

PROJECT REVIEW REPORT

This project review report includes findings raised during Verra’s review of the project specified below. The VVB must address the findings before the project request can be considered for approval by Verra. The project review report will be made publicly available on the Verra Registry. Confidential information may be provided in separate attachments.

Project ID	4703
Project Name	Xingning Tokzin PET Recycling Project
Review Type	Registration Approval
Program(s)	VCS Program
Project Proponent	Xingning Tokzin Yinghui Resources Co., Ltd.
Methodology	AMS-III.AJ.: Recovery and recycling of materials from solid wastes -- Version 09.0
VVB	CTI Certification Co., Ltd.
Assessment Criteria	VCS Standard, v4.5
Date of First Issue	25 June 2024
Review Conclusion	Approved
Date of Final Issue	20 August 2024

FINDINGS

#	Finding Description	VVB Response	Status
1	Missing/unclear project description information and reviewed documents in the PD and validation report:		
	<p><u>Issue</u></p> <ol style="list-style-type: none"> The date of issue of the validation report has been included incorrectly in the cover page of the Validation Report considering the date of issue of the PD is 23/02/2024. The inconsistent information has been included in the PD as such: It is stated in the Section 1.13 of the PD: "..... post-consumer PET bottles were disposed in the landfill without being recovered..." whereas it is stated in the Section 4.3 of the PD: "..... the waste recycled is only plastic, and they would be incinerated in the incineration...." The references of the provided equipment details including the referred lifetime have not been provided in the Section 1.11 of the PD. <p><u>Action Required</u></p> <ol style="list-style-type: none"> The VVB shall include the date of the issue of the validation report correctly in the cover page of the Validation Report. The VVB shall ensure that the consistent information has been provided throughout the PD and Validation Report. The VVB shall ensure that the references of the provided equipment details including the referred lifetime have been provided in the Section 1.11 of the PD. <p><u>Program Rule(s)</u></p> <p>VCS PD Template Version 4.2 Sections 1.11 & 1.13 VCS Validation Report Template Version 4.2 Appendix 3</p>	<p>Round 1</p> <p><u>VVB Response</u></p> <ol style="list-style-type: none"> It was a typo, the date of issue of the validation report has been updated. It was a typo in section 4.3 of the PD, PP has updated section 4.3 of the PD (version 04 dated 03/07/2024) to correct the inconsistent information description and the updated description is consistent with that in the section 1.13 of the PD and the validation report has assessed and confirmed the same. References of the provided equipment details including the referred lifetime have been provided in the Section 1.11 of the updated PD (version 04 dated 03/07/2024). <p><u>Verra Response</u></p> <p>Round 2</p> <p><u>VVB Response</u></p> <ol style="list-style-type: none"> The final validation report is now dated 23 July 2024. The typo has now been corrected in Section 4.3 The references are now provided. No further action is required. <p><u>Verra Response</u></p>	[Closed]

#	Finding Description	VVB Response	Status
2	Project lifetime and Crediting Period:		
	<p><u>Issue</u> Section 1.9 of the PD has 21-year (3x7 years) crediting period against an expected project lifetime of the project is indicated as 20 years in the PD.</p> <p><u>Action Required</u> 1. The VVB shall clarify how 21-year (3x7 years) crediting period is applicable has been clarified in the Section 1.9 of the PD.</p> <p><u>Program Rule(s)</u> VCS PD Template Version 4.2 Section 1.9</p>	<p>Round 1</p> <p><u>VVB Response</u> PP has updated section 1.9 of the PD (version 04 dated 18/07/2024) to clarify that the project chooses to adopt the renewable crediting period of which the first crediting period is 7 years from 06-April-2022 to 05-April-2029 and could be renewed twice. Since the expected project lifetime is 20 years according to the FSR, the total crediting period will not exceed 05-April-2042. CTI confirms that PP has taken the expected project lifetime of the project into consideration in determining the project crediting period and the updated description of the adoption of crediting period is in line with the requirement of VCS Standard version 4.5.</p> <p><u>Verra Response</u> It is now indicated in Section 1.9 and 1.10 that the total crediting period will not go beyond the 05 April 2042. Section 3.1 of the VR has been updated as well</p> <p>Round 2</p> <p><u>VVB Response</u></p> <p><u>Verra Response</u></p>	[Closed]

#	Finding Description	VVB Response	Status
3	Methodology Applicability and Bi		
	<p><u>Issue</u> 1. In the 6th applicability condition, the PD states that it can reasonably be assumed that all PETs are manufactured in China. However, according to this link, the exports were approximately 90% and hence 10% are imports. Therefore,</p>	<p>Round 1</p> <p><u>VVB Response</u> The link provided by Verra in the finding 3 issue section has been checked, that link refers to the analysis of industrial chain and supply and demand of polypropylene (PP) in China, however, the</p>	[Closed]

<p>$w_{i,in-country,y} = 90\%$, and $w_{imported,y} = 10\%$. Therefore, the Bi and equation 4 of the AMS-III.AJ are not considered.</p> <p><u>Action Required</u></p> <ol style="list-style-type: none"> The VVB must ensure that appropriate references are cited, and the calculations adjusted as needed <p><u>Program Rule(s)</u></p> <p>VCS PD Template Version 4.2 Section 3.2</p> <p>VCS Validation Report Template Version 4.2 Section 3.3.2</p>	<p>plastic type involved in this project is PET, therefore, the statistics from the link provided by Verra is not applicable to this project. As per footnote 4 of the applied methodology, a minimum of one-year data would be required if the facility is less than three years old, since this is a greenfield facility, the data for 2021 which is one year prior to the project start date has been further consulted by PP. According to the public information^{1&2}: the demand consumption of bottle grade PET in 2021 is 6,943,000 tons while the bottle grade PET imported in 2021 is about 62,000 tons. The imported bottle grade PET is accounts for 0.89% of the total demand consumption. To be conservative, PP has applied 1% for $w_{i,imported,y}$ and 99% for $w_{i,in-country,y}$ for the ex-ante ERR calculation and PP has considered the Bi and equation 4 of the AMS-III.AJ. The ERR calculation has been adjusted and the validation report has assessed and confirmed the same. Details please refer to the updated ERR calculation spreadsheet and updated PD and validation report.</p> <p><u>Verra Response</u></p> <p>The calculations are adjusted accordingly. The VR has also been updated. No further action is required</p> <p>Round 2</p> <p><u>VVB Response</u></p> <p><u>Verra Response</u></p>	
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#	Finding Description	VVB Response	Status
4	Baseline scenario:		
	<u>Issue</u>	Round 1	[Closed]
	1. The alternatives to handling of plastic waste (PET flakes) in the baseline scenario have not been included and discussed in the Section 3.4 of the PD.	<u>VVB Response</u> Based on the reviewing of the applied methodology: AMS-III.AJ., version 09.0 and referring to the TOOL02 Combined tool to identify	

¹ <https://xueqiu.com/1973934190/222035951>

² <http://m.100ppi.com/focus/detail-forecast-166188.html>

<p>2. The assessment of alternatives to handling of plastic waste (PET flakes) in the baseline scenario have not been assessed in the Section 3.3.4 of the Validation Report.</p> <p><u>Action Required</u></p> <ol style="list-style-type: none"> 1. The VVB shall ensure that the alternatives to handling of plastic waste (PET flakes) in the baseline scenario have been included and discussed in the Section 3.4 of the PD. 2. The VVB shall include its assessment about the alternatives to handling of plastic waste (PET flakes) in the baseline scenario in the Section 3.3.4 of the Validation Report. <p><u>Program Rule(s)</u></p> <p>VCS PD Template Version 4.2 Section 3.4</p> <p>VCS Validation Report Template Version 4.2 Section 3.3.4</p>	<p>the baseline scenario and demonstrate additionality, version 07.0 for identifying the all possible alternatives of the project activity, the validation team confirm that the alternative scenarios to the proposed project activity identified in the PD that include: a) implementation of the project activity without VCS and b) continuation of current business-as-usual scenario, i.e., the PET flakes would be produced by using crude oil and natural gas from the oil exploitation as raw material is completed and reasonable. The justification is provided below:</p> <p>According to para 2 and 3 of the applied methodology AMS-III.AJ., version 09.0: <i>“This methodology comprises activities for the recovery and recycling of materials in municipal solid waste (MSW) to process them into intermediate or finished products, displacing the production of virgin materials in dedicated facilities, thereby resulting in avoidance of energy use”.</i></p> <p>Furthermore, as per para 13, the re-cycled PET flakes produced by the project activity shall process the same properties as those from virgin materials, which can be used to produce comparable intermediate or finished products.</p> <p>Therefore, the project activity is clearly defined as ‘Producing PET flakes by recycling and processing post-consumer PET bottles, to replace the PET products of same properties and quality produced from the raw materials’.</p> <p>Although the applied methodology does not require the use of CDM TOOL02 for identifying the baseline scenario, the validation team still referred to the requirement in CDM TOOL02. As required by para 13 of the CDM TOOL02, the alternatives to be identified are those provide the same output (service or product) as the proposed project activity does. Therefore, the alternatives to be considered for identifying the baseline scenario for the project activity are those can produce the same properties and quality of PET flakes as this project does which include: a) implementation of the project activity without VCS and b) continuation of current business-as-usual scenario, i.e., the PET flakes would be produced by using crude oil and natural gas from the oil exploitation as raw</p>	
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	<p>material. Although, wastes are normally treated in SWDS i.e. landfill or incineration, they are not the way relating to recycling sector and cannot produce recycled products with same output. Therefore, no other plausible alternatives are available, and the credible alternatives identified in the PD is complete. Based on the assessment above, it is unnecessary to include and discuss alternatives to handling of plastic waste (PET flakes) in the baseline scenario.</p> <p><u>Verra Response</u> The plausible alternatives are implementation of the project without carbon finance, or continuation of the BAU case. These two alternatives are the most plausible and realist and the same is adequately justified.</p> <p>Round 2</p> <p><u>VVB Response</u></p> <p><u>Verra Response</u></p>	
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#	Finding Description	VVB Response	Status
5	Additionality Demonstration		
	<p><u>Issue</u></p> <p>1. In Section 3.5, the basis for the VCU price of 80 CNY/tCO2e is not clear and not assessed by the VVB in its report</p> <p><u>Action Required</u></p> <p>1. The VVB must ensure the VCU price is justified as reasonable in the VCS-PD, and an appropriate assessment included in the relevant section of the Validation Report.</p> <p><u>Program Rule(s)</u></p> <p>VCS PD Template Version 4.2 Section 3.5</p>	<p>Round 1</p> <p><u>VVB Response</u> PP has justified the rationale of the expected VCUs price in the updated PD (version 03 dated 18/07/2024) and CTI has assessed the same in the updated VR (version 02.0 dated 23/07/2024). Details please refer to the updated PD and VR.</p> <p><u>Verra Response</u> The reference and basis for the assumption of the VCU price is now included in Section 3.5 of the PD and assessed in Section 3.3.5 of the VR. No further action is required</p> <p>Round 2</p>	[Closed]

VCS Validation Report Template Version 4.2 Section 3.3.5	<u>VVB Response</u>	
	<u>Verra Response</u>	

#	Finding Description	VVB Response	Status
6	Unclear information about the parameters available at validation:		
	<p><u>Issue</u></p> <p>1. The 2006 IPCC values have been referred for EF_{BL,FF,CO_2}, $EF_{gas,y}$ and $EF_{diesel,CO_2,y}$ parameters in the Section 5.1 of the PD considering that it is not the latest version of the IPCC Guidelines.</p> <p><u>Action Required</u></p> <p>1. The VVB shall ensure that updated 2019 IPCC Refinement to 2006 IPCC values are referred for EF_{BL,FF,CO_2}, $EF_{gas,y}$ and $EF_{diesel,CO_2,y}$ parameters has been clarified in the Section 5.1 of the PD.</p> <p><u>Program Rule(s)</u></p> <p>VCS PD Template Version 4.2 Section 5.1</p>	<p>Round 1</p> <p><u>VVB Response</u></p> <p>Through checking the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, it is confirmed that there are no updates in the values of Effective CO₂ emission factor for natural gas and diesel, therefore, table 1.4 of Chapter 1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories still serves as the latest source for EF_{BL,FF,CO_2}, $EF_{gas,y}$ and $EF_{diesel,CO_2,y}$. The clarification has been included in both the updated PD.</p> <p><u>Verra Response</u></p> <p>The VCS PD has been updated. The clarification is accepted and no further action is required</p> <p>Round 2</p> <p><u>VVB Response</u></p> <p><u>Verra Response</u></p>	[Closed]

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7	Baseline, project, leakage and ER calculations:		
<p><u>Issue</u></p> <ol style="list-style-type: none"> In Section 4.2, the equation 15 is not consistent with equation 8 of AMS-III.AJ $BE_{plastic,y}$ has been included incorrectly in the last row of Table 4-2 of the Section 4.4 of the PD. <p><u>Action Required</u></p> <ol style="list-style-type: none"> The VVB shall ensure the PP has corrected the equation 15 in line with the methodology The VVB shall ensure that the reference to $BE_{plastic,y}$ is corrected. <p><u>Program Rule(s)</u></p> <p>VCS PD Template Version 4.2 Section 4.4</p>	Round 1		[Closed]
	<u>VVB Response</u>		
	<ol style="list-style-type: none"> It was a typo, PP has corrected the equation 15 in Section 4.2 of the updated PD (version 04 dated 18/07/2024) and is confirmed to be in line with the methodology. It was a typo, PP has corrected $BE_{plastic,y}$ to PE_y in the updated PD (version 04 dated 18/07/2024). 		
	<u>Verra Response</u>		
	<ol style="list-style-type: none"> The type has been corrected in equation 8 in both the PD and the VR to be consistent with equation 15 of the applied methodology. The typo has been corrected to PE_y. 		
Round 2			
<u>VVB Response</u>			
<u>Verra Response</u>			

#	Finding Description	VVB Response	Status
8	Monitored parameters and monitoring plan:		
<p><u>Issue</u></p> <ol style="list-style-type: none"> The reference sources for the values of $w_{i,in-country,y}$ and $w_{i,imported,y}$ parameters have not been provided in the Section 5.2 of the PD. The $NCV_{gas,y}$, $NCV_{diesel,y}$, $EF_{gas,y}$ and $EF_{diesel,y}$ parameters have been included in the Section 5.1. of the PD. However, these 	Round 1		[Closed]
	<u>VVB Response</u>		
	<ol style="list-style-type: none"> The reference sources for the values of $w_{i,in-country,y}$ and $w_{i,imported,y}$ parameters have been provided in the Section 5.2 of the updated PD (version 04 dated 18/07/2024). The $NCV_{gas,y}$, $NCV_{diesel,y}$, $EF_{gas,y}$ and $EF_{diesel,y}$ parameters have been included in section 5.1 of the updated PD (version 04 dated 18/07/2024) in line with the applied CDM methodology. The procedures for calibrating all relevant monitoring 		

<p>are to be monitored parameters in line with AMS III.AJ. version 9.0 and Tool 03 version 3.0.</p> <ol style="list-style-type: none"> The procedures for calibrating all relevant monitoring equipment (responsible entity/person, follow-up method etc.) have not been included in the Section 5.2 of the PD. The assessment methods and applied auditing techniques regarding the training and maintenance procedures and emergency procedures for monitoring system have not been included in the Section 3.3.8 of the Validation Report. <p><u>Action Required</u></p> <ol style="list-style-type: none"> The VVB shall ensure that the reference sources for the values of $w_{i,in-country,y}$ and $w_{i,imported,y}$ parameters have been provided in the Section 5.2 of the PD. The VVB shall ensure that $NCV_{gas,y}$, $NCV_{diesel,y}$, $EF_{gas,y}$ and $EF_{diesel,y}$ parameters have been included in the Section 5.2 of the PD in line with the applied CDM methodology. The VVB shall ensure that the procedures for calibrating all relevant monitoring equipment (responsible entity/person, follow-up method etc.) have been included in the Section 5.2 of the PD. The VVB shall include the assessment methods and applied auditing techniques regarding the training and maintenance procedures and emergency procedures for monitoring system in the Section 3.3.8 of the Validation Report. <p><u>Program Rule(s)</u></p> <p>VCS PD Template Version 4.2 Sections 5.2 & 5.3</p> <p>VCS Validation Report Template Version 4.2 Section 3.3.8</p>	<p>equipment have been included in Section 5.2 of the updated PD (version 04 dated 18/07/2024). Details, please refer to the updated PD.</p> <ol style="list-style-type: none"> CTI has included the assessment methods and applied auditing techniques regarding the training and maintenance procedures and emergency procedures for monitoring system in the Section 3.3.8 of the updated Validation Report (version 02.0 dated 23/07/2024), details please refer to the updated VR. <p><u>Verra Response</u></p> <p>Round 2</p> <p><u>VVB Response</u></p> <ol style="list-style-type: none"> The reference sources for the values of $w_{i,in-country,y}$ and $w_{i,imported,y}$ are now included in the parameter tables in Section 5.2. The validation report is updated. The $NCV_{gas,y}$, $NCV_{diesel,y}$, $EF_{gas,y}$ and $EF_{diesel,y}$ parameters have been moved in section 5.2 of the PD as they are fixed parameters. The procedures are now sufficiently included in Section 5.2 Details of training and maintenance procedures have now been included in Section 3.3.8 of the validation report. <p><u>Verra Response</u></p>	
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