation made during the assessment, VVB confirms that project the start date of project is in compliance with the requirements mentioned in the section 3.5 of Plastic Waste Reduction Standard V1.0 */B01/* which says that the project start date is the date on which the project began collecting and/or recycling plastic waste.

2.1.7 Project Crediting Period

The renewable crediting period for the project spans is seven years and can be extended up to two times. The initiation date of this crediting period is determined by the actual earliest commissioning or operational start date i.e., 18-February-2022 within the project's activities.

VVB confirms that the project's crediting period commences on 18/02/2022 and concludes on 17/02/2029.

2.1.8 Estimated Collected and/or Recycled Plastic Waste

The initial quantity of plastic waste recycled, and the estimated annual addition quantity of waste to be recycled are described in the section 1.9 of JPD&MR v2.0 */01/*. The total quantity of plastic waste is being recycling in the facility is falls under the material type PET mentioned in section 2.1.1 of Plastic Waste Reduction Standard, version 1.0 */B01/*.

The numerical values described in the section 1.9 of JPD&MR v2.0 */01/* for quantity of plastic waste recycling was cross verified through the supporting document provided by the PP i.e., Estimated plastic credit spreadsheet */02/*.

Based on the findings of the validation and verification process, the project team able to conclude that the estimated recycled plastic waste mentioned in JPD&MR v2.0 */01/* is in conformance with the requirements in section 3.11 of Plastic Waste Reduction Standard, version 1.0 */B01/*.

The estimated quantities listed in the tables below are based on the description given in the section 1.9 of JPD&MR v1.0 /01/. The quantity mentioned for 2022 to 2023 in the table are derived from the data available for monitoring and for the subsequent period from 2024 to 2029, the estimated quantities are derived from the provided estimated plastic credit spreadsheet.

The estimated yearly net plastic waste quantities recycled.

Year	Estimated Net Recycled Plastic Waste (tonnes)
18-February-2022 to 31-December-2022	5,689
01-January-2023 to 31-December-2023	9,621
01-January-2024 to 31-December-2024	17,104

01-January-2025 to 31-December-2025	18,000
01-January-2026 to 31-December-2026	18,000
01-January-2026 to 31-December-2026	18,000
01-January-2028 to 31-December-2028	18,000
01-January-2029 to 17-February-2029	2,367
Total estimated amount	106,781
Total number of crediting years (where applicable)	7 years (Which can be Renewable twice)
Average annual amount	15,254 (tonnes)

2.1.9 Project Location

The recycling facility for the project is established at 1038 Gadi Sirampur, Giridih, Jharkhand, India, and the geo coordinates of the recycling plant in Giridih, Jharkhand, India are Latitute: 24.129095° (N) Longitude: 86.333591° (E). The location and geographic boundaries of recycling facility are designated in the KML files attached as part of this document.

In order to pinpoint and validate the project location, VVB collected GPS coordinates during the onsite inspection. These coordinates were compared with the GPS locations documented in the JPD&MR and those indicated for Project Instances in the KML file provided by PP. Additionally, the accuracy of these locations was cross verified by reviewing the approval for project activities from the relevant authorities, confirming alignment with the project locations as stated by the Project Proponent.

Based on the observations, VVB confirms that the locations mentioned in the approval documents are in line with the project locations as indicated by the Project Proponent.

2.1.10 Conditions Prior to Project Initiation

As per the “The Plastic Life Cycle” published by Centre for Science and Environment, India as a country produced approx 3.5 million tonne plastic waste during the year 2019-20. However, this report does not provide data about exactly how much plastic waste has been recycled during that year as this report clearly indicates that only eight states has disclosed recycling or incineration data. According to the said report India recycled approx 12% plastic waste and burnt 20% of the total plastic waste while there is no information about remaining 68% of plastic waste, which most likely ends up in the dumpsites and landfills.

As per the report, informal sector i.e. waste pickers (Rag Pickers) and association of waste pickers are responsible for majority of plastic waste collected in India. There rag pickers play a vital role in it by collecting waste from open areas, roadsides and landfill site and sell it to kadaiwallas or the aggregators and earn daily wage from it.

India’s entire recycling system stems from how much an unorganized sector worker can fetch for a certain material. If material can’t attract a high enough price, it doesn’t re-enter the value chain. This is a huge problem when it comes to recycling in India. Also, India being a vast country in terms of population and area find it difficult to track the waste generated and to provide it a proper end life destination. Acquiring

adequate and reliable data regarding plastic waste is a very difficult task since India is a very large and populated country, and majority of plastic waste collected, segregated and recycled are by informal / unorganized sector. This clearly indicates utter irregularity among plastic waste management system in India.

Due to lack of robust collection and recycling infrastructure, plastic waste would end up in landfills, environment and water bodies and it further degrades the environment instated of reaching to its appropriate end of life destination.

In order to validate and verify the statement related to the generation and recycling status of plastic waste in the project reason, VVB team had reviewed the report published by Central Pollution Control Board Delhi and other reports referenced by the Project Proponent. Furthermore, the conditions related to labor, working conditions, human health, energy consumption, greenhouse gas (GHG) emissions, air quality, soil quality, biodiversity, and ecosystem health before the project initiation were also confirmed through observations and interviews with stakeholders during onsite visit.

Based on these findings, the VV team concludes that the Project Proponent's description of the aspects before project initiation is accurate and reflects reality.

2.1.11 Compliance with Laws, Statutes and Other Regulatory Frameworks

A list of the national, local laws and regulations were given under section 1.13 of JPD&MR v1.0 */01/* provided by PP for which approvals had been received.

The relevant national laws and regulation pertaining to projects are:

Relevant national laws and regulation	Document reviewed during the assessment
Solid waste management Rules, 2016 Plastic Waste Management Amendment Rules, 2021	PWM Registration copy from CPCB centralized portal. /04/
Water (Prevention and control of Pollution) Act, 1974	Consent to Operate / Consolidated consent Authorization. /04/ Water Quality monitoring report /13/
Air (Prevention and control of Pollution) Act, 1981	Consent to Operate / Consolidated consent Authorization. /04/ Air Quality monitoring reports /13/
Hazardous and other Waste (Management & Transboundary) Rules, 2016	Hazardous waste management authorization Concern to operation received /13/ Hazardous material transportation slips /21/
Central Ground water Authority (GCWA) (Regulartion of Ground water management)	GCWA certificate Ground water monitoring inventory /13/
Conditions Prescribed by Jharkhand Pollution control board with consent to operate the plant	Condition wise compliance report for the conditions prescribed in Consent to Operate. /04/ Air and water Quality report /13/
Factories Act 1948	Factory Licenses /o7/
The Payment of Wages (Amendment) Act, (16 Feb 2017) (No.1 of 2017)	Interview conducted with the workers and HR head
Fire & Other Industries Safety Rules	Fire NOC, Training records, Annual maintenance for fire extinguisher /05/
Indian Boilers Act-1923	Boiler Certificate & Boiler operator certification Boiler operator training certificate /04/

In order to assess the project complies with all the applicable laws, statutes, and regulations of the government of India, Jharkhand State and the districts in which the project operates, VVB had reviewed the documents i.e., approvals received by the PP from relevant authorities for respective and regulations laws as mentioned in the above table and interview conducted with the relevant stakeholders with respect to the respective regulations.

Further, in order to verify the project's adherence to relevant legal and regulatory mandates during the operations, VVB had conducted involved in-person interviews with project stakeholders to corroborate details outlined in the Plastic Program Joint PD&MR v1.0 /--/.

Considering both the document assessment and onsite visits, VVB confirms that the project's alignment with applicable legal requirements.

2.1.12 Additional Information Relevant to the Project

No additional information is available with regards to the project entitled, "Verde Polysfy Plastic Recycling Project".

2.2 Stakeholder Engagement

2.2.1 Stakeholder Identification

As described under Section 2.1.2 of the Plastic Program Joint PD&MR v2.0 /01/, PP had identified the stakeholders as per the Section 3.13.1 of the Plastic waste reduction standard /B01/. This involved mapping out of the persons, groups, and entities who are directly or indirectly affected by the Project (i.e., those deriving income, livelihood, and/or community value from the Project). These stakeholders were further evaluated based on how deeply affected they may be by the Project, and those most impacted have been included in the stakeholder engagement.

The VVB team thoroughly examined the legal, environmental, and socio-economic impacts associated with the Multiple instances of multiple project activities project while evaluating and analysing stakeholders and stakeholder groups. This included marginalized and vulnerable groups, as identified by the project proponent. Further, during the onsite visit, the VVB team independently analysed (potential) stakeholders, employing methods such as cross-checking and stakeholder interviews to explore the potential presence of new stakeholders. However, no new stakeholders were identified through these interviews and on-site activities during the validation/verification process.

Based on this comprehensive assessment, it is determined that the stakeholder identification process has effectively captured all (potential) stakeholders. The approach to stakeholder identification is considered appropriate for the project's context.

2.2.2 Stakeholder Description

As per the section 2.1.2 of the Plastic Program JPD&MR v2.0 *01-/* it is mentioned that the following key stakeholder groups have been identified, by the PP, who are involved in the project activities and invited for active participation during the stakeholder engagement process:

1. **Informal Collectors:** These waste or scrap collectors / dealers known as Kabadiwalas run mixed sorting activities and are not registered with municipal authority.

2. **Local people:** These refer to the nearby villagers who live near to the project site and are directly or indirectly associated/ benefited or affected due to the plastic waste recycling project activity.

3. **Traders/ Recyclers/ Plastic Waste Providers/ Recyclers:** These are small business establishments or proprietors who buy all type of waste from rag pickers / waste collectors, who facilitate the logistic to the rag pickers for getting the waste collected by rag pickers from source location. Thereafter they segregate different type of waste i.e. Color wise sorting of waste PET Bottles, Paper waste, other flexible plastic waste etc and after sorting they make bales of each item for ease of transportation to recycling facilities. These providers are the 3rd party business from where the waste PET bottles is being procured in the form of bales by Verde Polysfy Private Limited.

4. **Facility Employees:** These are the individuals who operate the recycling facility and who directly benefit from the operation of the Project. Most of the facility employees are members of the local community as well as people from other states of India are also getting employment from the project activity.

In order to ensure the proper identification of stakeholders, the roles of the identified stakeholders were validated and verified by reviewing relevant documents such as purchase invoices for those involved in the supply of plastic waste, as well as sale invoices for stakeholders engaged in the purchase of materials other than PET that is not being recycled by PP. This validation and verification process was further supported by conducting interviews with stakeholders during the onsite visit.

During the interviews with stakeholders, stakeholder from almost all groups of identified stakeholders was selected and from the Verde Polysfy Private Limited employees one personnel from each activity was selected. The VVB team interviewed all identified stakeholders except the traders to whom recycled plastic was being sold who were not available during the time of the visit. The validation and verification team interviewed all stakeholders privately without presence or interference of Verde Polysfy Private Limited management.

Based on the review of the documents and observation made as well as interview conducted with stakeholders during the onsite visit, VVB confirms that the project proponent has adequately described the stakeholders.

2.2.3 Stakeholder Consultation

As per the section 2.1.3 of the PD&MR v2.0 /01/, the management team of Verde Polysfy Private Limited meet with the stakeholders at the outset of the project to outline its advantages, disadvantages, expenses and receive the feedback from all the potential stakeholders. A public notice dated 01-May-2021 was pasted in the nearby areas for the stakeholder meeting. Also, all the relevant stakeholders were informed verbally about the meeting. For the project activity, the stakeholder consultation was done on 01-June-2021 at the Verde Polysfy Private Limited office with the aim to discuss and deliberating the project activity of recycling PET bottles into R-PSF (Recycled Polyester Staple Fiber). The meeting brought together a diverse group of stakeholders with the primary focus to present the project proposal for recycling PET bottles into R-PSF, a sustainable and environmentally friendly initiative aimed at reducing plastic waste and promoting the circular economy. The meeting was organized by Verde Polysfy Private Limited, a forward-thinking company dedicated to sustainable manufacturing practices and innovative solutions for plastic waste management.

VVB had reviewed the documents, MOM records and conducted interviews with stakeholders in order to assess the continual consultation being conducted by PP with stakeholders for getting their feedback

while managing and implementing the project. Based on the observation made during assessments, VVB confirms that the project proponent continues to consult with stakeholders and considers feedback when managing and implementing the project

To evaluate stakeholder involvement in the project's decision-making process from its inception, VVB conducted interviews with stakeholders during the onsite visit. Observations from these interviews and discussions with Verde Polysfy Private Limited management revealed that the Project Proponent (PP) regularly organized meetings with stakeholders to update them on project activities and gather feedback.

The assessment of consultation procedures, involving a review of the JPD&MR and interviews with stakeholders during the onsite visit, led to the following conclusions:

a. PP effectively shared information concerning potential costs, risks, and benefits with each stakeholder group.

b. Stakeholder interviews and meeting minutes indicated that every group had an opportunity to influence project design.

c. VVB observed, through stakeholder interviews, that the project's activities provided a regular income to those involved in supply of the waste and recycling, particularly benefiting marginalized and vulnerable groups.

Based on these observations during assessments, VVB affirms that the

- local community was actively invited for consultation, and the Project Proponent (PP) use to update the community about project activities.
- project dedicated specific attention to optimizing benefits for marginalized and vulnerable groups, and the stakeholder consultation procedures and operations align with the requirements of the Plastic Standard.

The VVB confirms that the statement mentioned in the Section 2.1.1 of the Plastic Program Joint PD&MR v2.0 /01/ for stakeholder consultation adheres to the guidelines outlined in section 3.13.5 of the Plastic Waste Reduction Standard v.1.0 for consultation and participation.

2.2.4 Free, Prior and Informed Consent

In the JPD&MR v2.0 /01/, PP had mentioned that there are no property rights are impacted by the Project because the facility is leased and in line with Jharkhand state rules and regulations.

In order to validate and verify the statement, VVB reviewed the ownership documents, approvals received from the concerned authorities for operating the facilities. Further, the same was cross checked through conducting interviews with stakeholders during onsite visits.

Based on the observation made, VVB confirms that no property right was affected by the implementation of the project and hence, no consent was required.

2.2.5 Continued Consultation and Adaptive Management

As per the statement given by PP in section 2.1.5 of PD&MR v2.0 /01/, Verde Polysfy Private Limited uses a collaborative project management style and maintains regular contact with facility staff and suppliers of PET Waste. Email feedback from facility staff members and suppliers of PET Waste is welcome, and management will take any suggestions under consideration on a regular basis. Also, the

company has placed a Grievance register and a complaint box at factory main gate, wherein the stakeholders can record their inputs/ suggestions or grievances at any point of time and thus continuous and ongoing stakeholder inclusivity is being retained by the project developer.

The stakeholder input is being compiled and taken into account continuously during the project's lifespan. Reports will be prepared to track, monitor, and reply to the interactions.

In order to validate and verify the statement, VVB had conducted interviews with the stakeholders on their experience in the contest with the project and its management to assess the plan for continued consultation and adaptive management. Further, to access the effectiveness of the grievance mechanism, documented procedures were reviewed and the same was further cross verified during the interviews with the stakeholders on their experience.

Based on the review of the documents and observation made as well as interviews conducted with stakeholders during on-site visit, VVB concluded that project's plan for continued consultation allows the project proponent to effectively communicate with and consult all stakeholder groups using an adaptive management approach.

2.2.6 Anti-Discrimination

In section 2.1.6 of PD&MR v2.0 /01/ it is explained that Verde Polysfy Private Limited operates with firm anti-discrimination practices. Facility employees and plastic waste providers are hired and/or contracted without discrimination on the basis of gender, race, caste, national origin, religion, age, disability, marital status, sexual orientation, cooperative membership, or political affiliation.

To access the anti-discrimination policy of the project interview was conducted with the stakeholders to understand the effective implementation of the policy by establishing clear rules and robust screening before hiring, awareness through continuous training of staff. Further, to access whether is there any established complaint and feedback mechanisms in place to report any sexual abuse or discrimination, VVB had interacted with the workers.

During the onsite visit it was observed that anti-discrimination, anti-sexual abuse, and anti-child labor pictorial signs were pasted on the walls and are assessable & visible to the workers. During the interaction with the workers, it was found that they have enough knowledge of the meaning of the posters.

Based on the observation made VVB confirms that project's anti-discrimination policy and measures are sufficient to prevent discrimination and to ensure that no entities involved in project implementation are involved in any form of discrimination or sexual harassment.

2.2.7 Feedback and Grievance Redress Procedure & Accessibility

It is mentioned in the PD&MR v2.0 /01/ that all project participants are encouraged to provide feedback to PP directly through any of the contact information that has been made publicly available to them as part of our process for receiving input and resolving grievances. A grievance/ suggestion register is also being placed at factory main gate wherein any person can lodge their suggestions or grievances related to the project activity and thus continuous stakeholder inclusivity has been ensured by the project owner. The Project Owner also plans to launch a company website soon wherein the relevant stakeholders will

be able to lodge their complaints relevant to the project activity and accordingly solutions for the same will be provided within 10 business days.

In order to validate and verify the grievance redress procedure and its accessibility to stakeholders, VVB reviewed the grievance/ suggestion register availability at the gate for raising grievances and providing feedback. Additionally, this information was cross verified through interviews conducted during the on-site visit to assess stakeholders' awareness.

Based on these observations, VVB confirms that the feedback and grievance redress procedure is established and easily accessible.

2.2.8 Stakeholder Access to Project Documentation

All publicly available project documents can be accessed, for free, on the Verra Registry. Stakeholders (whether identified in this report, or not) who are unable to access the Verra Registry may request a copy of the desired project description document, monitoring report, and/or verification report via the phone number or contact form Verde Polysfy Private Limited. The applicable document will be provided via email within 10 business days.

To substantiate the statement provided in the JPD&MR, the VVB team conducted interviews with stakeholders during the on-site visit. Considering the findings from these assessments, the VVB team affirms that the selected measures are suitable and adequate to ensure ongoing stakeholder access to project documentation.

2.2.9 Information to Stakeholders on Validation and Verification Process

As per the statement given in clause 2.1.10 of PD&MR v2.0 /01/, Verde Polysfy Private Limited had sent an email/via public notice to the relevant stakeholders to inform them about the site visit by the validation/verification body (VBB) at least 5 days in advance of the visit.

The statement made in the JPD&MR was verified by cross checking through the interview conducted with the stakeholders regarding the visit of VVB for validation and verification.

Based on the above observations, VVB confirms that confirmed that they were given information concerning the validation and verification teams visit.

2.3 Safeguards

2.3.1 Health and Safety

The collection and recycling of waste involves many potential health risks and hazards. The recycling workers can be exposed to chemicals which result in respiratory diseases, and skin diseases. Many waste pickers or employees working in the collection and recycling activities are deprived of sanitary installations and are prone to social vulnerability. Individual risk factor, such as poor hygiene practices and lack of access to personal protection equipment is the major problem in the waste collection practices. During the project activity, the workers are provided with proper Personal protective equipment, which includes, gloves and glasses.

As per the statement given in clause 2.3.1 of PD&MR v2.0 */01/*, Verde Polysfy Private Limited provides proper Personal protective equipment, viz. gloves and glasses to minimize the potential hazards and they are also providing annual trainings wherein the employees to educate them on safe work practices.

To assess the safety related safeguards at the recycling activity, interviews have been conducted with the workers to understand their knowledge for use of personal protective equipment as well as availability of it to them during working hours, availability of fire-fighting equipment, etc. Further, to assess the health-related safeguards at the recycling activity, the availability and accessibility of first aid boxes with primary treatment facility was checked at various location in the facility.

The records for the trainings conducted for the use of PPE, handling of fire-fighting equipment was reviewed in order to assess the measures taken by the project to mitigate the negative health and safety impacts on the workers at the recycling activity, The same was further confirmed through the interview with the stakeholders during the site visit.

Based on the observation made, VVB confirms that recycling facilities possess proper arrangements for the safeguard of health and safety related issues.

2.3.2 Labor

As per the statement given in clause 2.3.2 of PD&MR v2.0 */01/*, the Implemented project activity complies with all the relevant state & national laws and there is no child is forced to or allowed to work in the project activity. The employees are compensated on the prevailing industry wages and moreover if the employee wishes to work overtime, the pay is done based on over time working hours. The employees and the workers are made aware of proper workers employment rights, working hours, health, and safety protocols during the project activity. There is no elimination of the income generation activities as, the plant provides jobs to the local vulnerable communities. Also, the increased collection and recycling will lead to more available shifts for current workers and may also lead to hiring new workers at the facility. The facility's employees are covered by PF, ESI, Bonus as per the labor laws applicable in India.

To verifying the same, Validation and Verification team had interviewed with the workers working in the facility is conducted to assess the facility viz. paid leaves. wages, medical facility, overtime, retirement benefits, etc. are being provided to them by the PP. The same was further verified through the review of the documents and conducting interviews with the official (viz HR, Accounts) responsible for maintaining such activities.

Further, the review of the documents related to wages, medical facility, training records on different aspects and interviews was conducted with the workers in the facility was conducted to understand the implementation status of the labor safeguards. The fact of the statement was assessed through the interviews conducted with the waste pickers; due to the start of the recycling activity they are able to sell the waste being collected by them.

Based on the observation made, VVB confirms that statements given by the PP in the section are implemented at the facilities and is in line.

2.3.3 Energy Efficiency and Greenhouse Gas Emissions

The project strives for energy efficient practices, the installed plant has purchased new equipment for operational efficiency and to help reduce lifetime emissions from electricity and fuel consumption. There are indirect emissions associated with the transport of waste, i.e., from the energy required to collect,

sort, and transport this plastic waste from collection facilities to the recycling facilities. This is mitigated by less frequent collections where waste is pooled before going to the mainland.

Most of the forklifts used in the production facility of the PP is electric forklifts, which prevents emission from diesel engines.

Greenhouses gas emissions are reduced by the recycling and reuse of the plastics waste collected.

In order to evaluate the reduction in usage of energy produced from fossil fuels, VVB reviewed the monitoring records detailing electricity consumption. This assessment was further validated by cross-referencing electricity bills with records of electricity consumption and machine working hours during the onsite visit.

Following these observations, VVB confirms that the project proponent has employed an effective approach to reduce consumption, and the calculations for claimed electrical energy savings in the JPD&MR are accurate.

2.3.4 Condition of Natural Resources

In the section 2.3.4 of the PD&MR v2.0 /01/, provided by PP, it is mentioned that after implementation of the project activity no adverse effect on the quality of air, water and soil of the surroundings was observed and no affect the biodiversity, or endangered species of any kind was observed as there is no emission of hazardous gases and effluents in the process.

During the onsite visit, VVB observed that the project involved recycling of plastic waste for their reuse and to prevent their indiscriminate disposal at landfills, which could affect the quality of the soil, and leakage in rivers, oceans, etc., leading to contamination of the water as well as incineration of plastic waste which could affect the quality of air. Hence, the implementation of the project will not be impacting on the quality of air, water, and soil in a negative manner, but it will be preventing the leaching of the chemicals, microplastics and degrading plastics into soil due to the disposal of plastic waste at landfills. The threatened and endangered species are further protected as well due to the reduction in the plastic pollution which is harmful to the wildlife and other organisms.

VVB had cross verified the statement through reviewing the recycling process documents with best practices being adopted and conducting interviews with staff involved in operation activities during the onsite visit.

2.4 Application of Methodology

2.4.1 Title and Reference

The project has applied Plastic Waste Mechanical Recycling Methodology Version 1.1.

2.4.2 Applicability

Here are the applicability criteria of Plastic Waste Mechanical Recycling Methodology Version 1.1. /B04/

Applicability criteria PWRM0002	Justification in Joint PD and MR	VVB assessment
1) Project activities result in mechanically recycled plastic waste through one or more of the following: (a) new facility (b) Capacity addition (c) incentivising and facilitating an increase in collection and/or sorting of plastic to enable an increase in recycling.	The proposed project activity involves the installation of a new recycling facility. Therefore applicable	VVB had reviewed the Commissioning certificate of the machinery installation at Verde Polysfy Private Limited and confirms that the project activity is a new mechanical recycling facility
2) The plastic waste being recycled is either collected or diverted from: a) The environment; b) Landfill; c) Open burning; d) Incineration with energy recovery; e) Households and/or commercial entities; f) Incineration without energy recovery; or g) Any other waste management option that does not allow for a second life of the plastic waste	The project activity helps in diverting the plastic waste from the environment; landfill and/or open burning. Therefore applicable.	In order to access the source of material, VVB conducted interviews with the waste aggregators and collectors, associated with the waste collection agencies, to know about the source from where they are getting the material, how they are selling it to the PP. Based on the observation made, VVB confirms that project compliance with the applicability condition 2.
3) Project activities include mechanical and/or chemical recycling as defined in the latest version of the Plastic Program Definitions.	The project activity follows an exhaustive list of mechanical recycling of post-consumer PET plastic waste. Therefore applicable	VVB had verified the statement through the review of the machine specification /09/ observation made, and interviews conducted with stakeholders during the site visit. Based on the observation made, VVB confirms that project compliance with the applicability condition 3.
4) The plastic waste stream is sorted before it enters the recycling process. The project proponent must provide a sorting	The project activity meets the applicability condition 4, since the recycling facility receives post-consumer PET plastic waste	VVB has verified it through interviews with the stakeholders involved in the material handling activities

description (i.e., documentation of the sorting process implemented by the sorting facility prior to the recycling process). The sorting process must result in a plastic waste stream (homogeneous or heterogeneous) that is appropriate for the recycling technology used in the project. The sorting description must include the following: a) Source of the plastic waste (e.g., household, industrial entity); b) Technologies and methods used to sort the plastic waste; c) Detailed description of the sorting criteria; and d) Expected material composition of output waste streams post-sorting, according to material types defined in the latest version of the Plastic Standard. Technologies and/or methods for sorting plastic waste include, but are not limited to, manual sorting (i.e., based on color, size or other physical features), automatic sorting techniques (e.g., near infrared, X-rays), electrostatic sorting, sink-float separation and selective dissolution. This methodology does not prescribe or limit the technology and/or method used to sort plastic waste. Credible evidence such as manufacturer specifications or good practice guidance (GPG) must be provided to demonstrate that the technology and/or method used to sort plastic	that is pre-sorted from the informal collectors, traders and aggregators.	in the facility and the review of the technical specification of equipment being used in the processing. Based on the observation made, VVB confirms that project compliance with the applicability condition 4.

waste is appropriate for the collected plastic waste and the technology or technologies used to recycle the plastic waste.		
5) Plastic waste intended for recycling is not mixed with hazardous materials or substances (e.g., coatings, adhesives or colorants) that could become unsafe if compressed, combined or exposed to high temperatures during the recycling process. If the plastic waste contains hazardous materials or substances, it must be treated following relevant national, regional and local regulations, industry best practices and/or internationally or nationally available GPG before entering the recycling process.	The plastic waste intended for recycling is not mixed with any potentially harmful materials or substances (e.g., coatings, adhesives or colourants) that could become unsafe if compressed, combined or exposed to high temperatures during the recycling process. Before reaching the recycling facility, the bottles are pre-sorted and bundled together in large bales. The bales of PET bottles are then taken to the facility. The bottles are thoroughly cleaned, the labels and caps are removed, and the bottles are separated by colour. Thus, the project activity is applicable	Through the observation made for the process during on-site visit and interviews conducted with stakeholders, VVB substantiated that the plastic waste designated for recycling remains separate from any hazardous materials or substances. Based on the observation made, VVB confirms that project compliance with the applicability condition 5.
6) It is possible to directly measure and record the final output of the recycling facility (i.e., the weight of recycled plastic waste or any other kind of raw material derived from plastics using chemical processes) segregated by material type as defined in the latest version of the Plastic Standard. Where the output is of a chemically decomposed form of plastics and the material type can no longer be determined (i.e., in the case of chemical recycling), the material type must be determined based on the input to the depolymerization	The output of the project activity is RPSF, which is packed in bales at the end of the manufacturing line and weighed through a weighing scale and recorded at the facility and is not chemically decomposed. Therefore, the project activity is applicable	In order to verify the final output of the recycling facility VVB had reviewed the documents related to production output, stock book records and dispatch register being maintained by the PP within the facility and the same was further cross verified by the cross checking the sale invoices of the materials being sold to the third party. Further in order to check the accuracy of the data, VVB team had reviewed the calibration records of the weighing balance. Based on the observation made VVB confirms that project activity meets the applicability criteria 6.

process, using a mass balance approach.		
7) The quality of the recycled plastic waste allows it to be used as feedstock in the manufacture of recycled products, thereby displacing the use of virgin plastic. Properties of the output of the recycling facility (e.g., presence and/or type of contamination, characteristics of macromolecules, chemical stability) may be used to demonstrate quality. Only the fraction of the output of the recycling facility that is or can be used to produce recycled plastics is eligible for WRCs. Any output that is used as a fuel, for energy recovery and/or as a chemical for any purpose other than plastic production is not eligible for WRCs. Credible evidence such as contractual agreements, receipts of sale of recycled material, third-party audits, third-party survey results or chain of custody certification (e.g., ISCC PLUS) must be provided to demonstrate compliance with this applicability condition. In all cases, credible evidence must be provided from a source that can be verified by the validation/verification body (VVB).	The quality of the RPSF is satisfactory to use as a feedstock in the manufacture of recycled products, thereby displacing the use of virgin plastic. The totality of the output is eligible for WRC. There is no output usage as fuel, for energy recovery or as a chemical for any other purpose. Therefore, the project activity fulfils this condition.	In order to assess this, VVB verified the sale of the recycled products through the invoices produced to the manufacturers of the yarn, fabrics. Further, VVB had reviewed the websites of the manufacturers to crosscheck the products they are manufacturing, Based on the observation made, VVB confirms that the material being recycled in the facility if being used for manufacturing of plastic product and thus project activity compliance in accordance with the applicability condition 7
8) There is recyclable plastic waste available in the region that would not have been recycled in the absence of the project. Availability of recyclable plastic	The PWM rules were published in 2016, the data submissions for plastic waste generation from each state resulted in a consolidated annual report, available publicly on the CPCB	VVB team reviewed of the publicly accessible data available for the consumption of plastic in the region and for the recycling of plastic. These data shows

waste may be demonstrated by, among others, using the most recent publicly available data on plastic waste generation and recycling rates in the region to show that there is plastic waste that is not being recycled.	site. According to the 2019-20 CPCB annual report, the state of Jharkhand has generated around 43332.308 TPA of plastic waste. The number of registered plastic recycling units were 59. However, as the generation is very high in the state of Jharkhand, it can be concluded that large volumes of plastics waste is available in the state that must be recycled. Therefore, this condition is fulfilled.	that the rate of generation of plastic waste is very high which is further increase as the population and per capita consumption of plastic is increasing gradually. Based on the observation made VVB confirms that project activity meets the applicability criteria 8.
9) Project activities that include any depolymerization of sorted plastic waste streams must justify why the materials in the sorted plastic waste stream cannot be recycled using any other technology or technologies resulting in a smaller relative reduction in (macro) molecular mass.	The project activity does not include any depolymerisation of sorted plastic in the waste stream. The project activities include mechanical recycling of material, hence no depolymerization is required.	V. In order to verify the statement, VVB reviewed the process document, machine specification /09/ as well as observation made, and interviews conducted with stakeholders during the site visit and technical specification of machines. Based on the observation made, VVB confirms the project implemented is in line with the statement given in the JPD&MR.
10) The project activity does not compete with other recycling activities or include plastic waste that has been diverted from a historically existing, legally recognized recycling activity. Evidence, such as proof of how the plastic waste was managed over the three-year period prior to implementation of the project activity, must be provided to demonstrate that the project activity does not divert plastic waste from any historically existing, legally recognized recycling activity.	According to the 2019-20 CPCB annual report, the state of Jharkhand has generated around 43332.308 TPA of plastic waste16. There is no specific information on the existing recycling facilities capacities in Jharkhand as per this report. Therefore, this project activity fulfils this condition.	In order to validate and verify the statement, VVB during on-site visit conducted interviews with the stakeholders involved in the collection to discuss about the practices being used for disposal prior to start of the project activity, as well as reviewed the references publicly accessible available data for the consumption and availability for plastic waste for the recycling of plastic in region. These data shows that the rate of generation of plastic waste is very high which is

		further increase as the population and per capita consumption of plastic is increasing gradually. Based on the observation made during assessment, VVB confirms that the project activity compliance the applicability condition 10
11) Plastic waste that enters the project recycling facility but is not recycled or is lost during the recycling process (e.g., due to contamination) is managed in a way that does not include dumping on open land, in water bodies and/or at dumpsites; open burning; or incineration without energy recovery. Where a project can reasonably only access one of these excluded end destinations, the project proponent must demonstrate that the nature of the end destination is comparable to the plastic waste source and must provide justification for why the project is not reasonably able to access an alternative end destination. In all cases, open dumping of plastic waste onto open land or into water bodies is not permitted. If the plastic waste that was not recycled in the facility or the waste from the recycling activities contain hazardous substances, the waste must be managed through environmentally and socially appropriate technologies and processes in accordance with	VPPL procures sorted and baled PET. The received material further goes through the in-house quality check, to identify any non-recyclable, contaminated or low-quality material. The disqualified material like HDPE, PP, PVC and the PET waste are aggregated at their warehouse and the bulk volumes are channelized to an authorised aggregator/recycler within the project region. Relevant data is recorded and maintained in logbooks. Hence, all non-recyclable waste entering into the VPPL's facility is managed in accordance with the national, regional or local regulations/guidelines. Therefore, this project activity fulfils this condition.	VVB team reviewed the invoices to verify that waste that not being recycled in the facility is being sent to the other recycling facilities. Based on the observation made during assessment, VVB confirms that the project activity compliance the applicability condition 11.

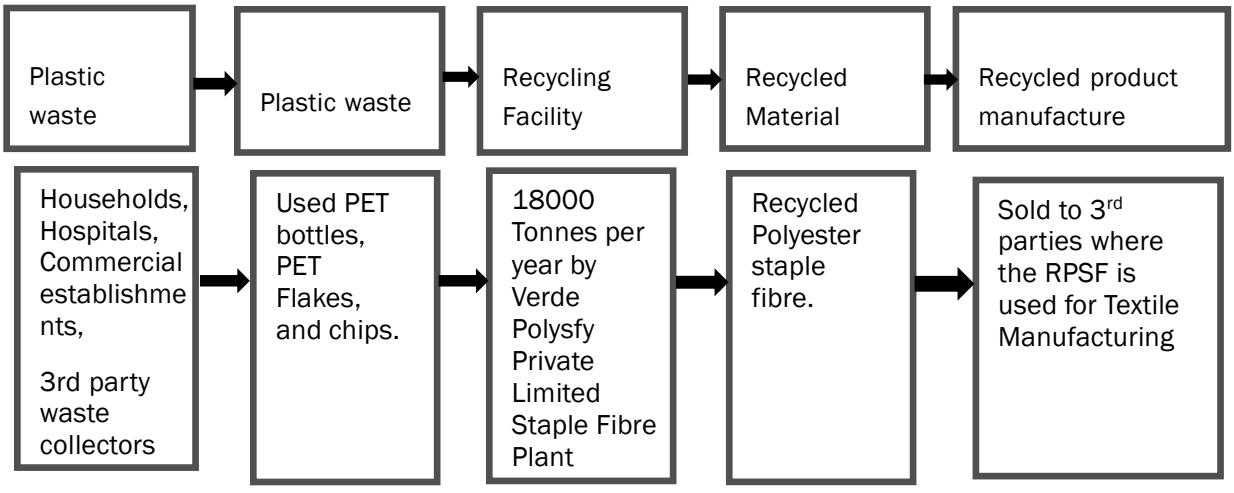
relevant national, regional, or local regulations or guidelines.		
This methodology is not applicable under the following conditions:		
12) The plastic waste to be recycled has been collected in and imported from other countries, except in either or both of the following circumstances: a) The project recycles plastic waste (using sustainable waste management practices) imported from a Least Developed Country (LDC) or Small Island Developing State (SIDS). b) The project imports plastic waste from other countries for further processing where there is insufficient plastic waste available in the exporting country to enable development of recycling infrastructure at the time of project validation. Project proponents must demonstrate the same through primary surveys or secondary literature available in the public domain and/or certified by a competent authority. Where either or both above circumstances exist, a robust and transparent chain of custody from the source of plastic waste to the end destination of the project activity must be provided.	The project fulfils this applicability condition as the project does not use plastic waste that is collected in or imported from other countries. The plastic waste used in the facility is collected from and within India. Therefore, this project activity fulfils this condition.	VVB had verified the statement through the review of the purchase invoices /24/ as well as interviews conducted with stakeholders during the site visit. Based on the observation made during assessment, VVB confirms that the project activity compliance the applicability condition 12

2.4.3 Project Boundary

The project focuses on Municipalities (Urban Local bodies) Informal collection for household, public places. The plastic waste types of PET is recycled into RPSF for sale to post-processors.

Source		Material Type	End-of-Life	Explanation
Baseline	Municipalities (Urban Local bodies)	PET	Landfill	Plastic garbage is collected as part of solid waste management, but no appropriate end-of-life facility is offered because recycling facilities are not financially viable in a nation like India.
	Informal collection for household, public places Ex: Schools, Facilities, public transport, etc	PET	Environment	Due to high costs and a lack of infrastructure for collection, plastic is usually burned, buried, or abandoned on farms or in packing sheds.
Project	Municipalities (Urban Local bodies) Informal collection for household, public places Ex: Schools, Facilities, public transport, etc, 3rd party sellers of used PET bottles	PET	Recycle polyester staple fibre	The collected plastic garbage is separated into bales and transported to a mechanical recycling facility, where the PET waste is recycled into polyester staple fibre. (RPSF)

Project boundary diagram of Plastic Waste Recycling methodology V1.1



VVB team had reviewed the purchase and sale invoices in order to validate and verify the statement. Based on the findings of the assessment VVB conforms that the project boundary consists of the plastic waste sources, sorting facilities, recycling facilities as well as entities that purchase recycled plastic waste and is therefore justified for the project and well defined in accordance with the methodologies Plastic Waste Recycling Methodology v1.1 /B03/.

2.4.4 Project Region

The project locations are described in the JPD&MR v2.0 /01/, including KML file /15/ is provided by the PP. The project involved in procurement of PET waste from various aggregators spread across the nation, thus the Project Boundary here considered as India.

Based on the review of the documents related to plastic waste being collected and recycled material being sold after recycling under the project, VVB confirms that the project involved in the collection and recycling of plastic from different locations within India, thus the project region for the project is India.

2.4.5 Baseline Scenario

As per the "The Plastic Life Cycle" published by Centre for Science and Environment, India as a country produced approx 3.5 million tonne plastic waste during the year 2019-20. However, this report does not provide data about exactly how much plastic waste has been recycled during that year as this report clearly indicates that only eight states has disclosed recycling or incineration data. According to the said report India recycled approx 12% plastic waste and burnt 20% of the total plastic waste while there is no information about remaining 68% of plastic waste, which most likely ends up in the dumpsites and landfills. As per the report, informal sector i.e. waste pickers (Rag Pickers) and association of waste pickers are responsible for majority of plastic waste collected in India. There rag pickers play a vital role in it by collecting waste from open areas, roadsides and landfill site and sell it to kadaiwallas or the aggregators and earn daily wage from it.

India's entire recycling system stems from how much an unorganized sector worker can fetch for a certain material. If material can't attract a high enough price, it doesn't re-enter the value chain. This is a huge problem when it comes to recycling in India. Also, India being a vast country in terms of population and area find it difficult to track the waste generated and to provide it a proper end life destination. Acquiring adequate and reliable data regarding plastic waste is a very difficult task since India is a very large and populated country, and majority of plastic waste collected, segregated and recycled are by informal / unorganized sector. This clearly indicates utter irregularity among plastic waste management system in India.

Due to lack of robust collection and recycling infrastructure, plastic waste would end up in landfills, environment and water bodies and it further degrades the environment instated of reaching to its appropriate end of life destination.

The assessment team determined that the documentation evidence was relevant, correctly cited and interpreted in the project description. The baseline scenarios were also determined through on-site interviews with the personals involved in the manufacturing facilities as well as project proponent staff. The validation and verification team therefore confirm that the baseline scenarios adopted by the project activity meet the requirements of the applied methodologies Plastic Waste Recycling Methodology v1.1 /B04/.

2.4.6 Additionality

The project proponent has demonstrated additionality of the project activities project under Section 3.6 of the Plastic Project JPD&MR V2.0 /01/ in accordance with the requirements of the Plastic Waste Recycling Methodology v1.1 /B03/.

Step 1: First, the project demonstrated that it meets Regulatory Surplus; showing that the project activity is not already required by law.

The project proponent has demonstrated regulatory surplus in accordance with the requirements of Plastic Waste Recycling Methodology v1.1 /B03/ and made the statement that no laws or regulations enforce collection/ recycling of the relevant material type(s), or the laws or regulations are not systematically enforced, and noncompliance is widespread in the relevant country or region.

To assess the statement, VVB reviewed the EPR rules under the Plastic waste Management Rule 2023 of the Ministry of the Environment under which the targets for EPR and obligations are provided to the PIBOs. The activities being conducted by Verde Polysfy Private Limited is not falls under the PIBO category and it was concluded that these laws do not enforce or implemented and/or do not contain a mandate for plastic waste collection/ recycling.

Based on the observation made, VVB confirms that the project proponent is engaged in this project activity under a voluntary basis and is under no law or statute mandated to engage in the collection and recycling of plastic wastes

The statement that there are no laws or regulations that enforce the collection of plastic waste is therefore deemed reasonable and proven.

As such regulatory surplus is demonstrated, and the project may proceed to step 2.

Step 2 Activity Method: Positive List

The project is located in the lower middle-Income country i.e. India but the material type used is of mono material rigid plastics, hence the project is not Auto additional and thus PP procced with the Step 3a to prove the additionality.

Based on the observation made during the assessment VVB that it is not included on the Positive List. This means the project is not automatically deemed additional.

Step 3a, Project Method – Penetration Rate of Recycling Activities:

It is to be assessed the penetration rate of the project activity in the relevant region for all material types managed in the project activity (except for any material types excluded in Step 1). The penetration rate (percent) is given as the ratio between the total installed recycling capacity (tonnes/year) for plastic waste (including composite materials), excluding other project activities undergoing validation or that are already registered with the Plastic Program, and plastic waste production (tonnes/year) in the region. If this penetration rate is below 20 percent, the project activity, including all material types recycled (other than any material types excluded in Step 1), is additional.

The project boundary is India from where the waste is being collected and brought to the recycling facility and the material type recycled by the project activity is PET.

As per the information from informal sector the penetration rate of PET plastic waste recycling in India, based on total consumption of PET plastic waste and installed capacity to recycle PET plastic waste, is

60-65%., hence the project is not Auto additional and we procced with the Step 3b to prove the additionality.

Based on the review of the data available in public domain, VVB confirms that the recycling rate for PET plastic waste in India is 60-65% hence the project is not auto additional

The project proponent has conducted the investment analysis /34/ using "Option III: Apply benchmark analysis," including the sensitivity analysis, as prescribed in the latest version of the CDM's Tool for Demonstration and assessment of additionality and Investment analysis.

The benchmark analysis is used for the project activity as per project type and decision-making context. Therefore, the Expected return on equity is considered appropriate benchmark. Accordingly, the post-tax Equity IRR has been considered as the relevant financial indicator for the project activity which is acceptable to the assessment team. Moreover, the financial indicator selected by the PP is correct since tool do not restrict the PP to either use project IRR or Equity IRR. This is under the choice of the PP to select appropriate indicator based on his preferences to know the IRR using his equity investment. Assessment team however checked the Equity IRR calculation and found that input assumptions used for the calculation of Equity IRR are applicable at the time of making decision for investment in the project and thus is in accordance with the relevant guideline of the tool.

When conducting an investment analysis /34/ using nominal terms but with IRR benchmarks provided in real terms, PP are required to transform the real benchmarks into nominal values by incorporating the inflation rate. The inflation rate should be sourced from the host country's central bank inflation forecast for the entirety of the crediting period.

As a result, the default value was adapted by incorporating an appropriate forecasted inflation rate sourced from the RBI (Central Bank of India). The PP determined the Benchmark using the inflation rate forecasted by RBI during the crediting period. It's essential that the inflation forecast should be covered for the entire of the crediting period when making the Investment decision. Nonetheless, as the RBI offers inflation forecasts solely for 5- and 10-year periods, the PP computed the benchmark using a 10-year duration, which then serves as the project activity's benchmark. During the review of the documents VVB found that, at the time of decision made for investment in the project activity, Version 11.0 of methodological tool "Investment Analysis" was the latest available tool to PP, hence PP has considered the same tool for default value of return on equity. As per para 19 of the tool referred above, the cost of equity is determined by selecting the values provided in the Appendix, i.e., Default values for cost of equity (expected return on equity) is presented below:

Appendix in tool specifies default value of expected return on equity in real terms for Waste Handling and disposal Industries (Group 1) in India = 10.55%.

Thus, the benchmark of 16.52% has been considered for the project activity.

Input parameters for cash inflow and outflow:

PP has considered the inflow and outflow of the assumption as average of last three years and the same is verified through DPR /14/ submitted by the PP to banker for financial approval. VVB has reviewed the investment analysis by reviewing the spread sheet "Investment analysis Banyan Nation.xls" and also verified all the input valued based on the DPR /14/ submitted by the PP to banker for financial approval as refereed above and through its sectoral expertise and deemed the same appropriate and thus its acceptable to VVB as additionality demonstration by the project proponent.

SENSITIVITY ANALYSIS:

The purpose of the sensitivity analysis is to determine the likelihood of the unexpectable change of a scenario other than the scenario presented, in order to provide a cross-check on the suitability of the assumptions used in the development of the investment analysis.

In the process of conducting the sensitivity analysis, variables, including the initial investment cost, that constitute more than 20% of either total project costs or total project revenues should be subjected to reasonable variation. As per the investment analysis sheet provided by PP, two variables i.e., project cost and O&M has been considered for the sensitivity analysis. During the review of the investment analysis sheet no other variable has significant impact on the analysis.

Description	IRR of Project Activity		Benchmark IRR
Based on Investment analysis	-3.56%		12.80%
Variation	-10%	+10%	
Cost of Project	-3.6%	-3.6%	

As per the method described in Section 7 of the CDM's Methodological tool 27: Investment analysis, a general point of departure variations in the sensitivity analysis should at least cover a range of +10% and –10%, unless this is not deemed appropriate in the context of the specific project circumstances. Thus, to cross-check on the suitability of the assumptions used in the development of the investment analysis, a general point of departure variation ranging from +10% and –10% has been considered.

Based on the review of the Investment Analysis Sheet & DPR /14/ submitted by the PP to banker for financial approval and interview with stakeholders during site visit, VVB concluded that in case of any unlikelihood the equity IRR for the project activity will not breach the Benchmark.

Based on the findings of the assessment of the additionality, VVB can conclude that:

a) The project has correctly followed the procedure for demonstrating additionality as lined out in Plastic Waste Reduction Standard v1.0, and thus complies with the additionality requirements of the Plastic Waste Recycling Methodology v1.1 /B03/.

b) Additionality is successfully demonstrated for plastic waste recycling activities as covered under the project.

2.4.7 Estimated Collected and/or Recycled Plastic Waste

The methods and equations provided in the methodology and relevant methodological tools for the baseline recycling of plastic wastes have been correctly quoted under Sections 4.1 of the Plastic Program Joint PD&MR v2.0 /01/. The quantification of baseline recycled plastic waste of the project instances were determined to have been calculated in accordance with the formulae provided under Sections 8.1 of the Plastic Waste Recycling Methodology v1.1 /B04/.

The baseline for recycled plastic for recycling activity is 0 since this project instance is the new activity.

The steps taken for the calculation of the net collected plastic waste volumes are clearly described and demonstrated in the Plastic Program Joint PD&MR and the breakdown as per material type is provided in the section 4.3 of the JPD&MR.

To verify the same, VVB has cross checked the purchase invoices for the waste and the sale invoices of the recycled materials with the stock entry being maintained as the input and output points of waste recycling area and the finished good dispatch area. The net quantity of plastic waste recycled was further cross verified by matching the monitoring records available for incoming waste, waste after sorting and recycled materials.

Based on the observation made during the validation and verification, VVB confirms that the quantification of baseline, project and net quantity for recycled plastic waste under the project were calculated in accordance with the formula given under Sections 8.1, 8.2 and 8.3 respectively of the Plastic Waste Recycling Methodology v1.1 /B04/.

2.4.8 Methodology Deviations

After reviewing the documents and making observations during onsite visit VVB found that the project has no methodology deviations.

2.4.9 Data and Parameters Available at Validation

To ensure compliance with the formats of Plastic Waste Recycling Methodology v1.1 /B03/, the data and parameters were verified throughout the project validation (version 1.1). All data and parameters are shown within the Project Description and Monitoring Report of “Verde Polysfy Plastic Recycling Project in India”.

Sr. No.	Parameter	Unit	Value	Assessment
1	Brecycled ,i, y	tonnes/year	0	Baseline plastic waste recycling is zero for new project activities

VVB has assessed that the parameter and data (values) used to estimate plastic waste reduction under the project and as mentioned in Section 4.1 of the Plastic Standard Plastic Program JPD&MR v2.o /01/ and found that the parameter and data used are appropriate and meet the requirements of the Plastic Waste Recycling Methodology, v1.1. /B03/

2.4.10 Data and Parameters Monitored

The data and parameters provided by PP in the monitoring report was checked corresponding with the format of PWRM0002 and Plastic Waste Mechanical Recycling Methodology (version 1.0) to verify that data and parameters are shown within the Project Description and Monitoring Report of “Verde Polysfy Plastic Recycling Project in India”.

Sr. No.	Parameter	Unit	Value	Assessment
1	Sorting output	Tonnes/ year	15,254	During the on-site visit, through the observation of the process, VVB confirms that the sorting

				output is being monitored by employing weighing scales.
2	Recycling input	-	Waste PET Bottles Other PET Waste PET flakes Master Batches Caustic soda	During the on-site visit, through the observation of the process and interviews of stakeholders, VVB has verified that plastic waste and other materials are indeed utilized as part of the recycling process.
3	Bp,recycled,i,y	Tonnes/ year	0	The activity is a new installation
4	Pp,recycling,i,y	Tonnes/ year	15,254	VVB confirms the authenticity after review of the documents i.e., stock register, plastic waste inventory.
5	End destination of non-recycled plastic waste End destination of non-plastic waste from recycling facility	-	Plastic waste that enters the project recycling facility but is not recycled or is lost during the recycling process will be sold to other plastic recyclers who make various products –about 6% of plastics that is rejected. Hazardous waste and effluent sent to third parties for treatment and disposal.	The plastic waste that enters to the facility but is not being recycled at facility, is being sent to other parties involved in manufacturing other products from non-recycled plastics. This is verified by VVB through making observations and conducting interview with stakholders during the on-site visit. Furthermore, hazardous waste is also sent to other parties for environmentally sound disposal. The validity of this practice is confirmed through the contract between the PP and hazardous waste handling agency.
6	AFi	-	1 (for non-composite materials)	VVB had confirms the authenticity after review of the documents

2.4.11 Monitoring Plan

As per the Plastic Program PD&MR v2.0 Section 5.3, to manage data and information, the project proponent had developed and implemented quality management procedures. For each measurement task, written procedures (e.g., standard operating procedures, SOPs) have been established, outlining responsibility, timing, and record location requirements. All the parameters detailed in Plastic Program PD&MR v2.0 Section 5.3 are being tracked and recorded throughout the crediting period. The amount of

each material type recycled by the project is being measured with calibrated weighing scales before being dispatched to the next stage and before being used for any manufacturing of products within the recycling facility. The project proponent has procedures for recording, compiling, and analysing the data, parameters, and other information important for quantifying and reporting the amount of collected and recycled plastic waste in the project scenarios. Plant personnel will receive appropriate training to ensure proper monitoring of the parameters. All data collected as part of monitoring will be archived electronically and stored in a secure and retrievable manner for at least two years after the end of the project crediting period. QA/QC procedures like training, cross-check of input data etc. will be applied to increase confidence that all measurements and calculations have been made correctly.

The monitoring plan will check by VVB, using the following methods:

- Traceability check to cross reference volumes collected and recycled. In order to perform the traceability check, VVB reviewed and matched the quantity mentioned in invoices/ receipts from collectors, inventory available for waste receipt/ recycling materials and sale invoices for the recycled mater. In addition, the calibration records of the weighing scales used for the measurements was also reviewed to ensure accurate measurement of the collected and recycled waste.

- Check of documentation and ledger to see if all parameters were included.

- site visit to check procedures and information flow.

VVB had verified the statement through cross-checking the inwards/ outwards register at each stages, inventory of the materials, quality records and training records and found that monitoring plan is well implemented.

3 VERIFICATION FINDINGS

3.1 Implementation Status of the Project Activity

The plant has been in operation since 18-February-2022. The facility has a capacity of 14400 Tonnes/year and was established in Giridih, Jharkhand. The Plant utilizes post-consumer PET bottles waste as the basic raw material for manufacturing of Recycled Polyester staple Fiber. The facility is equipped with a storage yard for raw material, a washing section, a dryer section, storage and dispatch of bales, draw lines, spinning, winding, and can collecting, as well as an ETP for the production of Recycled Polyester Staple Fiber. There have been no changes to the Project Proponent or other entities during this period.

The first verification event is to take place in December 2023 for monitoring period 18-February-2022 to 30-November-2023. Future subsequent verifications are expected to occur on an annual basis.

The project was assessed to verify whether the project activities were implemented in consistence with the information provided by the project proponent as contained in the Plastic Program Joint PD&MR v2.0 /01/. The monitoring plan was assessed through the review of the documents, observation made during site visit and interview conducted with stakeholders and found that it is effectively and fully implemented at the time of the verification exercise. It was also observed that monitoring activities is being carried out in accordance with the documented monitoring plan. The monitoring system was deemed appropriate and suitable for the Multiple instances of multiple project activities project. The verification team did not identify and material discrepancy between the actual monitoring system and the monitoring plan as set out in the Plastic Program Joint PD&MR v2.0 /01/and the applied methodology.

Based on the above assessment, the verification team concludes that the single installation of recycling facility project has been implemented as described in the Plastic Program Joint PD&MR v2.0 /01/.

3.1.1 Description of Next Stage (Optional)

Verde Polysfy Private Limited is pioneer in recycled polyster staple fiber manufacturing and engaged in sustainable development of society by means of plastic waste recycling in India and the company is committed towards avoidance of plastic waste going to pollute the environment.

3.2 Quantification of Collected and/or Recycled Plastic Waste

3.2.1 Accuracy of Calculations

A traceability analysis was performed to determine the accuracy of the calculations. As the part of this analysis, the quantity of recycled plastics was cross checked by comparing the quantities mentioned in the Joint PD&MR v2.0 /01/ and Plastic Crediting Calculation spreadsheet /02/ provided by the PP. Apart from the same was also analyse during the on-site visit through interviews of the staff involved in the recycling of plastic waste by the VVB, and comparing the data provided by the PP with the records available at Banyan Nation facility.

A traceability analysis was performed to determine the accuracy of the calculations /02/. As the part of

this analysis, the quantity of recycled plastics was cross checked by comparing the quantities mentioned in the Joint PD&MR v2.0 /01/ and Plastic Crediting Calculation spreadsheet /02/ provided by the PP. Apart from the same was also analyse during the on-site visit through interviews of the staff involved in the recycling of plastic waste by the VVB, and comparing the data provided by the PP with the records available at Verde Polysfy Private Limited facility.

Based on the observations made during the assessment process, VVB conforms that the project has calculated the amount of recycled plastic waste in the verification period accurately and according to the methodology and the project description

3.2.2 Quality of Evidence to Determine Collected and/or Recycled Plastic Waste

In order to ensure the quantity of plastic waste being recycled in the facility, the quantity of plastic waste is being measured at different stages. The plastic waste is being weighed using calibrated weighing balance /18/ at the following stages,

i. after receiving the collected waste
ii. after segregation of different types of plastic waste
iii. after bailing the different types of plastic waste in different bags
iv. before recycling
v. after recycling

During the on-site visit it was observed that Banyan Nation staffs is handling data carefully at every stage, and this was also cross checked with the logbooks shared by PP where they maintain all the data /23/ and the sale invoice for the collection /24/.

The same was further supported by the consistency of reporting across the different databases and the consistency between the receipt given to the collectors and the registered volumes in the databases of collectors and Banyan Nation. Which was verified through matching the quantity mentioned in invoices/ receipts from collectors, inventory available for waste receipt/ recycling materials and sale invoices for the recycled mater. In addition, the weighing scales used are regularly calibrated to ensure accurate measurement of the collected and recycled waste this was cross checked by the calibration certificate of the weighing scale /18/ provided by the PP.

Based on the observations made during the assessment process, VVB conforms that the evidence shown in support of the waste collected and recycled is found to be reliable.

4 VALIDATION AND VERIFICATION CONCLUSION

Carbon Check (India) Private Limited (CCIPL) has conducted the joint validation and verification of the project activities "Verde Polysfy Plastic Recycling Project" initiated by Verde Polysfy Private Limited (VPPL) is a plastic waste recycling facility located in Giridih, Jharkhand, India.

Validation was conducted for the initial crediting period of 7 years i.e., from 18-Februry-2022 to 17-Februry-2029, whereas the verification covers the review of data available for the monitoring period i.e. 18-February-2022 to 30-November-2023. In line with the paragraph 4.1.2 (1) of Plastic waste reduction standard v1.0, the reasonable level of assurance is applied considering the service is joint validation and first verification.

The validation and verification were conducted through the review of the project description and monitoring report along with supporting documents. Further, the facts were cross-verified through the observations made, review of the data available on site and interviews conducted with stakeholders during the onsite visit of Recycling at in Giridih, Jharkhand, India on December 19th – 20th, 2023.

Carbon Check India Private Limited, conducted an independent assessment in relation to the "Verde Polysfy Plastic Recycling Project" project's compliance with the requirements of

- the Verra Plastic Waste Reduction Standard v1.1,
- Plastic Program Guide v1.0,
- the Plastic Waste Recycling Methodology v1.1.

The validation and verification findings are based on outcomes of documents review, interviews with project stakeholders and observation.

During the assessment, the validation and verification team identified and recorded a total of twenty findings. 24 Corrective Action Requests and 05 Clarification Requests were raised and subsequently resolved by the project proponent and in addition to this 03 Forword Action Requests were raised to verify in the next verification period by the VVB.

As for the validation, the following conclusions were drawn:

The project complies with the criteria set out in the

- Plastic Waste Reduction Standard v1.1.
- Plastic Waste Recycling Methodology v1.1

- The Joint Project Description and Monitoring Report complies with the structure and instructions provided in the Joint Project Description and Monitoring Report Template v1.0
- Is not likely to cause any net-harm to the environment and/or society and complies with the environmental and Social Safeguards Standard,
- Baseline is correctly defined.
- Additionality is successfully demonstrated.

- Data and estimates of the waste recycled is of reasonable nature.
- The equipment used to measure the recycled plastic waste is reliable and calibrated in accordance with manufacturing guidelines.
- The monitoring plan of waste collection is in line with the Plastic Waste Recycling Methodology v1.1
- The estimated waste recycled is accurately calculated.

Under the project activity, the procurement, recycling, storage, calculation and reporting of plastic waste recycling data is the responsibility of the project proponent. This is done as outlined in their monitoring plan. A risk-based approach was used to assess the calculations and evidence provided for the monitored net recycled plastic waste volumes, and to cross check the volumes reported.

In Carbon Check India Private Limited opinion

- Project Proponent has implemented the project activities as described in Project Description and Monitoring Report.
- Supporting documents provided by the Project Proponent are found to be complete and reliable.
- The tools used to measure the quantity of the plastic wastes recycled are calibrated according to manufacturing instructions.
- Additionally, the project proponent is commended on their clear, concise and comprehensive reporting in the Joint Project Description and Monitoring Report, which greatly enhances the transparency on the project's activities.

Based on the observations made during the assessment, it is concluded that the "Verde Polysfy Plastic Recycling Project" project activities that are described in the Plastic Program Joint Project Description and Monitoring Report are real, accurate and in line with the applicable requirements from the aforementioned standard documents.

After completion of the verification of the monitoring data available for monitoring period, it was confirmed that the total amount of plastic waste recycled during the verification period period of 18-February-2022 to 30-November-2023 was 14,087 tonnes.

The project will issue Plastic Credits per vintage years.

Verification period: 18-February-2022 to 30-November-2023

Plastic waste recycled during Monitoring Period (Tonne)

Table: Net recycled plastic (tons),

Year	Baseline recycled plastic waste (tonnes)	Project recycled plastic waste (tonnes)	Net recycled plastic waste (tonnes)
18-February-2022 to 31-December-2022	0	5,689	5,689
01-January-2023 to 30-November-2023	0	8,398	8,398
Total	**0**	**14,087**	**14,087**

APPENDIX 1: REFERENCE DOCUMENTS

S. No.	Document
/01/	Joint Project Description and Monitoring Report v1.0 Joint Project Description and Monitoring Report v2.0
/02/	Plastic Recycling Credit Calculation sheet
/03/	Letter of engagement between PP and Validation and Verification body
/04/	Environmental approvals (Consent to operate, Plastic waste registration & Hazardous waste)
/05/	Fire Authority No objection certificate
/06/	Company Policy documents
/07/	Company registrations under GST, PAN, and Incorporation certificates
/08/	Company Organization chart
/09/	Plant installation and Machinery cost and technical details
/10/	Facility EIA supporting document
/11/	Employment contracts & payments documental evidence
/12/	Contractual evidence with the 3rd party facilities
/13/	Environmental Testing reports
/14/	Additionality Investment analysis IRR and supporting documents
/15/	KLM files
/16/	Documental evidence for the operation quality procedures
/17/	Standard operating procedure for manufacturing
/18/	Calibration documents of the equipment's and weighing scales
/19/	Documental evidence of the grievance registers
/20/	Stakeholders documental evidence
/21/	Waste water treatment and Waste disposal documents to the authorized parties
/22/	Standard operation procedures of Safety health environment and operations
/23/	Recycled plastic material logbooks
/24/	Invoices, PO and monthly material inventory
/25/	Recycled plastic material test reports

APPENDIX 2: BACKGROUND DOCUMENTS

Ref	Documents
/B01/	Plastic Waste Reduction Standard v1.0
/B02/	Plastic Program Guide v1.0
/B03/	PWRM0002 Plastic Waste Mechanical Recycling Methodology v1.1
/B04/	VCS Validation and Verification Manual v3.2
/B05/	Plastic Waste Management rules 2016
/B06/	Investing analysis am-tool-27-v11.0

APPENDIX 3: FINDING LOG

Table 1. CL from the Validation and verification

CL	01	Section no.	1.1	Date:12/12/2023
Description of CL				
PP needs to provide clarification on the calculation basis used for stating that the facility, as observed by VVB, commenced with a recycling capacity of 40MT/Day and is expected to process 14,400 MT/Year of RPSF from PET waste annually.				
Project participant response				Date:23/01/2024
Verde Polysfy has a production licence for 40 MT/Day of RPSF Production. The machine design is based to receive this output. As a normal process the most critical element which is the extruder is designed to generate 40 MT of output. The Total Number of Operational Days in the project activity is 360. Multiplying the Per day Production with the Operational Days (40*360), we get a value of 14400 MT/Year that is also clearly mentioned in the certificate provided from the Directorate of Industries, Government of Jharkhand that the capacity of the project activity is 1200 Tonnes/month and 14400 Tonnes/year. The Project Proponent Also Plans to extend the capacity of the Project Activity by 31-March-2024 as per the TEV Report submitted to the VVB and the same is clearly mentioned in the Revised JPDMR v02 and the Plastic Credits Calculation Sheet.				
Documentation provided by project participant				
Certificate from Directorate of Industries, TEV Report, Plastic Credit-Estimation Sheet and Revised JPDMR v02				
VVB assessment				Date: 27/01/2024
VVB has reviewed both the submitted response and the certificate issued by the Directorate of Industries. This forms the basis on which the PP has determined a capacity of 14,400 MT/Year. Furthermore, the PP has provided details regarding capacity increase for future expansion in the JPDMR v02 TEV report now the total average recycling capacity will be 15, 254 MT/Year. Hence the CL 01 has been closed.				

CL	02	Section no.	1.2	Date:12/12/2023
Description of CL				
The process involves segregating and disposing of unused plastic waste obtained through raw material procurement to authorized aggregators/recyclers within the project region. PP is required to furnish the following clarification and documents: 1. Provide the information on the type and volume of other unused plastic waste generated and disposed of while sorting PET waste during the monitoring period. 2. Clarify the criteria considered by PP in selecting authorized aggregators for the disposal of unused plastic waste, as stipulated in condition no. 11 of the 3.2 applicability.				
Project participant response				Date: 23/01/2024

1. The type and volume of other unused plastic waste is clearly described in the section 5.2 of the revised JPDMR and the same is clearly described in the Actual Plastic Credit-Sheet also. 2. All the Non – Pet recyclable Plastic is being sold to the authorized recyclers who are authorized for the recycling of different of type of plastic and providing second life to the same. Regarding the Hazardous Waste, the same is sold to Nilanarayan polychem which is authorized in handling hazardous waste. Thus, all the authorized aggregators are selected as per the condition no. 11 of the 3.2 applicability.
Documentation provided by project participant
1. Revised JPDMR Version 02 and Actual Plastic Credit Sheet 2. Agreement with Non-Pet plastic recyclers, Agreement with Nilanarayan for Hazardous Waste. Sample Invoices for sale of Non-Pet Materials.
VVB assessment — Date: 27/01/2024
1. Within the monitoring parameter "End destination of non-recycled plastic waste from recycling facility," the PP has furnished information on the type and volume of plastic waste that unutilized in the recycling process. 2. PP has also provided the invoices and agreements for the unused plastic waste disposals. Hence the CL 02 has been closed.

CL	03	Section no.	1.7	Date:12/12/2023
Description of CL				
VVB noted in the JPD&MR v1.0 that the project's start date is specified as 18th February 2023, as per the certificate of date of commercial production issued by the Government of Jharkhand. However, upon the review of the document, VVB could not locate the project's start date. Therefore, PP is requested to furnish the document that confirms the accurate start date of the project.				
Project participant response — Date: 23/01/2024				
The certificate of date of commercial production has been resubmitted to the VVB and the date of commercial production can be clearly traced on the 2nd page of the same. The correct date of commercial production is 18-February-2022 and the same has been updated in all the sections of the revised JPDMR v02.				
Documentation provided by project participant				
Date of Production certificate issued by Jharkhand Government and Revised JPDMR				
Documentation provided by project participant — Date: 27/01/2024				
VVB has reviewed the provided commercial production document issued by the government of Jharkhand and confirms the start date of the project as 18.02.2022. Hence the CL 03 has been closed.				

CL	04	Section no.	1.10	Date:12/12/2023
Description of CL				

In the project activity description, the PP has presented details by categorizing them into different subsections: 1. Overview of the project objective and set-up; 2. Overview of recycling models; and 3. Technology employed in the activity. However, VVB has observed the below mentioned point to be clarified. 1. It is observed that the specific content mentioned is not appropriately highlighted with a corresponding section heading. 2. As per the JPD&MR v1.0 template section 1.10 for plastic waste recycling it is required to mention the "the age and average lifetime of the equipment based on the manufacturer's specifications and industry standards".
Project participant response — Date: 23/01/2024
1. The details have been categorized as per the subsections mentioned on the section 1.10 and now the specified content is appropriately mentioned as per the corresponding headings mentioned. 2. The age and average lifetime of the equipment based on the manufacturer's specifications and industry standards has now been clearly mentioned in the revised JPDMR and the supporting documents have been provided for the same.
Documentation provided by project participant
1. Revised JPDMR v02 2. Technical Brochures, Certificate for Chartered Engineer and the Revised JPDMR v02 – By today
VVB assessment — Date: 27/01/2024
PP has now provided the required information related to the age and average lifetime of the equipment and corrected the subsections 1.10. Hence the CL 04 has been closed.

CL	05	Section no.	1.10	Date:12/12/2023
Description of CL				
As part of the material entry process, the referred section indicates that the material is weighed at the facility's entrance using the government-mandated weighbridge to ensure accurate tracking. PP is requested to furnish the calibration certificate weighbridge mandated as per government, covering both the monitoring period and the current period.				
Project participant response — Date: 23/01/2024				
At the project facility's entrance, a weighbridge is placed. The details of the weighbridge along with the details of the calibration is clearly mentioned in the Appendix which covers the monitoring period and the current period both.				
Documentation provided by project participant				
Calibration Certificate of Weighbridge				
VVB assessment — Date: 27/01/2024				
PP has provided the calibration certificates of the inhouse installed weighbridge for the monitoring period and latest. Hence the CL 05 has been closed.				

CL	06	Section no.	1.10	Date:12/12/2023
Description of CL				

PP is required to provide clarification for the below mentioned point related to the process flow chart of wash line for the pet flakes (PF) as mentioned in the referred section. 1. Label remover process mentioned in the flow chat is the manual process or mechanical 2. Bottle sorting process mentioned in the flow chat is the manual process or mechanical
Project participant response — Date: 23/01/2024
1. Label Remover Process is Mechanical 2. Bottle Sorting Process is Manual The same information has also been clearly mentioned in the revised JPDMR v02 in the section 1.10.
Documentation provided by project participant
Revised JPDMR v02
VVB assessment — Date: 27/01/2024
PP has provided clarification on the necessary details related to the label remover and bottle sorting processes, and this information has been subsequently incorporated into Section 1.10 of the JPDMR v02. Hence the CL 06 has been closed.

CL	07	Section no.	1.1.2	Date:12/12/2023
Description of CL				
VVB has noted that, in accordance with the JPD&MR v1.0 template requirement, PP has not furnished information pertaining to labor, energy consumption, greenhouse gas (GHG) emissions, biodiversity, and ecosystem health.				
Project participant response — Date: 23/01/2024				
The Information pertaining to labor, energy consumption, greenhouse gas (GHG) emissions, biodiversity, and ecosystem health has now been clearly mentioned in the Section 1.12.2 of the revised JPDMR v02.				
Documentation provided by project participant				
Revised JPDMR v02				
VVB assessment — Date: 27/01/2024				
PP has now provided the missing details regarding Labor, Energy consumption, GHG emissions, Biodiversity, and ecosystem information in Section 1.12.2 of the JPDMR v02. Notably, it was observed that while PP mentioned an approximate quantity of employees in the facility, it is required to provide this information accurately. Hence the CL 07 has not been closed.				
Project participant response — Date: 02/02/2024				
PP has now indicated the actual number of employees engaged in the project activity and accordingly evidences are submitted for the same.				
Documentation provided by project participant				
Revised JPDMR V03 and attendance sheet.				
VVB assessment — Date: 05/02/2024				
PP has now provided the actual number of employees engaged in the project activity and provided the attendance sheet as evidence. Hence the CL 07 has been closed.				

CL	08	Section no.	1.13	Date:12/12/2023
Description of CL				
VVB has noticed that while PP has presented a list of regulations under various acts, it is observed that PP has not considered the latest versions of the guidelines.				
Project participant response				Date: 23/01/2024
The latest version and guidelines of the applicable laws have been updated in the section 1.13 of the revised JPDMR v02				
Documentation provided by project participant				
Revised JPDMR v02				
VVB assessment				Date: 27/01/2024
PP has not provided the regulations under various acts with the latest version of the guidelines. Hence the CL 08 has been closed.				

CL	09	Section no.	2.1.2	Date:12/12/2023
Description of CL				
VVB has observed that traders and recyclers/plastic waste providers are identified as one of the stakeholders of the project for which PP is requested to provide the clarification for the points mentioned below: PP has elaborated on the role of plastic waste providers as stakeholders, but the details regarding the role of recyclers have not been adequately explained.				
Project participant response				Date: 23/01/2024
The role of traders has now clearly been described in the revised JPDMR v02 at Section 2.1.2				
Documentation provided by project participant				
Revised JPDMR v02				
VVB assessment				Date: 27/01/2024
PP has excluded recyclers from the list of identified stakeholders and has included traders, with a description of the traders' role. However, it is necessary for PP to provide a response explaining the reason for removing recyclers from the stakeholders. Hence the CL 09 has not been closed.				
Project participant response				Date: 02/02/2024
The role of recyclers has now clearly been described in the revised JPDMR v02 at Section 2.1.2				
Documentation provided by project participant				
Revised JPDMR v03				
VVB assessment				Date: 05/02/2024
PP has now provided the role of the recyclers in the updated JPDMR. Hence the CL 09 has been closed.				

CL	10	Section no.	2.1.3	Date:12/12/2023
Description of CL				

VVB has observed that a stakeholders' meeting took place on April 15, 2023, involving identified stakeholders, and PP is tasked with furnishing the following documents: 1. Communication related to stakeholder consultation 2. Attendance records for the stakeholder consultation 3. Records of feedback received during stakeholder consultation, along with details about the respective stakeholder group to which it was provided.
Project participant response — Date: 23/01/2024
The Stakeholder Details have been updated in the Section 2.1.3 of the revised PDMR v02 and the relevant documents like Public Notice, Attendance Records Feedback forms have been provided to the VVB for assessment
Documentation provided by project participant
Public Notice, Attendance Records Feedback forms and revised JPDMR v02
VVB assessment — Date: 27/01/2024
Upon reviewing the provided documents related to the stakeholders meeting VVB has observed the below points for which PP is required to clarify: 1. Tittle of the project mentioned in the stakeholder's invitation is not matching with the JPDMR and the feedback forms. 2. In the provided attendance register, VVB is unable to identify the stakeholder group of the listed attendees.
Project participant response — Date: 02/02/2024
1. Title of the project at the time of stakeholder consultation was not fixed as per Verra Plastic program listing documents which is why the title seems different but being the same project owned by same PP and same location it can be confirmed it is the same project and accordingly the stakeholder consultation. 2. The stakeholder group has now been included in the attendance sheet submitted.
Documentation provided by project participant
Public Notice, Attendance Records Feedback forms and revised JPDMR v02
VVB assessment — Date: 05/02/2024
As per the clarification provided by the PP VVB has confirmed the meeting project proponent and the project location is of same project and PP has provided the information of the stakeholders group in the attendance sheet. Hence the CL 10 has been closed.

CL	11	Section no.	2.1.5	Date:12/12/2023
Description of CL				
As part of ongoing consultation and adaptive management, PP has outlined a process that involves regular meetings with facility staff and suppliers of PET waste and other sources, facilitated through the website and grievance register. It is highlighted that each stakeholder, as an appointed representative, will contribute to the annual meeting by presenting proposals for further improvement. PP is requested to furnish details regarding the appointed representative from each stakeholder group.				
Project participant response — Date: 23/01/2024				
It is a typographical error and the same has been updated in the section 2.1.5 that for ongoing stakeholder consultation a complain box and a grievance register has been put for the ongoing stakeholder consultation.				

Documentation provided by project participant	
Revised JPDMR v02	
VVB assessment	Date: 27/01/2024
VVB has reviewed the provided response, complaint box and verified register during the onsite visit. Hence the CL 11 has been closed.	

CL	12	Section no.	2.1.6	Date:12/12/2023
Description of CL				
VVB has examined the policies submitted by PP and identified specific points mentioned below that require clarification. Provided documents – Anti, Employment policy, Forced Labor, Health Safety, Project Actors compensation & Sexual harassment policies. 1. The provided policies lacked identification as being prepared by Verde Polysfy. 2. There is a lack of information regarding the preparation, approval, and publication details of the document.				
Project participant response				Date: 23/01/2024
The relevant policies have now been re-submitted. 1. All the policies are on the Letter Head of Verde Ploysfy which are duly sealed and signed by the authorized signatory. Hence all the policies are prepared by verde polysfy. 2. The publication date of all the policies is clearly mentioned on the top right corner for every policy which is the same as the approval and the publication date.				
Documentation provided by project participant				
Relevant company policies				
VVB assessment				Date: 27/01/2024
PP has now provided the policies that are authorized by the Verde Polysfy with date and sign. Hence the CL 12 has been closed.				

CL	13	Section no.	Pre Project scenario document	Date:12/12/2023
Description of CL				
After examining the plastic waste report submitted, VVB has conducted a thorough review to assess the pre-project scenario. Following this evaluation, VVB identified some crucial information that is absent from the document, including: 1. Source link of the report 2. Report issuer and issuance date				
Project participant response				Date: 23/01/2024
The documents submitted to the VVB for the pre-project scenario were wrongly submitted. However, the Municipal Solid Waste Management Rules 2016 are taken into consideration for the description of Pre-Project Scenario and the Weblink for the same has been clearly mentioned in the revised JPDMR v02				
Documentation provided by project participant				

Revised JPDMR v02	
VVB assessment	Date: 27/01/2024
PP has submitted the revised source information for the pre-project scenario, citing the Municipal Solid Waste Management Rules 2016. However, clarification is needed on how these rules, typically designed for compliance, serve as a source for the pre-project scenario. Hence the CL 13 has not been closed.	
Project participant response	Date: 02/01/2024
PP has revised the justification of pre project scenario in the revised PD/MR citing appropriate rules as per observations.	
Documentation provided by project participant	
Revised JPDMR v03	
VVB assessment	Date: 05/02/2024
PP has now provided the correct reference document for the pre project scenario in the revised JPDMR. Hence the CL 13 has been closed.	

CL	14	Section no.	Hazardous waste disposal document	Date:12/12/2023
Description of CL				
VVB has reviewed the provided documents in the folder hazardous waste disposal documents and found the below mentioned documents are missing. 1. Hazardous waste authorization from State pollution control board 2. Manifest copy for the disposal waste invoice provided in the folder, Also there is no categorization of the waste mentioned in the invoice. 3. Annual returns of Hazardous Waste form IV as per HW rules 2016 and further amendments.				
Project participant response				Date: 23/01/2024
1. Copy of Hazardous Waste Application Form 1 from the Jharkhand Pollution Control Board has been provided. 2. Form 10 for the Manifest for Hazardous and Other Waste for the disposal of Hazardous waste with Nilay Narayan Polychem LLP has been provided. Also, since the project owner sends all the hazardous waste to Nilay Narayan Ploychem LLP for disposal so there is no bifurcation. However, the bifurcation can be clearly seen in the Mianifest copy submitted to the VVB. 3. However, the PP has applied for hazardous waste authorization from the Jharkhand State Pollution Control Board and thus will apply for the Annual Returns of Hazardous Waste from the coming years onwards.				
Documentation provided by project participant				
1. Hazardous Waste Application Form 1 2. Form 10 for the Manifest for Hazardous and Other Waste for the disposal of Hazardous waste with Nilay Narayan Polychem LLP				
VVB assessment				Date: 27/01/2024
VVB has reviewed the provided response, and it is understood that application for the hazardous waste has been filed with the SPCB however the approval is awaited from the authorities. Hence the FAR 01 has been raised to verify the status of the approval. Also, VVB confirms the disposal of the waste through the FORM 10 manifest system to the authorized processor. Hence the CL 14 has been closed.				

CL	15	Section no.	EIA document	Date:12/12/2023
Description of CL				
VVB has reviewed the provided folder labelled as an Environmental Impact Assessment (EIA), VVB has observed that it pertains to the internal environment policy. PP is required to furnish the Environmental Impact Assessment document for our review.				
Project participant response				Date: 23/01/2024
As per the Notification No. S.O. 1599 (E) dated 25th June 2014 from the Ministry of Environment Forest and Climate Change, the para (viii) at Page 9 (https://environmentclearance.nic.in/writereaddata/EIA_Notifications/15_SO1599_E_25062014.pdf), clearly mentions the exemption of products being manufactured from the polymer granules. The Plastic waste recycling facility here is processing polymer granules to manufacture recycled plastic products i.e. Recycled Polyester Staple Fibre. Hence, the project falls within the scope of exemption as specified in the notification. The PP has also submitted a declaration for the same to the VVB.				
Documentation provided by project participant				
Notification No. S.O. 1599 (E) dated 25th June 2014 from the Ministry of Environment Forest and Climate Change Declaration from the PP				
VVB assessment				Date: 27/01/2024
VBB has reviewed the EIA notification presented in paragraph viii on page 9, where PP asserts that they are exempt from the EIA requirement as their product is produced from recycled plastics, that is recycled polyester staple fibers. However, the PP has provided a declaration to support this claim, it is observed that the provided declaration lacks a signature and stamp. Hence the CL 15 has not been closed.				
Project participant response				Date: 02/02/2024
PP has now submitted revised declaration to justify no EIA requirement.				
Documentation provided by project participant				
PP Declaration				
VVB assessment				Date: 05/02/2024
PP has now provided the declaration with the sign and stamp. Hence the CL 15 has been closed.				

CL	16	Section no.	Fire NOC	Date:12/12/2023
Description of CL				
In accordance with the conditions outlined in the Fire NOC, PP must submit the following documents to ensure adherence to fire safety regulations: 1. Reports on fire practice and evacuation drills 2. Details of firefighting personnel 3. It has been noted that the validity of the current fire NOC is set to expire in December 2023, PP to submit a renewal application. 4. Additionally, PP is requested to furnish the previous fire NOC issued during the monitoring period.				
Project participant response				Date: 23/01/2024

1. Firefighting and Mock Drill training report is provided 2. Details of Firefighting Personnel Authorized by Millex Fire Service is Provided 3. Fire NoC Dated 12/01/2024 is submitted to the VVB. 4. Fire Noc Dated 29/01/2021 and 10/01/2022 is submitted to the VVB.
Documentation provided by project participant
1. Firefighting and Mock Drill training report 2. Details of Firefighting Personnel Authorized 3. Fire NoC Dated 12/01/2024 4. Fire Noc Dated 29/01/2021 and 10/01/2022

VVB assessment	Date: 27/01/2024
VVB has reviewed the provided documents as mentioned the CL. Hence the CL 16 has been closed.	

CL	17	Section no.	Energy consumption bill	Date:12/12/2023
Description of CL				
VVB has noticed that energy consumption bills have been submitted for the most recent months, 7th, 9th, and 10th months of 2023. However, PP is requested to furnish the same documents for the initial three months of the project, aligning with the project's start date.				
				Date: 23/01/2024
Electricity Consumption bill from Damodar Valley Corporation is provided for the months of Feb22, Mar22, Apr22 and May22				
Documentation provided by project participant				
Electricity bill for Feb22, Mar22, Apr22 and May22				
VVB assessment				Date: 27/01/2024
VVB has reviewed the provided electricity consumption records as requested in the CL. Hence the CL 17 has been closed.				

CL	18	Section no.	Test Report of the recycled plastic document	Date:12/12/2023
Description of CL				
PP has submitted the test report for the recycled plastic folder, but it appears to be the PWM authorization copy instead. Kindly provide the actual test report for the recycled plastic as required.				
Project participant response				Date: 23/01/2024
Actual test Report of recycled material from Northern India Textile Research Association has been submitted to the VVB.				
Documentation provided by project participant				
Actual test Report of recycled material from Northern India Textile Research Association				
VVB assessment				Date: 27/01/2024
VVB has reviewed the provided test reports of the recycled material. Hence the CL 18 has been closed.				

CL	19	Section no.	Onsite visit	Date:19/12/2023
Description of CL				

During the on-site visit, VVB noted the following points related to Safety, PPE, and Signages:

1. In the entire washing line process, it was observed that there is no fire extinguisher available for firefighting. The only trolley fire extinguisher present is in a damaged condition and lacks calibration details.

2. In the Fiber manufacturing areas, many of the arranged fire cylinders lack calibration details.

3. The personnel engaged in the debailing activity are not using appropriate PPE, such as goggles and shoes, which are essential for the activity.

4. There is a lack of awareness and safety-related signages in various operational areas.

5. Damage has been noted in the fire-resistant gloves being used in the laboratory for the hot air oven and furnace, and there is a lack of usage of goggles and lab coats.

Project participant response	Date: 23/01/2024

PP follows the fire fighting policy as per the regulation mentioned by "Agnishaman Seva Mukhyalaya, Ranchi, Jharkhand. This is a twofold process followed by the authority. Step 1 is the advisory process wherein the department conducts a visit and issues a detailed advisory highlighting steps to be followed. Second step is the grant of NOC where each and every installation done by the factory is checked. The NOC is issued only when all details related to fire extinguishers, fire-tank, equipment, emergency exits have been followed. Thus, all the compliances related to fire safety is met by the factory. However, the PP has tried to meet the compliances with respect to the queries raised by the VVB and the responses are as mentioned below -

1. Fire Extinguishers have been placed at optimum places at the washing line and the same and new fire extinguishers have been purchased. The evidence of the same has been submitted to the VVB.
2. All the fire extinguishers available at the Project site were duly tested and calibrated and the certificate from millex fire services is provided for the same.
3. New Goggles, PPE Kit and shoes have been provided to the person involved in debailing activity. The Photographic evidence for the same is submitted to the VVB.
4. Evidence for the awareness and safety-related signages have been placed at the various operational areas for the entire premises of the factory.
5. Googles, lab coats, PPE Kits and fire-resistant gloves have been provided to the persons working in Lab. The photographic evidence for the same has been provided to the VVB.

Documentation provided by project participant

1. GeoTag Photo with calibration detail photo of equipment in washing line
2. certificate from millex fire services
3. Photographic evidence for provided goggles.
4. GeoTag Photos
5. GeoTag Photos

VVB assessment	Date: 27/01/2024

VVB has reviewed the evidence submitted by the PP regarding precautions and actions taken in response to safety concerns. While reviewing photos of the debailing activity, it was noticed that one individual is not wearing shoes despite the presence of other personal protective equipment (PPE). PP is requested to provide clarification on this matter.

Hence the CL 19 has not been closed.

Project participant response	Date: 02/02/2024

PP has provided proper photos justifying use of safety shoes by the workers in the operations floor of the project activity
Documentation provided by project participant
Photos of workers
VVB assessment | Date: 05/02/2024
PP has now provided the photographs of the employees using the safety shoes. Hence the CL 19 has been closed.

CL	20	Section no.	Onsite visit	Date:19/12/2023
Description of CL				
PP needs to furnish the following documents for validation and verification of safety management: 1. The contract between M/S Milex Fire Services and PP. 2. The schedule outlining fire equipment maintenance and refilling. 3. Invoices from Milex for the services rendered to date. 4. Provide the list of trained firefighting & First AID personals list				
Project participant response | Date: 23/01/2024				
1. Contract between M/S Milex Fire Services and PP has been provided 2. Test certificate for the schedule outlining fire equipment maintenance and refilling evidence has been provided. 3. Invoices for purchase of equipment from millex fire services have been provided. 4. Trained Firefighting personnel are – Charan Singh, Arvind Kumar Bhakta, Sonu Gautam, Aamir Khan, Mahendra Kumar. Trained First Aid Personnel are – Hira Singh, Surendra Rawani, Bajrang Prasad, Mantu Singh. The evidence for the same has been provided.				
Documentation provided by project participant				
1. Contract between M/S Milex Fire Services and PP 2. Test certificate for the schedule outlining fire equipment maintenance and refilling 3. Invoices for purchase of equipment from millex fire services 4. Certificate from Millex fire services and certificate from Indian Red cross society.				
VVB assessment | Date: 27/01/2024				
VVB has reviewed the provided documents as requested in the CL. Hence the CL 20 has been closed.				

CL	21	Section no.	Onsite visit	Date:19/12/2023
Description of CL				

PP is required to submit the following documents for validation and verification in accordance with the onsite visit observations: 1. Regarding the recent replacement of Bag filters for the Boiler, it is observed that there is no stock available for backup replacements, posing a risk of damage and potential air pollution. PP needs to provide details on when the bag filters were changed and information on the procurement of new bag filters. 2. PP is requested to furnish the calibration records for the hoists utilized within the facility. 3. The calibration for the pressure gauges installed in the steam main line header within the operation area has not been maintained by PP. Documentation for the calibration of these pressure gauges is required.
Project participant response — Date: 23/01/2024
1. The bag Filter was recently replaced on 06-October-2023, after which back up bag filter was purchased by the PP. 2. The Hoist were tested by a certified chartered engineer and the same were found to be within limits of a safety factor 3. Thus, the same is OK to be within the standard safety limits. 3. The calibration certificate of the pressure gauges installed at the steam main line is provided to the VVB.
Documentation provided by project participant
1. Bag filter change record and Purchase invoice 2. Certificate from Chartered Engineer for Hoist 3. The calibration certificate of the pressure gauges
VVB assessment — Date: 27/01/2024
After reviewing the documents provided, VVB noted that the calibration documents for pressure gauges 50kg/70kg-04 and 03. Details such as the calibration company's information and the absence of a signature and stamp from the company are missing. Hence the CL 21 has not been closed.
Project participant response — Date: 02/02/2024
PP has now submitted revised calibration certificates as per the CL raised.
Documentation provided by project participant
Calibration certificates of Pressure gauges
VVB assessment — Date: 05/02/2024
PP has provided the correct certificate of the pressure gauge calibrations. Hence the CL 21 has been closed.

CL	22	Section no.	Onsite visit	Date:19/12/2023
Description of CL				
During the onsite visit, it was observed that the facility has only six washrooms—three designated for men and three for women. This quantity is inadequate considering the manpower working across the facility in three regular shifts and general operations.				
Project participant response — Date: 23/01/2024				
Additional and separate washrooms have been constructed for which the photographic evidence have been submitted to the VVB. Thus, in the facility there are a total of 9 washrooms out of which 6 are dedicated to men and 3 are dedicated to women.				
Documentation provided by project participant				

Photographic evidence for washrooms constructed.	
VVB assessment	Date: 27/01/2024
VVB has reviewed the provided evidence of the construction being carried for the employees. Hence the CL 22 has been closed.	

CL	23	Section no.	Onsite visit	Date:19/12/2023
Description of CL				
In the storage area during the onsite visit, VVB noted a substantial accumulation of waste mixed labels, which is currently being bailed and sent to the waste processor. However, this waste is stored openly, leading to both air and soil pollution. PP is requested to provide clarification on the timeline for the removal of this waste.				
Project participant response				Date: 23/01/2024
The waste mixed labels are continuously dispatched to and authorized recycler in the form of bales. However, at the time of Onsite Inspection of the VVB some amounts of mixed waste were found to be accumulated in an open space due unavailability of transport to shift the waste to recycler. The same has now been taken care on a proactive basis and will be followed without any deviation. The accumulated waste has been removed and the photographic evidence has been provided for the same.				
Documentation provided by project participant				
Photographic evidence for vacant area and Invoice of the sold mixed waste				
VVB assessment				Date: 27/01/2024
VVB examined the provided invoice along with the images depicting the bailed material and the cleared land. Hence the CL 23 has been closed.				

CL	24	Section no.	Desk Review	Date: 27/01/2024
Description of CL				
During the desk review of the provided requested documents VVB has observed the below points that required PP clarification: 1. Calibration certificates for the water meters, weigh scale and Lab equipment there are no details of the company, sign, and stamp of the company (G.6 document) 2. QA/QC procedures were not provided with the information like date of issue, version and signing authority (G.3 document) 3. FORM IV plastic waste annual returns not provided instead test reports of Sludge and leachate is provided. (Val Doc 19) 4. Forced and Child labour policies were not provided (Val Doc 12) 5. Invoices/PO not provided for the machines/technologies purchased. (Val Doc 10) 6. PWM certificate is valid till Oct'2023 for which PP must have applied a renewal at CPCB. PP is required to provide the renewal copy or application made to the board.				
Project participant response				Date: 02/02/2024

1. The appropriate calibration certificates of water meters, weigh scale and Lab equipment there are no details of the company, sign, and stamp of the company 2. QA/QC procedures are now provided with the information like date of issue, version and signing authority 3. PP have applied now so their return filling will come when are eligible this year , till date PP has not any files any such returns also on CPC we registered 2 months back, so accordingly these will provided in future. 4. Forced and Child labour policies are now provided 5. Invoices has been provided for the major machines/technologies purchased 6. PWM Certificate has been submitted dated 10/10/2023 having a validity of one year
Documentation provided by project participant
Calibration Certificates QA/QC Policy Forced and Child labour policy Invoices of machinery PWM Certificate
VVB assessment — Date: 05/02/2024
VVB has reviewed the provided documents and confirms the CL 24 has been closed.

Table 2. CAR from the Validation and Verification

CAR	01	Section no.	Onsite visit	Date:19/12/2023
Description of CAR				
In accordance with the specified conditions in the CTO, PP is obligated to ensure compliance. 1. under point 6, general condition B necessitates the installation and maintenance of a Central Ground Water Board/ State Ground Water Directorate approved system of rainwater harvesting-cum-groundwater recharge. Additionally, photographic views of the structures must be submitted within one month to the issuing authority of CTO. 2. under point 8 That, the occupier shall submit environmental statement with supporting stoichiometric calculations analyses reports, every year latest by 30th September of the next financial year.				
Project participant response — Date: 23/01/2024				
1. Inspection certificate from the Chief engineer of JPCB is provided dated 20-October-2021 which mentions the presence of an operational Rain water harvesting in the premises of factory prior to the implementation of the project activity. Proof submission of photographic view of rainwater harvesting structure submitted to the concerned authority is submitted to the VVB. 2.Test report for the stoichiometric calculations have been submitted for both year 2022 and 2023.				
Documentation provided by project participant				
1. Inspection certificate from chief engineer of JPCB and Rain Water Harvesting Structures Photos. 2. Test Report for the stoichiometric calculations for year 2022 and 2023.				
VVB assessment — Date: 27/01/2024				

Upon review of the provided documents VVB observed that instead of the FORM V environment statement PP has provided the test reports. PP is required to provide the form V environment statement submitted to the SPCB. Hence the CAR 01 has not been closed.
Project participant response — Date: 02/02/2024
Form V has now been provided to the VVB
Documentation provided by project participant
Form V copies
VVB assessment — Date: 05/02/2024
The provided FORM V statement to the VVB is not the submitted copy to the pollution control board, PP is required to submit the FORM V statement to the respective board. FAR 01 has been raised to ensure the PP has submitted the FORM V statement and provide for verification to the next VVB. Hence CL 01 has been closed and raised FAR 01.

CAR	02	Section no.	Onsite visit	Date:19/12/2023
Description of CAR				
In accordance with the Central Ground Water Board's requirements, PP is mandated to apply for licenses to extract groundwater for general usage in the facility. PP has successfully applied for and obtained a license to install and operate one borewell with a flow meter and capacity mentioned in the licenses. However, during the onsite visit, VVB noted that a second borewell is in use for extracting groundwater for general facility usage, contrary to the approved license. This constitutes a non-compliance with the conditions outlined in point number 1 of the license.				
Project participant response — Date: 23/01/2024				
As mentioned, the company does not use the second borewell. As a best practice it is present for avoiding any shutdown. However, as a precaution we have made an application to Central Ground Water Board mentioning about the second borewell. However, this is to highlight that the company uses single borewell and complies with the overall limits of water usage mentioned in Central Ground Water Board Licence obtained by the company. However, the following documents have been submitted to the VVB - 1. Snapshot of CGWA Self Compliance Report is provided With Application Number - 21-4/1000/JH/IND/2022. 2.Sanpshot Provided for additional borewell application with application number21-4/1000/JH/IND/2022 dated with application number 01/01/2024.				
Documentation provided by project participant				
Application for the permission of additional borewell with reference number 21-4/1000/JH/IND/2022.				
VVB assessment — Date: 27/01/2024				
PP is obligated to provide the submitted copy of the compliance report to the board, along with a full screenshot of the screen for compliance review. Furthermore, a complete copy of the borewell application is requested for VVB's thorough examination. Hence the CAR 02 has not been closed.				
Project participant response — Date: 02/02/2024				

PP has now provided ground water NOC and CGWA screenshot as well as the borewell application copy
Documentation provided by project participant
Borewell application copy CGWA Screenshot CGWA NOC
VVB assessment — Date: 05/02/2024
PP has now provided the application copy, complete screenshot of the application applied through portal and NOC received earlier. However, it is observed the application is still in the processing stage FAR 02 has been raised to ensure the approval copy of the application is verified by the next VVB. Hence the CAR 02 has been closed and FAR 02 has been raised.

CAR	03	Section no.	Onsite visit	Date:19/12/2023
Description of CAR				
During the onsite visit and interviews with PP concerning Hazardous waste management authorization and the disposal of Hazardous waste generated in the facility, it was observed that PP has not applied for and obtained Hazardous waste management authorization from the State Pollution Control Board in accordance with the Hazardous and other Wastes (Management & Transboundary Movement) Rules, 2016 since the facility is being operated. This constitutes non-compliance with the HW Rules of 2016. VVB has also observed that the Hazardous waste generated in the facility is being disposed of at the state-authorized facility with which PP has an agreement, and there are disposal invoices available. However, it was noted that the waste is being transported without adhering to the manifest system as per the HW Rules of 2016.				
Project participant response — Date: 23/01/2024				
PP has also made an application to Jharkhand Pollution Control Board for consideration of waste under hazardous category and accordingly disposal of the same is being done viz authorized recyclers. The manifest copy for the same has been submitted.				
Documentation provided by project participant				
JPCB Application screenshot Waste Manifest copies.				
VVB assessment — Date: 27/01/2024				
VVB has reviewed the provided response and the documents, however during the onsite visit it is communicated to the PP that as per the SPCB the plastic waste recyclers are required to obtain the hazardous waste license from the board through the SPCB ppt referred during the onsite visit. Also, in the response from the PP it is mentioned the hazardous waste is being sent to authorized processors with the manifest copies which is reviewed and confirmed by the VVB. Hence the CAR 03 has not been closed.				
Project participant response — Date: 02/02/2024				
PP has now submitted JPCB application copy to justify the hazardous or other waste generation.				
Documentation provided by project participant				

JPCB Application screenshot	
VVB assessment	Date: 05/02/2024
PP has provided the application copy submitted for the hazardous waste to the respective state pollution control board which is currently under process stage. VVB is raising FAR 03 to ensure the approved copy and compliance verification in the next verification period by VVB. Hence the CAR 03 has not been closed and FAR 03 has been raised.	

CAR	04	Section no.	Onsite visit	Date:19/12/2023
Description of CAR				
While conducting the onsite visit to the effluent treatment plant, VVB observed the following: 1. The ETP sludge is being dried in an open pit, which deviates from the HW rules 2016 and requirement of rectangular tank shape or any other type of concreted tank and is also overfilled. 2. The flowmeter for the wastewater inlet to the ETP is not operational, raising concerns about how PP is accounting for and ensuring wastewater generation compliance with the consented quantity. 3. The recycled water storage tank was observed to be corrosive and damaged, leading to water leakage.				
Project participant response				Date: 23/01/2024
1. There is no mention on the HWM rule for the mandate of a concreated tank. The sludge needs to be properly stored for which Hazardous waste application for storing the same in Plastic Drums has been provided and the same has is being followed by the PP for which photographic evidences have been submitted to the VVB. Also, the sludge has been dispatched for which form 9 has been submitted. 2. GeoTag Photos of both the flow meters in working condition along with the calibration certificates has been provided to the VVB. 3. The recycled water storage tank has been repaired and the photographic evidence for the same has been provided.				
Documentation provided by project participant				
1. Photographic evidence for the proper storage of sludge and form 9 for hazardous waste dispatch. 2. GeoTag Photos of both the flow meters in working condition along with the calibration certificates 3. Photographic evidence for the repair of recycled water storage tank.				
VVB assessment				Date: 27/01/2024
VVB has reviewed the response and documents for the CAR raised. Hence the CAR 04 has been closed.				

CAR	05	Section no.	Onsite visit	Date:19.12.2023
Description of CAR				

During the onsite inspection of the fire pump house, it was observed that PP is using a common storage tank for both raw water and firewater instead of maintaining a dedicated storage tank specifically designated for firefighting purposes, in accordance with fire safety norms. Furthermore, VVB noted that the diesel pump is currently out of operation due to maintenance, and the pump tank is devoid of diesel.
Project participant response — Date: 23/01/2024
The raw water and fire tank are side-by-side hence there was a confusion as to whether the source of water is separate or common. Also, the marking for the fire water storage tank was not visible which has now been rectified. Photos of the fire water tank with adequate marking has been shared. In addition, the company has overhead tanks which serves as a secondary source of water to mitigate risk of fire. Also, the diesel pump is now operational for which photographic evidence has been provided for the same.
Documentation provided by project participant
Photographic evidence for the Fire Storage tank and operational diesel pump for the firefighting with sufficient amount of diesel.
VVB assessment — Date: 27/01/2024
VVB has reviewed the provided response and documents for the CAR. Hence the CAR 05 has been closed.

Table 3. Forword Action request from findings raised:

FAR	01	**Section no.**	FORM V document	**Date:** 05/02/2024
Description of FAR				
With reference to the CAR 01 PP is required to submit the FORM V environmental statement to the State pollution control board, post the submission PP is required to submit the copy for VVB in next verification period.				
Project participant response				**Date: —**
FORM V has now been provided to the VVB				
Documentation provided by project participant				
--				
VVB assessment				**Date:** --
The copy of the Form V environmental statement submitted to the State pollution control board along with the copy of the receipt need to be verified during subsequent verification.				

FAR	02	**Section no.**	CGWA Certificate	**Date:** 05/02/2024
Description of FAR				
With reference to the CAR 02 CGWA application is filled and under process in the next verification period VVB is required to verify the application status and verify the finding compliance.				
Project participant response				**Date: —**
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Documentation provided by project participant				

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VVB assessment **Date:** --
CGWA application is filled and under process in order to ensure the approval copy of the application, the copy of the approval received from the concern authority need to be verified during subsequent verification.

FAR	03	**Section no.**	HW Authorization	**Date:** 05/02/2024
Description of FAR				
With reference to the CAR 03 PP has filled the application for the hazardous waste authorization and provided the application copy in the next verification period VVB is required to verify the status of the application and compliance with the conditions.				
Project participant response				**Date: —**
--				
Documentation provided by project participant				
--				
VVB assessment				**Date:** --
PP had applied for the hazardous waste authorization and provided the application copy to the VVB during the assessment. The status of the application and compliance with the conditions need to be verified during subsequent verification.				

APPENDIX 4: COMPETENCY CERTIFICATE

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Anubhav Dimri

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☒ Plastic Waste Expert
☒ CCB Expert	☐ Legal Expert	☒ Financial Expert	☒ Environmental, Health and Safety financial matters
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	

☒ Local Expert for India, RSA and Spanish speaking countries

in the following Technical Areas:

☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☒ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☒ TA 13.1	☒ TA 13.2
☒ TA 14.1	☒ TA 15.1	☒ TA 16.1		

Issue Date
5th December 2023

Expiry Date
31st December 2024

Priya Suman

Ms. Priya Suman
Compliance Officer

Sanjay Agarwalla

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

Revision date	Summary of changes
2022[1]	Annual revision
Jan 2023	Annual revision
Dec 2023	Change in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

[1] Please refer to previous version of FM 7.9 for the revision history

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Amit Anand

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☒ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☒ Plastic Waste Expert
☒ CCB Expert	☐ Legal Expert	☒ Financial Expert	☐ Environmental, Health and Safety financial matters
☒ SDG+	☒ Social no-harm(S+)	☒ Environment no-harm(E+)	
☒ Local Expert for India and RSA			

in the following Technical Areas:

☒ TA 1.1	☒ TA 1.2	☐ TA 2.1	☒ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☒ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☒ TA 13.1	☒ TA 13.2
☒ TA 14.1	☒ TA 15.1	☐ TA 16.1		

Issue Date

5th December 2023

Expiry Date

31st December 2024

Priya Suman

Ms. Priya Suman
Compliance Officer

Sanjay Agarwalla

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

Revision date	Summary of changes
2022[1]	Annual revision
Jan 2023	Annual revision
Dec 2023	Change in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

[1] Please refer to previous version of FM 7.9 for the revision history

Carbon CHECK

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Abhinav Attuluri

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☐ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☒ Plastic Waste Expert
☐ CCB Expert	☐ Legal Expert	☐ Financial Expert	☐ Environmental, Health and Safety financial matters
☐ SDG+	☐ Social no-harm(S+)	☐ Environment no-harm(E+)	
☒ Local Expert for India			

in the following Technical Areas:

☐ TA 1.1	☐ TA 1.2	☐ TA 2.1	☐ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☐ TA 13.1	☐ TA 13.2
☐ TA 14.1	☐ TA 15.1	☐ TA 16.1		

Issue Date

5th December 2023

Expiry Date

31st December 2024

Priya Suman

Ms. Priya Suman
Compliance Officer

Sanjay Agarwalla

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

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April 2023	Initial Adoption
Dec 2023	Changes in the template due to revision in TA and function

CCIPL_FM 7.9 Certificate of Competency_V4.0_112023

[1] Please refer to previous version of FM 7.9 for the revision history

Carbon Check (India) Private Limited

Certificate of Competency

Mr. Bhuvneshwar Rai

has been qualified as per CCIPL's internal qualification procedures in accordance with the requirements of CDM AS (V7.0), ISO/IEC14065:2020, ISO/IEC 17029:2019 and other applicable GHG programs:

for the following functions and requirements:

☒ Validator	☒ Verifier	☒ Team Leader	☒ Technical Expert
☐ Technical Reviewer	☐ Health Expert	☐ Gender Expert	☒ Plastic Waste Expert
☐ CCB Expert	☐ Legal Expert	☐ Financial Expert	☐ Environmental, Health and Safety financial matters
☐ SDG+	☐ Social no-harm(S+)	☐ Environment no-harm(E+)	
☒ Local Expert for India			

in the following Technical Areas:

☐ TA 1.1	☐ TA 1.2	☐ TA 2.1	☐ TA 3.1	☐ TA 4.1
☐ TA 4. n	☐ TA 5.1	☐ TA 5.2	☐ TA 7.1	☐ TA 8.1
☐ TA 9.1	☐ TA 9.2	☐ TA 10.1	☐ TA 13.1	☐ TA 13.2
☐ TA 14.1	☐ TA 15.1	☐ TA 16.1		

Issue Date

5th December 2023

Expiry Date

31st December 2024

Priya Suman

Ms. Priya Suman
Compliance Officer

Sanjay Agarwalla

Mr. Sanjay Kumar Agarwalla
Technical Director

Revision History of the document:

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August 2023	Initial Adoption
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[1] Please refer to previous version of FM 7.9 for the revision history