

# ASSESSMENT REPORT

REPORT NUMBER: **STS-ESG-W15840F004-2023-06-20-001-R00**

ISSUANCE DATE: **2023/6/20**

## ESG REMOTE ASSESSMENT

CLIENT: **SSCP Members**

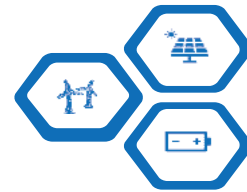
ORGANIZATION **Confidential**

SEQUENCE: **Initial**



Beyond inspection

1. **Assessment Information**
2. Company profile
3. ESG Summary
4. ESG Assessment
5. Annexure



## 1. Assessment Information

Issuance date: 2023/6/20

Organization: Confidential

Site: Confidential

## 1. GENERAL INFORMATION

## CLIENT

Name:	SSCP Members
Country:	N/A

## ORGANIZATION

Name:	Confidential
Site:	Confidential
Address:	Confidential
Address 2:	~
Province/ State / Region:	Zhejiang
Country:	China

## ASSESSMENT

Type:	ESG REMOTE ASSESSMENT
Sequence:	Initial
Standard:	UN Guiding Principles on Business and Human Rights, UN Global Compact Principles, UN Sustainable Development Goals, Core ILO Conventions, SA8000 Social Accountability, ISO26000 Guidance on social responsibility, ISO 14001 environmental management system.
Scope:	Sustainability Management, Labor & Human Rights, Health & Safety, Ethics, Environment & Responsible Sourcing
Assessment Dates:	June 1, 2023 ~ June 6, 2023

## ASSESSMENT

Report Number:	STS Auditor(s) Name	STS Authorized Approver Name
STS-ESG-W15840F004-2023-06-20-001-R00	Adam Wang	Shivkumar Baghele
Work order:	Signature of Auditor(s)	Signature of Approver
W15840F004		
Issuance Date:	Adam Wang	
2023/6/20		

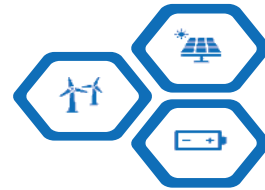
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## 2.1 Company Profile

### GENERAL INFORMATION

Manufacturer Name	Confidential
Headquarter	Confidential
City	Confidential
State / Province	Zhejiang
Country	China
Ownership	Private
Ownership Structure	Joint Stock Company
Ownership Origin	China
CEO / President	Confidential

### GROUP NUMBER OF EMPLOYEES

Total	2497
Production	1544
R&D	14
Quality	196
Administration	42
Others	701

### GROUP PRODUCTION CAPACITY

Product	Capacity	Measuring Unit
Solar Module (Polysilicon series)	165 per year	MW
Solar Module (M2 series)	715 per year	MW
Solar Module (G1 series)	888 per year	MW
Solar Module (M6 series)	2685 per year	MW
Solar Module (M10 series)	66 per year	MW
Solar Cell (M2 series)	1463 per year	MW
Solar Cell (G1 series)	2066 per year	MW
Solar Cell (M6 series)	5763 per year	MW
Solar Cell (M10 series)	6770 per year	MW

### MANUFACTURING FOOTPRINT

Site name	Location	Date started	Product	Production capacity				
	(Country, state, city)	(production)		2019	2020	2021	2022	2023
Solar Module Factory 1	Confidential, Zhejiang Province, China	2011/1/1	M2	302MW	33MW	31MW	29MW	4MW
			G1	0	187MW	59MW	9MW	0
			M6	0	79MW	272MW	455MW	151MW
			M10	0	0	36MW	11MW	7MW
Solar Module Factory 2	Confidential, Zhejiang Province, China	2018/5/1	Polysilicon	35MW	11MW	0	0	0
			M2	176MW	121MW	0	0	18MW
			G1	56MW	144MW	234MW	183MW	12MW
			M6	0	0	64MW	181MW	67MW
Solar Module Factory 3	Confidential, Zhejiang Province, China	2018/5/1	Polysilicon	12MW	75MW	32MW	0	0
			G1	0	5MW	0	0	0
			M6	0	80MW	484MW	668MW	184MW
			M10	0	0	0	0	12
Solar Cell Factory 2	Confidential, Zhejiang Province, China	2010/9/1	M2	801MW	400MW	47MW	158MW	58MW
			G1	0	456MW	557MW	268MW	11MW
			M6	0	25MW	204MW	1MW	1MW
Solar Cell Factory 6	Confidential, Zhejiang Province, China	2020/6/1	G1	0	52MW	85MW	76MW	563MW
			M6	0	874MW	2163MW	2353MW	142MW
Solar Cell Factory 7	Confidential, Zhejiang Province, China	2021/10/1	M10	0	0	388MW	4713MW	1669MW

2.2 Manufacturing Site Profile

GENERAL INFORMATION

Site Name	Confidential
City	Confidential
State / Province	Zhejiang
Country	China
Date of Registration	1999/3/30
Number of Workshops	6
Number of Lines	47

SITE NUMBER OF EMPLOYEES

Total	2497
Production	1544
R&D	14
Quality	196
Administration	42
Others	701

SITE PRODUCTION CAPACITY

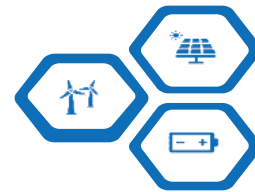
Product	Capacity	Measuring Unit
Solar Module (Polysilicon series)	165 per year	MW
Solar Module (M2 series)	715 per year	MW
Solar Module (G1 series)	888 per year	MW
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Solar Module (M10 series)	66 per year	MW
Solar Cell (M2 series)	1463 per year	MW
Solar Cell (G1 series)	2066 per year	MW
Solar Cell (M6 series)	5763 per year	MW
Solar Cell (M10 series)	6770 per year	MW





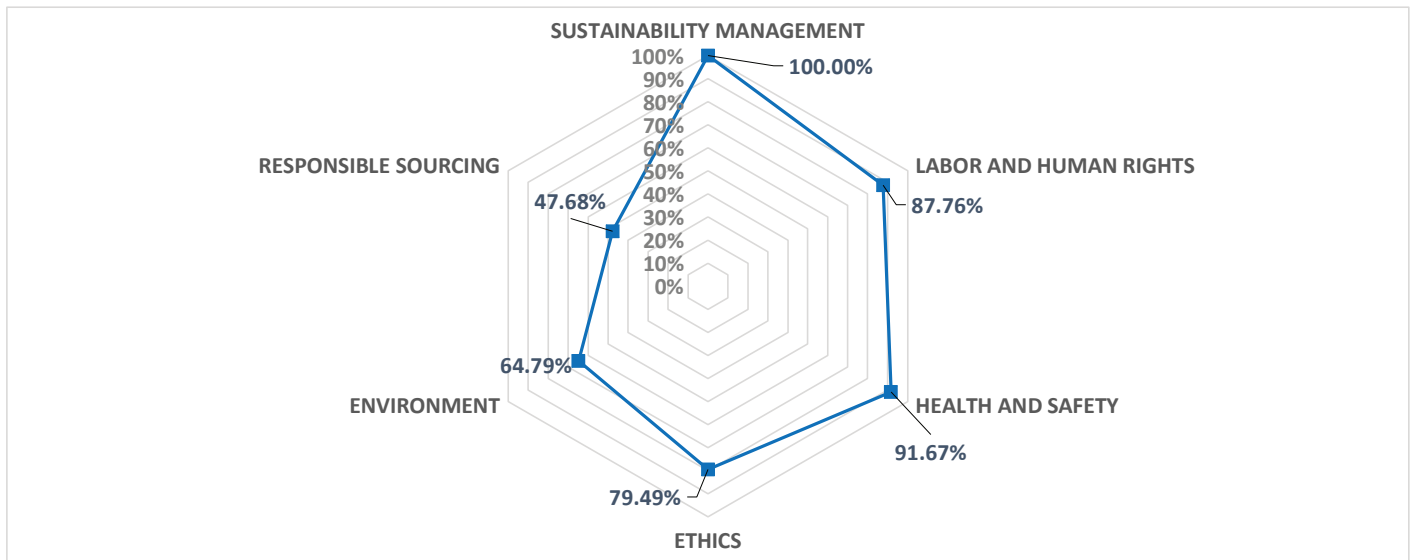
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### 3.1 ESG RESULTS SUMMARY

ESG (ENVIRONMENT, SOCIAL, GOVERNANCE) REMOTE ASSESSMENT RESULT	EVALUATION ELEMENTS	Score Achieved	Maximum Score	Score Achieved (%)	Weightage of Section (%)	Net Score Achieved	Final Score (%)
	SUSTAINABILITY MANAGEMENT	19.0	19.0	100.00%	10.00%	10.00%	79.19%
	LABOR AND HUMAN RIGHTS	43.0	49.0	87.76%	25.00%	21.94%	
	HEALTH AND SAFETY	22.0	24.0	91.67%	20.00%	18.33%	
	ETHICS	10.3	13.0	79.49%	10.00%	7.95%	
	ENVIRONMENT	46.0	71.0	64.79%	25.00%	16.20%	
	RESPONSIBLE SOURCING	15.7	33.0	47.68%	10.00%	4.77%	



#### STRENGTHS

The Site has a certified Social responsibility management system in place (SA 8000:2014). The company has a Social Responsibility Performance Group responsible for the management of human rights topics within the company. The site has social responsibility objectives, indicators and management plan, trainings and a well-documented grievance procedure.

The site has implemented a number of specific social responsibility procedures, including "Forced labor control procedure" and "Relief and Protection Control Procedure for Child and Underage Workers." Trainings are also conducted on those topics.

The site does not work with employment agencies and all employees are directly contracted by the company in observance of the minimum employment age in China (which is 16 years of age).

#### OPPORTUNITIES FOR IMPROVEMENT

The company should consider extending its human rights management system to cover more substantially external stakeholders as well. This may include, conducting stakeholder consultations and establishing partnership with local authorities to address specific issues. In case any impacts are detected, a remediation process should be in place. Stakeholders refers to anybody impacted by a company's operations and goes beyond shareholders and employees.

The company may want to consider reducing the consumption of minerals during production, including by using recycled materials.

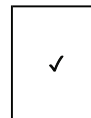
ESG considerations should be part of the Supplier Management Policy and should be taken into account in the full procurement lifecycle, including supplier qualification.



### 3.2 ESG ASSESSMENT DIVERGING POINTS

A diverging point is recorded when the Manufacturer has selected an answer, but STS has not been able to verify the claim. It may be that 1) STS deemed that the evidence provided was not sufficient or relevant for the verification, or that 2) no evidence was provided at all. Either way, the point is marked as "diverging".

YES



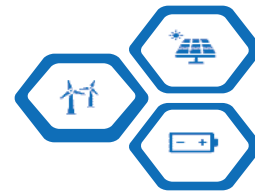
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## 4.1 SUSTAINABILITY MANAGEMENT

SR NO	REQUIREMENTS	MAXIMUM SCORE	ACHIEVED SCORE	STATUS OF VERIFICATION	AUDITOR COMMENTS
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### MANAGEMENT PERSON

1	The company has a management person responsible for:				
✓	Social Sustainability	3	3	Verified	1. Manufacturer has provided the contact details for the Environmental Protection engineer, and the management responsible for Social Sustainability, Compliance, and Environmental Sustainability. 2. Checked the "2022 Environmental, Social, and Governance (ESG) Report of Confidential" (Certification body: TUV Nord; Audit Period: 2023/2/27-2023/3/1).
✓	Compliance			Verified	
✓	Environmental Responsibility			Verified	

### SUSTAINABILITY REPORT

2	The company publishes a sustainability report.				
✓	Yes	2	2	Verified	Checked the "2022 Environmental, Social, and Governance (ESG) Report of Confidential": Certification body: TUV Nord. Audit Period: 2023/2/27-2023/3/1.
	No				

2.1	The sustainability report is based on internationally recognized guidelines.				
✓	Yes	2	2	Verified	1. Based on the requirements of the "Environmental, Social and Governance Guidelines" of the Hong Kong Stock Exchange for sustainable development reports, the report has been evaluated. 2. According to the requirements of the "GRI Sustainable Development Reporting Standards (GRI Standards)" for social responsibility reporting in terms of balance, comparability, accuracy, timeliness, clarity, and reliability, the report has been evaluated. 3. According to the "AA1000 Verification Standard (V3)".
	No				

2.2	The report assured by a third party.				
✓	Yes	2	2	Verified	Checked the "2022 Environmental, Social, and Governance (ESG) Report of Confidential": Certification body: TUV Nord. Audit Period: 2023/2/27-2023/3/1. ESG Website link: <a href="https://www.chinadmegc.com/investor.html?sweiper=4">https://www.chinadmegc.com/investor.html?sweiper=4</a>
	No				

### CODE OF CONDUCT

3	The company has a Code of Conduct.				
✓	Yes	2	2	Verified	Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)".
	No				

3.1	The Code of Conduct covers the following topics:				
✓	Environment, health, and safety	2	2	Verified	1. Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Health and safety" in chapter 12. 2. Manufacturer has provided the "Occupational health guidance (Document No.: 01222S30453R3M)", and "Environmental protection guidance (Document No.: 01221E20316R6L)".
✓	Harassment and discrimination			Verified	Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Harassment and discrimination" in chapter 10.
✓	Freedom of association and collective bargaining			Verified	Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Freedom of association and collective bargaining" in chapter 13.
✓	Privacy and personal data protection			Verified	Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Privacy and personal data protection" in chapter 6.
✓	Confidential information			Verified	Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Confidential information" in chapter 6.
✓	Conflict of interests			Verified	Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Conflict of interests" in chapter 3.
✓	Competition and fair trading			Verified	Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Competition and fair trading" in chapter 11.
✓	Gifts and entertainment expenses			Verified	Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Gifts and entertainment expenses" in chapter 4.
✓	Corruption and bribery			Verified	Manufacturer has provided the "Anti-Corruption Policy" (Document No.: SA-TYN-08)".
✓	Others (please specify)			Verified	Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which also includes other content, such as: "Protection and use of company assets" in chapter 5, "Accuracy of financial reports and other public" in chapter 7, "Company records" in chapter 8, "Compliance with laws and regulations" in chapter 9, and "Advice seeking and case handling" in chapter 14.

3.2	To promote awareness of the Code of Conduct, the site:				
✓	Conducts trainings	2	2	Verified	1. Checked the "2023 Annual Training Plan (Document No.: R/DMTYN-S2-01-09-01-01)", which includes "Code of business conduct and ethics and Anti-Corruption Policy". 2. Checked the "Code of business conduct and ethics training material and records (Document No.: R/DMTYN-6.2-01-09)". The training was held on 2023/1/10. 3. Checked the "Anti-Corruption Policy training material and records (Document No.: R/DMTYN-6.2-01-09)". The training was held on 2023/2/3.
✓	Employs other awareness raising methods			Verified	1. Manufacturer provided Occupational health notices on the bulletin board in the workshop. 2. Manufacturer sets a bulletin board, grievance mailbox, complaint hotline and reporting email to promote awareness of the child or forced labour issues.
	None of the above			-	Not applicable

#### GRIEVANCE MECHANISM

4	The company has a grievance mechanism in place.				
✓	For external stakeholders	2	2	Verified	1. Checked the "Supplier code of conduct (Document No.: Q/DMTYN-S4-02-04-02), which includes "Suppliers and their members should immediately appeal any non-compliance with this guideline to the manufacturer" chapter 9.2. 2. Checked the "Supplier SA 8000 Audit Report (Audit Period: 2023/2/7~2023/2/8), which includes "Supplier's Complaint management and resolution" in chapter 9.6. 3. Complaint hotline for external stakeholders: Reporting phone number and a reporting email
✓	For employees			Verified	1. Manufacturer has provided the "Appeal and Complaint Management Procedure (Document No.: DMTYN-SAP-021-A1)". 2. Manufacturer has provided the "SA 8000 Management System (Document No.: DMTYN-SA-01-2020)", which includes "Complaint Management and Resolution" in chapter 23. 3. Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Complaint Management and Resolution" in chapter 14. 4. Manufacturer has provided the "Employee Manual (Document No.: SA-TYN-10", which includes "Complaint Management and Resolution" in chapter 4. 5. Manufacturer sets a bulletin board, grievance mailbox, Reporting phone number and a reporting email
	No			-	Not applicable

4.1	To promote awareness of the grievance mechanism, the site:				
✓	Conducts trainings	2	2	Verified	1. Manufacturer provided Grievance mechanism training material and training records. 2. Manufacturer has provided the "Social Responsibility Management System Training Records (Meeting date: 2023/4/10)". 3. Manufacturer has provided the "Employee Manual Training Records (Meeting date: 2023/4/14)". 4. Manufacturer has provided the "Code of business conduct and ethics Training Records (Meeting date: 2023/1/10)".
✓	Employs other awareness raising methods			Verified	Manufacturer sets a bulletin board, grievance mailbox, complaint hotline and reporting email, and employee performance grievance system.
	None of the above			-	Not applicable

## 4.2 LABOR AND HUMAN RIGHTS

SR NO	REQUIREMENTS	MAXIMUM SCORE	SCORE ACHIEVED	STATUS OF VERIFICATION	AUDITOR COMMENTS
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### POLICY

5	The company has a formal written policy in place covering working conditions and/or human rights.				
✓	Yes	2	2	Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "working conditions and human rights". 2. Checked the "Social Responsibility Management System Certificate (Certification type: SA8000: 2014; Certificate No.: 44 114 211408; Validity until 2024/09/06)".
	No				

5.1	The policy covers the following topics:				
✓	Working hours	2	2	Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Working hours" in chapter 16. 2. Checked the "Working Hours Control Procedure (Document No.: DMTYN-SAP-015)".
✓	Wages and benefits			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Wages and Benefits" in chapter 17. 2. Checked the "Wages and Benefits Control Procedure (Document No.: DMTYN-SAP-014)".
✓	Child labour and young workers			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Child Labour and Young Workers" in chapter 10. 2. Checked the "Relief and Protection Control Procedure for Child and Underage Workers (Document No.: DMTYN-SAP-02)".
✓	Forced labour			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Forced Labour" in chapter 11. 2. Checked the "Forced Labour Control Procedure (Document No.: DMTYN-SAP-03)".
✓	Freedom of association and collective bargaining			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Freedom of Association and Collective Bargaining" in chapter 13. 2. Checked the "Freedom of Association and Collective Bargaining Control Procedure (Document No.: DMTYN-SAP-011)".
✓	Discrimination and harassment			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Discrimination and Harassment" in chapter 14. 2. Checked the "Discrimination and Harassment Control Procedure (Document No.: DMTYN-SAP-12)".
✓	Disciplinary practices			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Disciplinary Practices" in chapter 15. 2. Checked the "Disciplinary Practices Control Procedure (Document No.: DMTYN-SAP-13)".
✓	Training and career development			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Training and Career Development" in chapter 26. 2. Checked the "Training and Career Development Control Procedure (Document No.: DMTYN-SAP-23)".
✓	Diversity and Inclusion			Verified	1. Checked the "Discrimination and Harassment Control Procedure (Document No.: DMTYN-SAP-12)", which includes "Employees shall not be discriminated against in terms of employment, compensation, training, promotion, etc. based on ethnicity, race, gender, age, religion, belief, disability, etc." in chapter 5.1.5. 2. Checked the Employee Handbook, which includes "During the recruitment process, there should be no discrimination based on race, skin color, disability, gender, educational background, social or ethnic group, or other personal characteristics." in chapter 4.2.
✓	External stakeholder human rights			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "External stakeholder human rights" in chapter 27. 2. Checked the "Supplier code of conduct (Document No.: Q/DMTYN-S4-02-04-02)", which includes "Labour and human rights requirements" in chapter 5.1~5.7. 3. Checked "Supplier assessment checklist (Document No.: RDMTYN-7.4-02-02-A1)", which includes "Labour and human rights requirements".
	Others (please specify)			-	Not selected by manufacturer

5.2	To promote awareness of the labour and human rights policy, the site:				
✓	Conducts trainings	2	2	Verified	1. Checked the "Anti discrimination and anti harassment training material and records (Document No.: R/DMTYN-6.2-01-09)". The training was held on 2023/4/20. 2. Checked the "Anti Forced Labor Training Record training material and records (Document No.: R/DMTYN-6.2-01-09)". The training was held on 2023/3/6.
✓	Employs other awareness raising methods			Verified	Manufacturer sets a bulletin board, grievance mailbox, complaint hotline and reporting email to promote awareness of the labor and human rights policy.
	None of the above			-	Not applicable

## MANAGEMENT SYSTEM

SR NO	REQUIREMENTS	MAXIMUM SCORE	SCORE ACHIEVED	STATUS OF VERIFICATION	AUDITOR COMMENTS
6	<b>Management system in place to manage labour and human rights topics.</b>				
✓	The site has a management system in place.	2	2	Verified	Checked Social Responsibility Management System Certificate: Certification type: SA 8000 : 2014 Certification body: TUV Nord Certification No.: 44 114 211408 Certificate valid from 2021/09/7 Certificate valid until 2024/09/6
✓	The management system is certified.			Verified	
	No			-	Not selected by manufacturer

6.1	<b>In relation to employees, the labour and human rights management system includes:</b>				
✓	<b>Management person:</b> The site has a designated management person	5	5	Verified	1. The Social Responsibility Performance Group are responsible for the management of human rights topics within the company. 2. Manufacturer has provided the "Minutes of the Social Responsibility Performance Group Meeting (Meeting date: 2022/11/10)", which includes "Management Person".
✓	<b>Risk assessment:</b> The site conducts a labour and human rights risk assessment			Verified	Manufacturer has provided the "Risk Assessment Form for the Operation of Social Responsibility Management System (Document No.: SA-TYN-AD-07-01)".
✓	<b>Objectives and action plan:</b> The site has documented objectives and action plans to address labour and human rights issues			Verified	Manufacturer has provided the "Table of Social Responsibility Objectives, Indicators, and Management Plans (Effective Date: 2022/1/3)".
✓	<b>Monitoring:</b> The site has a process to periodically review labour and human rights performance			Verified	Manufacturer has provided the "Minutes of the Social Responsibility Performance Group Meeting (Meeting date: 2022/11/10)".
✓	<b>Training:</b> The site organizes trainings on labour matters and factory's related procedures			Verified	Manufacturer has provided the "Social Responsibility Management System Training Records (Meeting date: 2023/4/10)".
✓	<b>Grievance mechanism:</b> The site has an employee grievance mechanism in place			Verified	1. The manufacturer has provided the "Appeal and Complaint Control Procedure (Document No.: DMTYN-SAP-021)". 2. Manufacturer sets a bulletin board, grievance mailbox, complaint hotline and reporting email, and employee performance grievance system.

6.2	<b>In relation to external stakeholders, the human rights management system includes:</b>				
✓	<b>Risk assessment:</b> The site conducts (external stakeholder) human rights risk assessment	4	1	Verified	1. The manufacturer has provided the "Social Responsibility System Risk Assessment Management Procedure (Document No.: DMTYN-SAP-018)". 2. Manufacturer has provided the "Risk Assessment Form for the Operation of Social Responsibility Management System (Document No.: SA-TYN-AD-07-01)", which includes "The site conducts (external stakeholder) human rights risk assessment".
	<b>Stakeholder consultations:</b> The site performs stakeholder consultations with local populations and other relevant stakeholders			-	Not selected by manufacturer
	<b>Partnerships:</b> The site has formal collaboration/partnerships with (local) NGOs and/or (local) authorities to address external stakeholder human rights issues			-	Not selected by manufacturer
	<b>Remediation:</b> The site has a remediation procedure in place for identified cases of violations of external stakeholders' human rights			-	Not selected by manufacturer

## TOPIC: WORKING HOURS/ WAGES AND BENEFITS

7	<b>Regarding working hours and remuneration, the site has:</b>				
✓	Compensation for extra or atypical working hours	5	5	Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Working hours" in chapter 10. 2. Checked the "Working Hours Control Procedure (Document No.: DMTYN-SAP-015", which includes "Compensation for extra or atypical working hours".
✓	Additional leave beyond standard vacation days			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Working hours" in chapter 10. 2. Checked the "Working Hours Control Procedure (Document No.: DMTYN-SAP-015", which includes "Additional leave beyond standard vacation days".
✓	Flexible organization of work available to employees (e.g. remote work, flexi-time)			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Working hours" in chapter 10. 2. Checked the "Working Hours Control Procedure (Document No.: DMTYN-SAP-015", which includes "Flexible organization of work available to employees (e.g. remote work, flexi-time)".
✓	Health care coverage of employees			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Wages and Benefits" in chapter 16. 2. Checked the "Wages and Benefits Control Procedure (Document No.: DMTYN-SAP-014", which includes "Health care coverage of employees".
✓	Employee satisfaction survey			Verified	Checked the "Employee satisfaction survey reports (Document No.: SA-TYN-QA-01-06)".
✓	Bonus scheme related to company performance			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Wages and Benefits" in chapter 16. 2. Checked the "Wages and Benefits Control Procedure (Document No.: DMTYN-SAP-014", which includes "Bonus scheme related to company performance".

**TOPIC: CHILD LABOR/ FORCED LABOR**

SR NO	REQUIREMENTS	MAXIMUM SCORE	SCORE ACHIEVED	STATUS OF VERIFICATION	AUDITOR COMMENTS
8	To prevent child and/or forced labour, the site has in place:				
✓	Risk assessments performed to identify operations exposed to potential child and/or forced labour	5	5	Verified	1. The manufacturer has provided the "Social Responsibility System Risk Assessment Management Procedure (Document No.: DMTYN-SAP-018)". 2. Manufacturer has provided the "Risk Assessment Form for the Operation of Social Responsibility Management System (Document No.: SA-TYN-AD-07-01)", which inclds "Identify operations exposed to potential child and/or forced labour".
✓	Awareness raising on child labour, slavery and/or human trafficking			Verified	Checked the "Anti Forced Labor Training Record training material and records (Document No.: R/DMTYN-6.2-01-09)". The training was held on 2023/3/6.
✓	Auditing of internal controls to prevent child and/or forced labour			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Child Labour and Young Workers" in chapter 17. 2. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Internal Audit" in chapter 28. 3. Checked the "Forced Labour Control Procedure (Document No.: DMTYN-SAP-03)".
✓	Remediation procedure in place for identified cases of child and/or forced labour			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Forced Labour" in chapter 11. 2. Checked the "Relief and Protection Control Procedure for Child and Underage Workers (Document No.: DMTYN-SAP-002)".
✓	Whistleblower procedure on child or forced labour issues			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Forced Labour" in chapter 11. 2. Checked the "Forced Labour Control Procedure (Document No.: DMTYN-SAP-03)". 3. Checked the "Relief and Protection Control Procedure for Child and Underage Workers (Document No.: DMTYN-SAP-002)". 4. Checked the "Appeal and Complaint Management Procedure (Document No.: DMTYN-SAP-021)". 5. Manufacturer sets a bulletin board, grievance mailbox, complaint hotline and reporting email to promote awareness of the child or forced labour issues.
9	The site employs, directly or through an employment agency, employees below 18 years of age :				
	Yes	Not Scored	Not Scored	Verified	Manufacturer provided the Employee Personnel Files of direct employees. All employees are 18 years old or older.
✓	No				
9.1	For employees below 18 years of age, the site monitors and records the type of work assigned, so as to comply with relevant child labor laws.				
	Yes	Not Scored	Not Scored	Not Applicable	Not Applicable
	No				
✓	Not Applicable				

**TOPIC: HARASSMENT AND DISCRIMINATION**

10	<b>To prevent discrimination and harassment, the site has in place:</b>				
✓	Awareness training to prevent discrimination and/or harassment	5	5	Verified	Checked the "Anti discrimination and anti harassment training material and records (Document No.: R/DMTYN-6.2-01-09)". The training was held on 2023/4/20.
✓	Measures to prevent discrimination during recruitment phase			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Discrimination and Harassment" in chapter 14. 2. Checked the "Discrimination and Harassment Control Procedure (Document No.: DMTYN-SAP-12)". 3. Checked the "Personnel Recruitment Control Procedure (Document No.: DMTYN-SAP-25)". 4. To prevent discrimination, the manufacturer provides external recruitment information and job advertisements for HR, including "The applicant is physically healthy and at least 16 years old" in chapter 2.
✓	Measures to promote wage equality in the workplace (e.g. equal pay monitoring)			Verified	1. Checked the "Discrimination and Harassment Control Procedure (Document No.: DMTYN-SAP-12)", which includes "The company's wage and remuneration policy requires fairness and reasonableness, and does not discriminate between race, social class, nationality, religion, physical disability, gender, sexual orientation, trade union members, Political faction or age. Men and women should be equal, and equal pay for equal work should be applied." in chapter 5.3. 2. Checked the "Salary Management Procedure Control Procedure (Document No.: DMTYN-SAP-15)".
✓	Measures to promote a gender/minority inclusive environment			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Discrimination and Harassment" in chapter 14. 2. Checked the "Discrimination and Harassment Control Procedure (Document No.: DMTYN-SAP-12)".
✓	Remediation procedure in place for identified cases of discrimination and/or harassment			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Discrimination and Harassment" in chapter 14. 2. Checked the "Discrimination and Harassment Control Procedure (Document No.: DMTYN-SAP-12)". 3. Checked the "Remediation procedure in place for identified cases of discrimination and/or harassment (Document No.: DMTYN-SAP-22)".
✓	Whistleblower procedure on discrimination and harassment issues			Verified	1. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "Discrimination and Harassment" in chapter 14. 2. Checked the "Discrimination and Harassment Control Procedure (Document No.: DMTYN-SAP-12)". 3. Checked the "Appeal and Complaint Management Procedure (Document No.: DMTYN-SAP-21)". 4. Manufacturer sets a bulletin board, grievance mailbox, Reporting phone number and a reporting email

## TOPIC: DIVERSITY AND INCLUSION

11	To promote diversity and inclusion opportunities, the site has in place:				
✓	Awareness training to promote diversity and inclusion	3	3	Verified	<p>1. Checked the "2023 Annual Training Plan (Document No.: R/DMTYN--S2-01-09-01-01)", which includes "Code of business conduct and ethics and Anti-Corruption Policy".</p> <p>2. Checked the "Social Responsibility Management System Training Records (Meeting date: 2023/4/10)".</p> <p>3. Checked the "Anti-Corruption Policy training material and records (Document No.: R/DMTYN-6.2-01-09)". The training was held on 2023/2/3.</p> <p>4. Checked the "Employee Handbook". The training was held on 2023/4/14.</p> <p>5. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "The training methods should be flexible and diverse, including classroom teaching, seminars, group meetings, bulletin boards, and broadcasts, which can be assessed in written and practical ways, and recorded. If necessary, conduct a survey of the training effectiveness and adjust the training methods and content based on the survey results." in chapter 26.4.6.</p>
✓	Measures to encourage diversity during recruitment phase			Verified	<p>1. Checked the "Discrimination and Harassment Control Procedure (Document No.: DMTYN-SAP-12)", which includes "Employees shall not be discriminated against in terms of employment, compensation, training, promotion, etc. based on ethnicity, race, gender, age, religion, belief, disability, etc." in chapter 5.1.5.</p> <p>2. Checked the Employee Handbook, which includes "During the recruitment process, there should be no discrimination based on race, skin color, disability, gender, educational background, social or ethnic group, or other personal characteristics." in chapter 4.2.</p> <p>3. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "The company does not engage in or support any discriminatory behavior based on race, ethnic or social background, social class, nationality, descent, religion, physical disability, gender, gender orientation, age, family responsibility, language use, marital status, union membership, political opinion, or geographical affiliation in matters such as employment, training opportunities, salary compensation, job allocation, promotion, dismissal, and retirement." in chapter 14.3.1.</p>
✓	Measures to promote a gender/minority inclusive environment			Verified	<p>1. Checked the "Discrimination and Harassment Control Procedure (Document No.: DMTYN-SAP-12)", which includes "Employees shall not be discriminated against in terms of employment, compensation, training, promotion, etc. based on ethnicity, race, gender, age, religion, belief, disability, etc." in chapter 5.1.5.</p> <p>2. Checked the "Social responsibility management system (Document No.: DMTYN-SA-01-2020-A1)", which includes "The company does not engage in or support any discriminatory behavior based on race, ethnic or social background, social class, nationality, descent, religion, physical disability, gender, gender orientation, age, family responsibility, language use, marital status, union membership, political opinion, or geographical affiliation in matters such as employment, training opportunities, salary compensation, job allocation, promotion, dismissal, and retirement." in chapter 14.3.1.</p>

12	The site tracks the following:				
✓	Gender and/or age distribution within governance bodies	3	2	Verified	The company tracks gender distribution within its board of directors. In its annual CSR report, the company reports that out of 7 directors in total, 1 director is female.
✓	Gender and/ or distribution of employees per employee category			Verified	Checked the "All Employee Personnel Files", which includes "Gender and/ or distribution of employees per employee category".
	Ratio of the basic salary of women to men per employee category and location			-	Not selected by manufacturer
	Other diversity indicators (please specify)			-	Not selected by manufacturer

## TOPIC: RECORD KEEPING

13	The site maintains a personnel file on:				
✓	Direct employees	1	1	Verified	Manufacturer provided the Employee Personnel Files of direct employees.
	Temporary contract workers hired through an agency (if relevant)			-	Not selected by manufacturer
	No personnel files maintained			-	Not selected by manufacturer

13.1	Personnel files contain information on:				
✓	Age	2	1	Verified	Checked Employee Personnel Files, which contain age information.
✓	Province/ country of origin			Verified	Checked Employee Personnel Files, which contain province information.
	Wage			-	Not selected by manufacturer
	Hours worked			-	Not selected by manufacturer
	None of the above			-	Not applicable

## TOPIC: EMPLOYMENT AGENCY OVERSIGHT

14	The site contracts workers through an employment agency.		Not Scored	Not Scored	Self Declared	1. The manufacturer does not hire contract workers through an employment agency. 2. Manufacturer provided the Employee Personnel Files of direct employees.
	Yes					
✓	No					
14.1	The site tracks number of contract workers hired through an employment agency					
	Yes	Not Scored	Not Scored	-	Not selected by manufacturer	
	No			-	Not selected by manufacturer	
✓	Not Applicable			Not Applicable	Not applicable	



14.2	The site has a system in place to ensure that employment agencies adhere to all relevant labour laws?				
	Yes	Not Scored	Not Scored	-	Not selected by manufacturer
	No			-	Not selected by manufacturer
✓	Not Applicable			Not Applicable	Not applicable

#### TOPIC: COMMUNITY PROJECTS

15	The site is involved in community projects/ charitable funds.				
✓	Yes	2	2	Verified	1. Manufacturer provided a list of community projects/charitable funds for the local community (Document No.: SA-TYN-17). 2. Checked the "2022 Environmental, Social, and Governance (ESG) Report of Confidential" (Certification body: TUV Nord; Audit Period: 2023/2/27-2023/3/1.), which includes "Activity of Community Projects and Employee Volunteering". A "Family Day" event with the theme of "Walking with Love". August 3, 2022. 3. Manufacturer provided the "Family Day" event with the theme of "Walking with Love (Date: 2022/8/3)".
	No				

15.1	In terms of community projects/ charitable funds, the site tracks and report on:				
✓	Number of local community projects/ funds supported	2	2	Verified	Manufacturer provided a list of community projects/charitable funds for the local community (Document No.: SA-TYN-17), which includes "Number of local community projects/ funds supported".
✓	Amount of donations to local community projects/ funds			Verified	Manufacturer provided a list of community projects/charitable funds for the local community (Document No.: SA-TYN-17), which includes "Amount of donations to local community projects/ funds".
	None of the above			-	Not applicable

#### TOPIC: EMPLOYEE VOLUNTEERING

16	Employees are engaged in volunteering schemes.				
✓	Yes	2	2	Verified	1. Checked the "2022 Environmental, Social, and Governance (ESG) Report of Confidential" (Certification body: TUV Nord; Audit Period: 2023/2/27-2023/3/1.), which includes "Activity of Community Projects and Employee Volunteering". 2. COVID-19 organized by the government (Date: 2022-03-29).
	No				

16.1	In relation to employee volunteering, the site tracks and reports on:				
✓	Number of employees volunteering	2	1	Verified	Manufacturer provided the news of "Participate in the volunteer activities of COVID-19 organized by the government (Date: 2022-03-29)".
	Number of employee hours spent volunteering			-	Not selected by manufacturer
	None of the above			-	Not applicable

### 4.3 HEALTH AND SAFETY

SR NO	REQUIREMENTS	MAXIMUM SCORE	SCORE ACHIEVED	STATUS OF VERIFICATION	AUDITOR COMMENTS
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#### POLICY

17	The company has a formal written policy in place covering health and safety.				
✓	Yes	2	2	Verified	1. Checked HSSE Manual (Document No.: EMOHSDM/TYN tube 5.1-2018), which listed the policy of health and safety. 2. Checked the "Health and Safety Management System Certificate (Certification type: ISO 45001: 2018; Certificate No.: 01222S30453R3M; Validity until 2025/06/11)".
	No				
17.1	The health and safety policy covers the following topics:				
✓	Personal protective equipment	2	2	Verified	Checked PPE management process (Document No.: DMTYN-W-EHS011-A2), which defined PPE management process.
✓	Machine safety			Verified	Checked Equipment and facility management process (Document No.: DMTYN-QP-S3-01), which defined the responsibilities and authorities for machine safety.
✓	Emergency preparedness			Verified	Checked Emergency management process (Document No.: DMTYN-SAP-010), which defined the responsibilities and authorities for Emergency preparedness.
✓	Incident and accident management			Verified	Checked Incident and accident management process (Document No.: DMTYN-SAP-007), which defined the responsibilities and authorities for Incident and accident management.
✓	Handling of chemicals			Verified	Checked the Hazardous chemicals management process (Document No.: DMTYN-SAP-028), which defined the responsibilities and authorities for Hazardous chemicals management.
	Others (please specify)			-	Not selected by manufacturer
17.2	To promote awareness of the health and safety policy, the site:				
✓	Conducts trainings	2	2	Verified	1. Checked the "2023 Annual Training Plan (Document No.: R/DMTYN--S2-01-09-01-01)", which includes "health and safety". 2. Checked the "Health and safety policy training material and records (Document No.: R/DMTYN -6.2-01-09)". The training was held on 2023/2/8.
✓	Employs other awareness raising methods			Verified	Manufacturer submitted photos of the health and safety policy being displayed on bulletin board for all as well as posted in front of facility's gate.
	None of the above			-	Not applicable

#### MANAGEMENT SYSTEM

18	Management system in place to manage health and safety topics.				
✓	The site has a management system in place.	2	2	Verified	Checked Health and Safety Management System Certificate: Certification type: ISO 45001:2018 Certification body: CEPREI Certification No.: 01222S30453R3M Certificate valid from 2022/06/27 Certificate valid until 2025/06/11
✓	The management system is certified.(ISO 45001, OSHAS 18001)			Verified	
	No			-	
18.1	The health and safety management system includes:				
✓	Management person: The site has a designated management person	5	5	Verified	1. Checked the "Organization chart of the Environment, Health and Safety committee (Document No.: DMTYN-W-EHS100)". 2. Manufacturer has provided name and contact details for designated Environment, Health and Safety management person.
✓	Risk assessment: The site conducts a health and safety risk assessment • As part of regular operation • In anticipation of change of operation (e.g. start of new operations, change in SOP)			Verified	Checked the "Risk assessment records (Document No.: SA-TYN-AD-02-01)", which listed assessment results by departmental.
✓	Objectives and action plan: The site has documented objectives and action plans to address the main health and safety impacts			Verified	Checked the "2023 HSSE Objectives (Document No.: R/DMTYN-4.3.1-02-01)", which listed 7 HSSE objectives. Manufacturer conducted a follow-up and action plan.
✓	Monitoring: The site has a process to periodically review health and safety performance			Verified	1. Manufacturers monitor health and safety performance through annual management review. Checked the "2022 Management Review Report (Document No.: MTYN-QP-M2-01-04)", which includes "Manufacturer monitored health and safety performance yearly". 2. Manufacturers monitor health and safety performance through internal audits. Checked the internal audit report (Document No.: R/DMTYN-8.2.2-01-03), which includes "Monitoring the health and safety performance".
✓	Training: The site organizes trainings on health and safety risks and good working practices: • For all direct employees • For subcontractors working on premises			Verified	1. Checked the "2023 Annual Training Plan (Document No.: R/DMTYN--S2-01-09-01-01)", which includes "health and safety". 2. Checked Health and safety policy training material and records (Document No.: R/DMTYN -6.2-01-09). The training was held on 2023/2/8.
✓	Committee: Joint labour management health and safety committee in operation			Verified	1. Checked the "Organization chart of the ESH committee (Document No.: DMTYN-W-EHS100)". 2. Manufacturer has provided name and contact details for designated ESH management person.

19	The site has written procedures in place to ensure:				
✓	Appropriate machinery is well-maintained and equipped with necessary safety devices	4	4	Verified	Checked Equipment and facility management process (Document No.: DMTYN-QP-S3-01), which defined the responsibilities and authorities for machine safety.
✓	Safe storage, use, and disposal of each hazardous material used in production (if applicable), in language(s) workers			Verified	Checked the Hazardous chemicals management process (Document No.: DMTYN-SAP-028), which defined the responsibilities and authorities for Hazardous chemicals management.
✓	Emergency preparedness			Verified	Checked Emergency management process (Document No.: DMTYN-SAP-010), which defined the responsibilities and authorities for Emergency preparedness.
✓	Appropriate Personal Protection Equipment (PPE) is provided to employees			Verified	Checked PPE management process (Document No.: DMTYN-W-EHS011-A2), which defined PPE management process.

#### TOPIC: HEALTH CHECKS

20	Health checks are provided for employees.				
✓	Health checks are mandatory for all/ relevant employees	2	2	Verified	Occupational disease examination is mandatory for employees in occupational-disease-risk positions. General Health checks are for all employees. Manufacturer provided the name list and health check reports (Report No.: 2209139011037).
✓	Health checks are available to all			Verified	Occupational disease examination is mandatory for employees in occupational-disease-risk positions. General Health checks are for all employees. Manufacturer provided the name list and health check reports (Report No.: 2209139011037).
	No			-	Not selected by manufacturer

#### TOPIC: INCIDENT

21	The site monitors and reports on the following incident-related statistics:				
✓	Incident rate	5	3	Verified	Checked the "Statistical Table of Health and Safety Objective Indicators (Document No.: R/DMTYN-4.3.1-02-01-A1; Period: Jan~Api, 2023)". There is no incident or accident happened during last year.
✓	Number of work-related injuries with leave			Verified	Checked the "Statistical Table of Health and Safety Objective Indicators (Document No.: R/DMTYN-4.3.1-02-01-A1; Period: Jan~Api, 2023)". There is no incident or accident happened during last year.
	Lost time incident in HR days per contractor			-	Not selected by manufacturer
	Lost time incident in HR days per employee			-	Not selected by manufacturer
✓	Number of fatalities			Verified	Checked the "Statistical Table of Health and Safety Objective Indicators (Document No.: R/DMTYN-4.3.1-02-01-A1; Period: Jan~Api, 2023)". There is no incident or accident happened during last year.
	No, we do not currently track such information			-	Not selected by manufacturer

#### 4.4 ETHICS

SR NO	REQUIREMENTS	MAXIMUM SCORE	SCORE ACHIEVED	STATUS OF VERIFICATION	AUDITOR COMMENTS
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##### POLICY

22	The company has a formal written policy in place covering business ethics.				
✓	Yes	2	2	Verified	Checked "Code of business conduct and ethics (Document No.: SA-TYN-09)", and "Anti-Corruption Policy (Document No.: SA-TYN-08)", which defined policy in place covering business ethics.
	No				

22.1	The following topics are covered by the policy:				
✓	Corruption, extortion and bribery	2	2	Verified	Checked "Code of business conduct and ethics (Document No.: SA-TYN-09)", and "Anti-Corruption Policy (Document No.: SA-TYN-08)", which defined policy in place covering business ethics.
✓	Privacy			Verified	Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Privacy and personal data protection" in chapter 6.
✓	Financial responsibility (accurate records)			Verified	1. Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Accuracy of financial reports and other public communications" in chapter 8. 2. Manufacturer has provided the "Anti-Corruption Policy (Document No.: SA-TYN-08)", which includes "Books and Records" in chapter 4.
✓	Information security			Verified	Manufacturer has provided the "Information security (Document No.: DMTYN-SAP-032-A0)"
✓	Fair competition and anti-trust			Verified	Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Competition and fair trading" in chapter 11.
✓	Conflicts of interest			Verified	Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Conflict of interests" in chapter 3.
✓	Intellectual property			Verified	Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Company records" in chapter 8, "Compliance with laws and regulations" in chapter 9.
✓	Whistleblowing and protection against retaliation	2	2	Verified	1. Manufacturer sets a bulletin board, grievance mailbox, complaint hotline and reporting email. 2. Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Advice seeking and case handling" in chapter 14. 3. Manufacturer has provided the "Anti-Corruption Policy (Document No.: SA-TYN-08)", which includes "Consultation and Whistleblowing" in chapter 5.
	Others (please specify)			-	Not applicable

22.2	To promote awareness of the ethics policy, the site:				
✓	Conducts trainings	2	2	Verified	1. Checked the "2023 Annual Training Plan (Document No.: R/DMTYN-S2-01-09-01-01)", which includes "Code of business conduct and ethics and Anti-Corruption Policy". 2. Checked the "Code of business conduct and ethics training material and records (Document No.: R/DMTYN-6.2-01-09)". The training was held on 2023/1/10. 3. Checked the "Anti-Corruption Policy training material and records (Document No.: R/DMTYN-6.2-01-09)". The training was held on 2023/2/3.
✓	Employs other awareness raising methods			Verified	Manufacturer sets a bulletin board, grievance mailbox, complaint hotline and reporting email.
	None of the above			-	Not applicable

## MANAGEMENT SYSTEM

23	A management system in place to manage ethics-related topics.				
✓	The site has a management system in place.	2	1	Verified	Checked the "Code of business conduct and ethics (Document No.: SA-TYN-09)", and "Anti-Corruption Policy (Document No.: SA-TYN-08)", which contained ethics-related topics.
	The management system is certified.			-	Not selected by manufacturer
	No			-	Not applicable

23.1	The ethics management system includes:				
✓	<b>Management person:</b> The site has a designated management person	5	3.33	Verified	The deputy general manager was appointed in charge.
	<b>Risk assessment:</b> The site conducts risk assessment on specific topics			-	Not selected by manufacturer
	<b>Objectives and action plan:</b> The site has documented objectives and action plans to address ethics-related issues			-	Not selected by manufacturer
✓	<b>Monitoring:</b> The site has a process to periodically review ethics-related performance			Verified	Checked "Code of business conduct and ethics (Document No.: SA-TYN-09)", which contained a process to periodically review ethics-related performance.
✓	<b>Training:</b> The site organizes trainings on ethics related topics			Verified	1. Checked the "2023 Annual Training Plan (Document No.: R/DMTYN--S2-01-09-01-01)", which includes "Code of business conduct and ethics and Anti-Corruption Policy". 2. Checked the "Code of business conduct and ethics training material and records (Document No.: R/DMTYN-6.2-01-09)". The training was held on 2023/1/10. 3. Checked the "Anti-Corruption Policy training material and records (Document No.: R/DMTYN-6.2-01-09)". The training was held on 2023/2/3.
✓	<b>Whistleblower:</b> The site has whistleblower mechanisms in place to report on ethics related concerns			Verified	1. Manufacturer sets a bulletin board, grievance mailbox, complaint hotline and reporting email to promote awareness of the labor and human rights policy. 2. Manufacturer has provided the "Code of business conduct and ethics (Document No.: SA-TYN-09)", which includes "Advice seeking and case handling" in chapter 14. 3. Manufacturer has provided the "Anti-Corruption Policy (Document No.: SA-TYN-08)", which includes "Consultation and Whistleblowing" in chapter 5.

## 4.5 ENVIRONMENT

SR NO	REQUIREMENTS	MAXIMUM SCORE	SCORE ACHIEVED	STATUS OF VERIFICATION	AUDITOR COMMENTS
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### POLICY

24	The company has a formal written environmental policy in place.				
✓	Yes	2	2	Verified	1. Checked the "HSSE Manual (Document No.: QDM/TYN tube 5.1-2018)", which listed the policy of environment. 2. Checked the "Environmental Management System Certificate (Certification type: ISO 14001: 2015; Certificate No.: 01221E20316R6L; Validity until 2024/04/18)". 3. Checked the "Energy Management System (Document No.: EnM/DM TYN-2019-B0)". 4. Checked the "Energy Management System Certificate (Certification type: ISO 50001: 2018; Certificate No.: 04121En20059R2; Validity until 2024/09/6)". 5. Checked the "WEEE compliance 2023 Certificate (Certificate No.: 112852; Signed on 2023/02/06)". 6. Checked the "CDP (Disclosure Insight Action) SCORE REPORT - CLIMATE CHANGE 2022".
	No				

24.1	The environmental policy covers the following topics:				
✓	GHG emissions	2	2	Verified	1. Checked the "HSSE Manual (Document No.: QDM/TYN tube 5.1-2018)", which listed the policy of environment. The policy did not contain reduce GHG emissions. 2. Checked the "2022 Environmental, Social, and Governance (ESG) Report of Confidential" (Certification body: TUV Nord; Audit Period: 2023/2/27-2023/3/1.), which includes "GHG emissions". 3. Checked the "Greenhouse Gas Control Procedure (Document No.: DMIYN-OP-E0-07-70-A0)". 4. Checked the "CDP (Disclosure Insight Action) SCORE REPORT - CLIMATE CHANGE 2022".
✓	Energy efficiency and renewable energy			Verified	1. Checked the "Environmental Management System Certificate (Certification type: ISO 14001: 2015; Certificate No.: 01221E20316R6L; Validity until 2024/04/18)". 2. Checked the "Energy Management System Certificate (Certification type: ISO 50001: 2018; Certificate No.: 04121En20059R2; Validity until 2024/09/6)". 3. Checked the "Energy Management System (Document No.: EnM/DM TYN-2019-B0)".
✓	End-of-Life Product Stewardship and Circular Economy			Verified	Checked the "WEEE compliance 2023 Certificate (Certificate No.: 112852; Signed on 2023/02/06)", which is about Recycling of End-of-Life Product.
✓	Climate-related risks and opportunities			Verified	1. Checked the "Greenhouse Gas Emission Control Procedure (Document No.: DW1Y-01-50-02-70-A0)". 2. Checked the "CDP (Disclosure Insight Action) SCORE REPORT - CLIMATE CHANGE 2022".
✓	Water quality and consumption			Verified	1. Checked the "HSSE Manual (Document No.: QDM/TYN tube 5.1-2018)", which listed the policy of environment. The policy contained water quality and consumption. 2. Checked the "Wastewater Monitoring and Control Procedure (Document No.: DMIYN-OPEO-07-71-A0)". 3. Checked the Manufacturer's Monthly COD Monitoring Summary for Wastewater Treatment. 4. Checked the "Third party monitoring report for wastewater, exhaust gas, and waste (Document No.: JHHJ221101097)".
✓	Waste management			Verified	1. Checked the "HSSE Manual (Document No.: QDM/TYN tube 5.1-2018)", which listed the policy of environment. The policy contained waste management. 2. Checked the "Third party monitoring report for wastewater, exhaust gas, and waste (Document No.: JHHJ221101097)". 3. Checked the "Entrusted Disposal Agreement for Waste Mineral Oil and Hazardous Waste (Agreement No.: HY20230727)". 4. Checked the "Contract for entrusted disposal of oily waste residue (Contract No.: HY20230727-1)". 5. Checked the "Hazardous Waste Control Procedure (Contract No.: DMTYN-OPEO-07-35-A0)".
✓	Recycling			Verified	1. Checked the "WEEE compliance 2023 Certificate (Certificate No.: 112852; Signed on 2023/02/06)", which is about Recycling of End-of-Life Product. 2. Checked the "List of technical renovation projects for energy recycling and utilization by manufacturers (Document No.: EnRDMTYN-6.2.1-01-02)". 3. Checked the "Project for Pure water disc filter backwash water is recycled to the cooling tower for use (Project No.: 2022001)".
	Others			-	Not selected by manufacturer

24.2	To promote awareness of the environmental policy, the site:				
✓	Conducts trainings	2	2	Verified	1. Checked the "2023 Annual Training Plan (Document No.: R/DMTYN--S2-01-09-01-01)", which includes "Environmental Policy". 2. Checked the "Environmental Policy training material and records (Document No.: R/DMTYN-6.2-01-09)". The training was held on 2023/1/19.
✓	Employs other awareness raising methods			Verified	Manufacturer provided an Environment Day activity and environmental knowledge competition.
	None of the above			-	Not applicable

## MANAGEMENT SYSTEM

25	Environmental management system in place.				
✓	The site has a management system in place.	2	2	Verified	Checked Environmental Management System Certificate: Certification type: ISO ISO14001: 2015 Certification body: CEPREI Certification No.: 01221E20316R6L Certificate valid from 2021/04/19 Certificate valid until 2024/04/18
✓	The management system is certified. (ISO 14001 or EU EMAS)				
	No				

25.1	The environmental management system includes the following aspects:				
✓	<b>Management person:</b> The site has a designated management person	5	5	Verified	1. Checked the "Organization chart of the Environment, Health and Safety committee (Document No.: DMTYN-W-EHS100)". 2. Manufacturer has provided name and contact details for designated Environment, Health and Safety management person.
✓	<b>Risk assessment:</b> The site conducts an environmental risk assessment			Verified	Checked the "Environmental factor identification and evaluation (Document No.: R/DMTYN-EO-01-05)". The latest assessment date was 2022/12/23.
✓	<b>Objectives and action plan:</b> The site has documented objectives and action plans to address the main environmental impacts			Verified	Checked the "2023 HSSE Objectives (Document No.: R/DMTYN-4.3.3-01-02)", which listed 6 HSSE objectives. Manufacturer conducted a follow-up and action plan.
✓	<b>Monitoring:</b> The site has a process to periodically review environmental performance			Verified	Manufacturer provided EHS KPIs, assessment, and monitoring methods. Manufacturer monitored environmental performance yearly.
✓	<b>Training:</b> The site organizes trainings on environmental matters and factory's environmental procedures			Verified	1. Checked the "2023 Annual Training Plan (Document No.: R/DMTYN--S2-01-09-01-01)", which includes "Environmental Policy". 2. Checked the "Environmental Policy training material and records (Document No.: R/DMTYN-6.2-01-09)". The training was held on 2023/1/19.
✓	The site has an environmental committee			Verified	1. Checked the "Organization chart of the Environment, Health and Safety committee (Document No.: DMTYN-W-EHS100)". 2. Manufacturer has provided name and contact details for designated Environment, Health and Safety management person.

## TOPIC: GHG EMISSIONS

26	The site monitors and analyzes greenhouse gas (GHG) emissions.				
✓	Using an internationally recognized scheme	2	2	Verified	1. Checked the "2022 Environmental, Social, and Governance (ESG), which includes "greenhouse gas (GHG) emissions for 2022". 2. Checked the "Greenhouse Gas Emission Control Procedure (Document No.: DW1Y-01-50-02-70-A0)". 3. Checked the "CDP (Disclosure Insight Action) SCORE REPORT - CLIMATE CHANGE 2022". The report link: <a href="https://www.cdp.net/en/">https://www.cdp.net/en/</a> .
	Without public reporting on emissions				
	Not yet				

26.1	The site tracks the following:				
✓	Direct GHG emissions (Scope 1)	4	3	Verified	1. Checked the "2022 Environmental, Social, and Governance (ESG), which includes "Direct GHG emissions (Scope 1) for 2022". 2. The ESG Website link: <a href="https://www.chinadmegc.com/investor.html?sweiper=4">https://www.chinadmegc.com/investor.html?sweiper=4</a> . 3. Checked the "CDP (Disclosure Insight Action) SCORE REPORT - CLIMATE CHANGE 2022".
✓	Energy indirect GHG emissions (Scope 2)			Verified	1. Checked the "2022 Environmental, Social, and Governance (ESG), which includes "Direct GHG emissions (Scope 2) for 2022". 2. The ESG Website link: <a href="https://www.chinadmegc.com/investor.html?sweiper=4">https://www.chinadmegc.com/investor.html?sweiper=4</a> . 3. Checked the "CDP (Disclosure Insight Action) SCORE REPORT - CLIMATE CHANGE 2022".
	Supply chain GHG emissions (Scope 3)			-	Not selected by manufacturer
✓	GHG emissions intensity (metric tons CO2 equivalent/ MW)			Verified	Checked the "2022 Environmental, Social, and Governance (ESG), which includes "GHG emissions intensity for 2022".

26.2	In terms of GHG reduction targets, the site has:				
	Publicly announced targets	5	0	-	Not selected by manufacturer
	An absolute scope 1 reduction target			-	Not selected by manufacturer
	An absolute scope 2 reduction target			-	Not selected by manufacturer
	An absolute scope 3 reduction target			-	Not selected by manufacturer
	An intensity reduction target			-	Not selected by manufacturer
	Committed to or has targets approved by the Science Based Target initiative (SBT I)			-	Not selected by manufacturer
	No formal targets yet			-	Not selected by manufacturer

26.3	If applicable, according to the latest review of GHG performance against targets, the site is:				
	Ahead of meeting targets	Not Scored	Not Scored	-	Not selected by manufacturer
	On track to meet targets				
	Falling behind on meeting targets				

26.4	In terms of reporting on GHG practices, the site:				
✓	Reports publicly	3	3	Verified	1. Checked the "2022 Environmental, Social, and Governance (ESG)", which includes "GHG emissions intensity for 2022". 2. The ESG Website link: <a href="https://www.chinadmegc.com/investor.html?sweiper=4">https://www.chinadmegc.com/investor.html?sweiper=4</a> .
✓	Responds to CDP			Verified	Checked the "CDP (Disclosure Insight Action) SCORE REPORT - CLIMATE CHANGE 2022". The report link: <a href="https://www.cdp.net/en/">https://www.cdp.net/en/</a> .
✓	Shares emissions data with stakeholders, when relevant			Verified	The manufacturer publishes the "2022 Environmental, Social, and Governance (ESG) on DMEGC's official website (Website: <a href="https://www.chinadmegc.com/investor.html?sweiper=4">https://www.chinadmegc.com/investor.html?sweiper=4</a> ), which anyone can view at any time.
	Does not disclose emissions			-	Not selected by manufacturer

## TOPIC: ENERGY

27	Energy management system for manufacturing sites				
✓	The site has a management system in place.	2	2	Verified	1. Checked the "Energy Management System (Document No.: EnM/DM TYN-2019-B0)". 2. Checked the "Energy Management System Certificate (Certification type: ISO 50001: 2018; Certificate No.: 04121En20059R2; Validity until 2024/09/6)".
✓	The management system is certified. (E.g. ISO 50001 Energy Management System, US EPA Energy Star)			Verified	Checked Environmental Management System Certificate: Certification type: ISO 50001: 2018 Certification body: Shenzhen CTI International Certification Co., Ltd. Certification No.: 04121En20059R2 Certificate valid from 2021/10/09 Certificate valid until 2024/09/06
	No			-	Not applicable

27.1	The site monitors and analyzes energy consumption by energy source.				
✓	Yes	2	2	Verified	Checked 2022 main types and amounts of resources consumed in the process of production and operation.
	No				

27.2	In terms of energy consumption, the site tracks:				
✓	Total energy consumed at the site	5	3	Verified	Checked the "2022 Energy Review Report (Review Date: January 2023)", which includes "total energy consumed at the site".
	Energy consumed that was supplied from renewable sources			-	Not selected by manufacturer
✓	Energy consumed that was supplied from grid electricity			Verified	Checked the "2022 Energy Review Report (Review Date: January 2023)", which includes "% energy consumed that was supplied from grid electricity".
	Energy intensity			-	Not selected by manufacturer
✓	Reduction of energy consumption			Verified	Checked the "2022 Energy Review Report (Review Date: January 2023)", which includes "reduction of energy consumption".
	None of the above			-	Not applicable

## TOPIC: WATER USAGE

28	The site monitors and analyzes water usage and recycling.				
✓	Yes	2	2	Verified	1. Checked the "2022 Energy Review Report (Review Date: January 2023)". 2. Checked the "Wastewater Monitoring and Control Procedure (Document No.: DMIYN-OPEO-07-71-A0)". 3. Checked the "Third party monitoring report for wastewater, exhaust gas, and waste (Document No.: JHHJ221101097)". 4. Checked the Manufacturer's Monthly COD Monitoring Summary for Wastewater Treatment. 5. Checked the "2022 Drainage Statistics Table (Document No.: R/DMTYN-4.3.1-01-01)".
	No				

28.1	In terms of water usage, the site tracks:				
✓	Water withdrawn from all sources	3	3	Verified	Checked the "2022 Energy Review Report (Review Date: January 2023)", which includes "Water withdrawn from all sources".
✓	Water consumption at the site			Verified	Checked the "2022 Energy Review Report (Review Date: January 2023)", which includes "Water consumption at the site".
✓	Water discharge			Verified	1. Checked the Manufacturer's Monthly COD Monitoring Summary for Wastewater Treatment. 2. Checked the "2022 Drainage Statistics Table (Document No.: R/DMTYN-4.3.1-01-01)".



28.2	In terms of water management, the site has implemented:				
✓	Technologies or practices to recycle or reuse water	5	5	Verified	1. Checked the "List of technical renovation projects for energy recycling and utilization by manufacturers (Document No.: EnRDMTYN-6.2.1-01-02)". 2. Checked the "Project for Pure water disc filter backwash water is recycled to the cooling tower for use (Project No.: 2022001)". 3. Checked the "Third party monitoring report for wastewater, exhaust gas, and waste (Document No.: JHHJ221101097)". 4. Checked the Manufacturer's Monthly COD Monitoring Summary for Wastewater Treatment.
✓	Water accounting or auditing performed			Verified	1. Checked the "Third party monitoring report for wastewater, exhaust gas, and waste (Document No.: JHHJ221101097)". 2. Checked the Manufacturer's Monthly COD Monitoring Summary for Wastewater Treatment.
✓	Designs or measures to minimize water quality impacts from watercourse crossings			Verified	1. Checked the "List of technical renovation projects for energy recycling and utilization by manufacturers (Document No.: EnRDMTYN-6.2.1-01-02)". 2. Checked the "Project for Pure water disc filter backwash water is recycled to the cooling tower for use (Project No.: 2022001)".
✓	Rainwater harvesting system			Verified	Checked Manufacturer's rainwater harvesting system
✓	Reduction of water consumption through technology or equipment not mentioned above			Verified	1. Checked the "List of technical renovation projects for energy recycling and utilization by manufacturers (Document No.: EnRDMTYN-6.2.1-01-02)". 2. Checked the "Project f+K109or Pure water disc filter backwash water is recycled to the cooling tower for use (Project No.: 2022001)".
✓	On-site or off-site wastewater treatment facilities			Verified	1. Checked the "Third party monitoring report for wastewater, exhaust gas, and waste (Document No.: JHHJ221101097)". 2. Checked the Manufacturer's Monthly COD Monitoring Summary for Wastewater Treatment.
✓	Wastewater quality assessment			Verified	1. Checked the "Third party monitoring report for wastewater, exhaust gas, and waste (Document No.: JHHJ221101097)". 2. Checked the Manufacturer's Monthly COD Monitoring Summary for Wastewater Treatment.
✓	Control measures to prevent stormwater pollution			Verified	Checked Manufacturer's rainwater harvesting system
	None of the above			-	Not applicable

#### TOPIC: WASTE

29	The site monitors and analyzes waste produced and recycled.				
✓	Yes	2	2	Verified	1. Checked the "2022 Environmental, Social, and Governance (ESG)", which includes "Monitors and analyzes waste usage and recycling". 2. Checked the "HSSE Manual (Document No.: QDM/TYN tube 5.1-2018)", which listed the policy of environment. The policy contained waste management. 3. Checked the "Third party monitoring report for wastewater, exhaust gas, and waste (Document No.: JHHJ221101097)". 4. Checked the "Entrusted Disposal Agreement for Waste Mineral Oil and Hazardous Waste (Agreement No.: HY20230727)". 5. Checked the "Contract for entrusted disposal of oily waste residue (Contract No.: HY20230727-1)". 6. Checked the "WEEE compliance 2023 Certificate (Certificate No.: 112852; Signed on 2023/02/06)", which is about Recycling of End-of-Life Product. 7. Checked the "Third party monitoring report for wastewater, exhaust gas, and waste (Document No.: JHHJ221101097)". 8. Checked the "Hazardous Waste Control Procedure (Contract No.: DMTYN-OPEO-07-35-A0)".
	No				

29.1	The site uses a subcontractor to handle the waste				
✓	Yes	Not Scored	Not Scored	Verified	1. Checked the "Entrusted Disposal Agreement for Waste Mineral Oil and Hazardous Waste (Agreement No.: HY20230727)", which described the hazardous waste disposal method and quantity. 2. Checked the "Contract for entrusted disposal of oily waste residue (Contract No.: HY20230727-1)", which described the hazardous waste disposal method and quantity.
	No				

29.2	In terms of waste, the site tracks:				
✓	Total weight of non-hazardous waste generated	5	3	Verified	Manufacturer provided statistical results for general waste and hazardous waste.
✓	Non-hazardous waste recovered			Verified	The manufacturer provided a disposal form for non hazardous waste recovered for the year 2023, which includes 104.45 tons of waste pallets and 54.78 tons of waste cardboard.
	Non-hazardous waste to landfill			-	Not selected by manufacturer
✓	Total weight of hazardous waste generated			Verified	1. Checked the "Entrusted Disposal Agreement for Waste Mineral Oil and Hazardous Waste (Agreement No.: HY20230727)", which described the hazardous waste disposal method and quantity. 2. Checked the "Contract for entrusted disposal of oily waste residue (Contract No.: HY20230727-1)", which described the hazardous waste disposal method and quantity.
	Hazardous waste recycled			-	Not selected by manufacturer
	Others (please specify)			-	Not selected by manufacturer

## TOPIC: RESOURCE EFFICIENCY AND RECYCLING

30	The site has a program in place to reduce consumption of minerals.				
	Yes	2	0	Self Declared	Self Declared.
	Examples: • precious metals (e.g. silver) • other metals (e.g. aluminium) • others				
✓	No				

31	The site monitors and analyzes the use of recycled input materials.				
✓	Yes	2	2	Verified	1. Manufacturer has provided the "Solar Energy Waste Management System (Document No.: DMTYN-QP-EO-07-31)". 2. Checked the "Statistical Table of Solar Energy Waste Materials (Document No.: R/DMTYN-4.3.1-02-01)", which mainly includes "1) Module product materials, such as waste EVA, waste sheet, waste solder tape, waste aluminum frame, waste battery cells, waste packaging and carton, etc; 2) Solar cell product materials, such as waste silver slurry, waste aluminum slurry, waste silver gloves, etc". 3. Checked the "Statistical Table for the Usage of Packaging and Carton Materials for Recycled Input Materials (Document No.: R/DMTYN-4.3.1-02-01)".
	No				

31.1	In terms of used of recycled input materials, the site tracks:				
✓	Recycled materials used from internal recycling of scrap materials during production?	2	1	Verified	1. Checked the "Statistical Table for the Usage of Packaging and Carton Materials for Recycled Input Materials (Document No.: R/DMTYN-4.3.1-02-01)". 2. Checked the "Statistical Table for the Usage of Packaging and Carton Materials for Recycled Input Materials (Document No.: R/DMTYN-4.3.1-02-01)".
	Recycled materials from external sources			-	Not selected by manufacturer
	Others (please specify)			-	Not selected by manufacturer

31.2	The folloing components contain a % of recycled materials (PV MODULE VERSION)				
	Semiconductor material (feedstock, powder, or wafer)	2	0	-	Not selected by manufacturer
	Glass			-	Not selected by manufacturer
	Frame material			-	Not selected by manufacturer
	Transparent conductive layer			-	Not selected by manufacturer
	Metal pastes and contacts			-	Not selected by manufacturer
	Ribbon			-	Not selected by manufacturer
	Solder			-	Not selected by manufacturer
	Encapsulant			-	Not selected by manufacturer
	Backsheet			-	Not selected by manufacturer

## TOPIC: PRODUCT END-OF-LIFE MANAGEMENT

32	During product design, the company considers the recyclability of the finished product when it reaches its end of life.				
✓	No	2	0	-	Not selected by manufacturer

33	In terms of end-of-life, the site tracks:				
	Products sold that are recyclable or reusable	3	0	-	Not selected by manufacturer
	Weight of end-of-life material recovered			-	Not selected by manufacturer
	Recovered end-of-life material that is recycled			-	Not selected by manufacturer

34	The site participates in extended producer responsibility (EPR) or voluntary initiatives:				
	Directly conducts product take-back, recovery, and recycling	3	0	-	Not selected by manufacturer
	Supports infrastructure for product recovery and recycling through joint ventures, partnerships with retailers and others			-	Not selected by manufacturer
	Funds research into recycling technologies			-	Not selected by manufacturer
	None of the above			-	Not applicable

## TOPIC: LIFE CYCLE ASSESSMENT (LCA)

35	Does your company perform life cycle assessment of the products manufactured at this site?				
	The company performs LCA	2	0	-	Not selected by manufacturer
	The company performs LCA in accordance with international standards (ISO 14040/14044, EU Product Environmental Footprint Guide or IEA Guidelines)			-	Not selected by manufacturer
	The LCA is reviewed by an independent 3rd party			-	Not selected by manufacturer
	No			-	Not selected by manufacturer

## 4.6 RESPONSIBLE SOURCING

### TOPIC: SUPPLIER MANAGEMENT

SR NO	REQUIREMENTS		MAXIMUM SCORE	SCORE ACHIEVED	STATUS OF VERIFICATION	AUDITOR COMMENTS
36	The company has a formal written procurement policy in place which covers ESG topics?					
✓	Yes		2	2	Verified	1. Checked the "Supplier Management Policy (Document No.: Q/DMTYN-S4-02-04-01-B0)", which includes "Social Responsibility Assessment" in chapter 4.4. 2. Checked the "Three-link management policy of procurement (Document No.: Q/DMTYN-S4-02-04-03-A0). 3. Checked the "Bidding management rules (Document No.: Q/DMTYN-S4-02-04-04-A0).
	No					
37	The company's procurement policy include the following aspects:					
✓	ESG Criteria		5	3.33	Verified	1. Checked the "Supplier code of conduct (Document No.: Q/DMTYN-S4-02-04-02)", which includes ESG requirements towards suppliers. 2. Checked the "Supplier SA 8000 Audit Report (Audit Period: 2023/2/7~2023/2/8). 3. Checked Purchasing contracts, which listed the requirements of Information security and Intellectual property.
	Risk assessment: The supply chain risk assessment includes ESG considerations				-	Not selected by manufacturer
	Objectives and action plan: The site has documented objectives and action plans to address ESG impacts in relation to procurement				-	Not selected by manufacturer
✓	Monitoring: The site has a process to periodically review ESG performance of the supply chain				Verified	1. Checked the "Supplier SA 8000 Audit Report (Audit Period: 2023/2/7~2023/2/8). 2. Checked "Supplier assessment checklist (Document No.: RDMTYN-7.4-02-02-A1)", which includes "Labour and human rights requirements".
✓	Training: The site organizes trainings on responsible sourcing and related procedures				Verified	The manufacturer provides regular training on responsible procurement to procurement personnel. For example, Record of anti corruption and bribery training (training time: January 10th, 2023) and Business Conduct Code and Ethics Training Record (Training Time: February 3, 2023).
✓	The site has a committee				Verified	Manufacturer has ESG Management Committee.
38	The company has ESG requirements towards suppliers					
✓	Yes		2	2	Verified	1. Checked the "Supplier code of conduct (Document No.: Q/DMTYN-S4-02-04-02)", which includes ESG requirements towards suppliers. 2. Checked the "Supplier SA 8000 Audit Report (Audit Period: 2023/2/7~2023/2/8). 3. Checked the "Social Responsibility Commitment Letter (Document No.: SA-TYN-SC-01-01)". 4. Checked the "Supplier Integrity Commitment Letter (Signed on 2023/4/20)".
	No					
38.1	The ESG requirements towards suppliers cover the following topics:					
	Labour and human rights		0.5	0.50	Verified	1. Checked the "Supplier code of conduct (Document No.: Q/DMTYN-S4-02-04-02)", which includes "Labour and human rights requirements" in chapter 5.1~5.7. 2. Checked "Supplier assessment checklist (Document No.: RDMTYN-7.4-02-02-A1)", which includes "Labour and human rights requirements".
✓		Working hours				
✓		Wages and benefits				
✓		Child labour and young workers				
✓		Forced labour				
✓		Freedom of association and collective bargaining				
✓		Discrimination and harassment				
✓		Disciplinary practices				
✓		Training and career development				
✓		External stakeholders and human rights				
	Health and safety		0.5	0.40	Verified	1. Checked the "Supplier code of conduct (Document No.: Q/DMTYN-S4-02-04-02)", which includes "Health and safety requirements" in chapter 5.8. 2. Checked "Supplier assessment checklist (Document No.: RDMTYN-7.4-02-02-A1)", which includes "Health and safety requirements".
✓		Personal protective equipment				
		Machine safety				
✓		Emergency preparedness				
✓		Incident and accident management				
✓		Workplace ergonomics				
✓		Handling of chemicals				
	Ethics		0.5	0.20	Verified	1. Checked the "Supplier code of conduct (Document No.: Q/DMTYN-S4-02-04-02)", which includes "Corruption, extortion and bribery and Whistleblowing and protection against retaliation" in chapter 7. 2. Checked the "Supplier Integrity Commitment Letter (Signed on 2023/4/20)".
✓		Corruption, extortion and bribery				
		Privacy				
		Financial responsibility (accurate records)				
		Information security				
		Fair competition and anti-trust				
		Conflicts of interest				
		Intellectual property				
✓		Whistleblowing and protection against retaliation				

	Environment		0.5	0.30	Verified	Checked the "Supplier code of conduct (Document No.: Q/DMTYN-S4-02-04-02), which includes "GHG emissions, Water quality and consumption, Waste management and Recycling requirements" in chapter 6.
✓		GHG emissions				
		Energy efficiency and renewable energy				
		End-of-Life Product Stewardship and Circular Economy				
		Climate-related risks and opportunities				
✓		Water quality and consumption				
✓		Waste management				
✓		Recycling				

38.2	The company communicates ESG requirements to suppliers via:				
	High performing suppliers (on ESG topics) have access to incentives (e.g. supplier awards, preferred supplier program, access to RFP, etc)	5	3	-	Not selected by manufacturer
✓	ESG clauses integrated into supplier contracts			Verified	Checked Purchasing contracts, which listed the requirements of Information security and Intellectual property.
	Supplier trainings			-	Not selected by manufacturer
✓	ESG requirements are part of Supplier Code of Conduct or Supplier Sustainability Policy			Verified	Checked the "Supplier code of conduct (Document No.: Q/DMTYN-S4-02-04-02), which includes ESG requirements towards suppliers.
✓	ESG requirements are on company website or supplier portal or communicate in other way to suppliers			Verified	ESG Website link: https://www.chinadmegc.com/investor.html?sweiper=4
	None of the above			-	Not selected by manufacturer

38.3	To monitors compliance with ESG requirements, the company:				
	Requires certification or 3rd party audits	5	2	-	Not selected by manufacturer
✓	Performs 2nd party audits			Verified	1. Manufacturers audit their suppliers in accordance with the requirements of SA 8000 and issue a supplier's SA 8000 audit report. Checked the "Supplier SA 8000 Audit Report (Audit Period: 2023/2/7~2023/2/8). Checked the "Supplier SA 8000 Audit Report (Audit Period: 2023/2/7~2023/2/8). 2. The manufacturer conducts an annual audit of suppliers every year, and the audit report includes content on social responsibility. Checked the "2022 Supplier Annual Audit Report".
	Deploys a supplier questionnaire			-	Not selected by manufacturer
	None of the above			-	Not applicable

38.4	The company has included ESG criteria into its supplier qualification process:				
	ESG requirements are part of requests for proposals	5	0	-	Not selected by manufacturer
	ESG-related certification/ audit reports are a prerequisite for supplier qualification			-	Not selected by manufacturer
	Deploys a supplier questionnaire			-	Not selected by manufacturer
	Not yet			-	Not applicable

39	To integrates ESG topics within procurement, the company:				
✓	Has a formal procurement policy covering ESG topics	5	2	Verified	Checked the "Environmental procurement guidelines (Signed on 2023/1/4)"
✓	Has a supplier Code of Conduct in place			Verified	Checked the "Supplier code of conduct (Document No.: Q/DMTYN-S4-02-04-02), which includes ESG requirements towards suppliers.
	Conducts supply chain ESG risk analysis			-	Not selected by manufacturer
	Trains buyers on ESG issues in the supply chain			-	Not selected by manufacturer
	Integrates sustainable procurement objectives into buyer performance reviews			-	Not selected by manufacturer
	None of the above			-	Not applicable

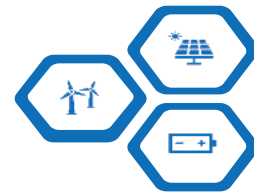
**TOPIC: MATERIAL SOURCING**

SR NO	SR NO	REQUIREMENTS	MAXIMUM SCORE	SCORE ACHIEVED	STATUS OF VERIFICATION	AUDITOR COMMENTS
40	The company products contain the following materials:					
✓		Aluminium/ Bauxite	Not Scored	Not Scored	Verified	1. The aluminum frame of the product contains Aluminium/ Bauxite materials. 2. The Ribbon of the product contains Copper and Tin materials. 3. The Solar cell of the product contains Polysilicon materials.
		Cobalt				
✓		Copper				
✓		Polysilicon				
		Gold				
		Lithium				
		Nickel				
		Palladium				
		Rare Earth Elements				
		Steel/ Iron				
		Tantalum				
✓		Tin				
		Tungsten				
		Zinc				
		None of the above				
40.1	For any materials marked above, the company has a policy on responsible sourcing for that material					
✓		Yes	2	0	Self Declared	Self Declared
		No				
		Not Applicable				
40.2	If cobalt was selected in Q36, the company has a Cobalt Reporting Template?					
		Yes	Not Scored	Not Scored	Not Applicable	Not applicable
		No				
✓		Not Applicable				
40.3	If tantalum, tin, tungsten was selected in Q36, the company has a Conflict Minerals Reporting Template					
		Yes	Not Scored	Not Scored	Not Applicable	Not applicable
		No				
✓		Not Applicable				



Beyond Inspection

1. Assessment Information
2. Profile
3. ESG Summary
4. ESG Assessment
5. Annexure



## 5.1 STS ESG (ENVIRONMENT,SOCIAL,GOVERNANCE) REMOTE ASSESSMENT

### PURPOSE

The ESG (Environment-Social-Governance) assessment aims to provide information on the sustainability management system a specific manufacturing facility has in place.

### STANDARDS OF REFERENCE

The assessment takes as a basis requirements outlined in internationally recognized frameworks, such as the UN Guiding Principles on Business and Human Rights, UN Global Compact Principles, UN Sustainable Development Goals, Core ILO Conventions, SA8000 Social Accountability, ISO26000 Guidance on social responsibility, ISO 14001 environmental management system, Sustainability Accounting Standard Board (SASB) standards.

### PROCESS STEPS OF ESG ASSESSMENT

The Assessment is deployed remotely through an assessment questionnaire. Manufacturers are invited to fill out the questionnaire and supply the supporting documentation.

STS verifies the evidence remotely and produces a report.

The report contains a score per section as well as a score on overall performance.

### ASSESSMENT QUESTION EVALUATION AND SCORE

Each assessment requirements are evaluated based on the evidence received, specific guidance based on STS experts and STS auditor evaluation. The auditor asks requirement-based questions to collect evidence, then evaluates the conformity of those evidence based on requirements and guidance. The assessment grid will automatically calculate for each questions a evaluation score. The table below shows this process

	Self Questionnaire	Evidence	Verification	Score
✓	Yes	Verified, evidence is relevant	Verified	100%
✓	Yes	Evidence is not sufficient	Not sufficient	50%
✓	Yes	No evidence or evidence is not relevant	Self declared	0%
✓	No	Self declared	Self declared	0%

### DEFINITION

- **Verified:** Supporting evidence is sufficient and relevant to the assessed requirement. The evidence should be a document that is either a controlled document with reference and version, or an official document with company logo, name, or a screenshot of a system with possibility to verify the system page.
- **Not sufficient:** Evidence provided is not sufficient for STS to verify the manufacturer meets the requirement. Either the document is not receivable as controlled document or it is not fulfilling the requirement.
- **Self declared:** No evidence provided or evidence is not relevant to the requirement.
- **Not Applicable:** The requirement is not applicable for assessment.
- **( - ) :** The option under question is not selected by manufacturer in questionnaire.

### ESG ASSESSMENT - STRUCTURE

- ESG remote assessment is structured in six main sections. Each section is counting for a specific weight on the ESG scoring.

Below table summaries STS ESG Assessment structure, sections and the associated weights for the calculation of scoring.

ESG ASSESSMENT	WEIGHT	CHAPTERS
	10%	SUSTAINABILITY MANAGEMENT
	25%	LABOR AND HUMAN RIGHTS
	20%	HEALTH AND SAFETY
	10%	ETHICS
	25%	ENVIRONMENT
	10%	RESPONSIBLE SOURCING

### OVERALL ESG SCORING CALCULATION

ESG ASSESSMENT	SECTIONS	GROSS SCORING	WEIGHT	SCORING AS PER WEIGHTAGE	FINAL SCORE
	SUSTAINABILITY MANAGEMENT	WEIGHTED AVERAGE PER SECTION	10%	ESG SECTION GROSS SCORE x WEIGHT	TOTAL OF SCORING AS PER WEIGHTAGE OF SECTIONS
	LABOR AND HUMAN RIGHTS	WEIGHTED AVERAGE PER SECTION	25%	ESG SECTION GROSS SCORE x WEIGHT	
	HEALTH AND SAFETY	WEIGHTED AVERAGE PER SECTION	20%	ESG SECTION GROSS SCORE x WEIGHT	
	ETHICS	WEIGHTED AVERAGE PER SECTION	10%	ESG SECTION GROSS SCORE x WEIGHT	
	ENVIRONMENT	WEIGHTED AVERAGE PER SECTION	25%	ESG SECTION GROSS SCORE x WEIGHT	
	RESPONSIBLE SOURCING	WEIGHTED AVERAGE PER SECTION	10%	ESG SECTION GROSS SCORE x WEIGHT	

## 5.2 ESG - DEFINITIONS & INTERNATIONAL STANDARDS REFERENCE GUIDE

### 1. SUSTAINABILITY MANAGEMENT

**Management system:** set of interrelated or interacting elements of an organization to establish policies and objectives and processes to achieve those objectives. A management system can address a single discipline or several disciplines (e.g., quality, environment, occupational health and safety, energy, financial management). The system elements include the organization's structure, roles and responsibilities, planning and operation, performance evaluation and improvement. The scope of a management system can include the whole of the organization, specific and identified functions of the organization, specific and identified sections of the organization, or one or more functions across a group of organizations. [NSF-457-2019-1](https://globalelectronicscouncil.org/wp-content/uploads/NSF-457-2019-1.pdf)

<https://globalelectronicscouncil.org/wp-content/uploads/NSF-457-2019-1.pdf>

### 2. LABOR AND HUMAN RIGHTS

**Human rights:** An authoritative list of the core internationally recognized human rights is contained in the International Bill of Human Rights (consisting of the [Universal Declaration Of Human Rights](#) and the main instruments through which it has been codified: the [International Covenant On Civil And Political Rights](#) and the [International Covenant On Economic, Social And Cultural Rights](#)), coupled with the principles concerning fundamental rights in the eight ILO core conventions as set out in the [Declaration On Fundamental Principles And Rights At Work](#).

<https://www.un.org/en/about-us/universal-declaration-of-human-rights>

<https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights>

<https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-economic-social-and-cultural-rights>

<https://www.ilo.org/declaration/lang--en/index.htm>

**Community engagement:** Companies should encourage local capacity building through close co-operation with the local community, including business interests, as well as developing the enterprise's activities in domestic and foreign markets, consistent with the need for sound commercial practice. [OECD Guidelines](#)

<https://www.oecd.org/daf/inv/mne/48004323.pdf>

**Collective bargaining:** is a process of negotiations between employers and a group of employees, aimed at reaching an agreement that regulates working conditions.

<https://unglobalcompact.org/what-is-gc/mission/principles/principle-3>

#### POLICY

As the basis for embedding their responsibility to respect human rights, business enterprises are expected to express their commitment to meet this responsibility through a statement of policy that:

- ~ Is approved at the most senior level of the business enterprise;
- ~ Is informed by relevant internal and/or external expertise;
- ~ Stipulates the enterprise's human rights expectations of personnel, business partners and other parties directly linked to its operations, products or services;
- ~ Is publicly available and communicated internally and externally to all personnel, business partners and other relevant parties;
- ~ Is reflected in operational policies and procedures necessary to embed it throughout the business enterprise. [UN Guiding Principles on Business and Human Rights](#)

More resources: [Guide from the UN on How to Develop a Human Rights Policy](#)

[https://www.ohchr.org/sites/default/files/documents/publications/guidingprinciplesbusinessshr\\_en.pdf](https://www.ohchr.org/sites/default/files/documents/publications/guidingprinciplesbusinessshr_en.pdf)

[https://d306pr3pise04h.cloudfront.net/docs/issues\\_doc%2Fhuman\\_rights%2FResources%2FHR\\_Policy\\_Guide.pdf](https://d306pr3pise04h.cloudfront.net/docs/issues_doc%2Fhuman_rights%2FResources%2FHR_Policy_Guide.pdf)

#### MANAGEMENT SYSTEM

**Human rights risks:** Human rights risks are understood to be the business enterprise's potential adverse human rights impacts. Potential impacts should be addressed through prevention or mitigation, while actual impacts – those that have already occurred – should be a subject for remediation. Human rights due diligence can be included within broader enterprise risk management systems, provided that it goes beyond simply identifying and managing material risks to the company itself, to include risks to rights-holders. [UN Guiding Principles on Business and Human Rights](#)

[https://www.ohchr.org/sites/default/files/documents/publications/guidingprinciplesbusinessshr\\_en.pdf](https://www.ohchr.org/sites/default/files/documents/publications/guidingprinciplesbusinessshr_en.pdf)

**Human rights risk assessment** includes assessing the human rights context prior to a proposed business activity, where possible; identifying who may be affected; cataloguing the relevant human rights standards and issues; and projecting how the proposed activity and associated business relationships could have adverse human rights impacts on those identified. [UN Guiding Principles on Business and Human Rights](#)

[https://www.ohchr.org/sites/default/files/documents/publications/guidingprinciplesbusinessshr\\_en.pdf](https://www.ohchr.org/sites/default/files/documents/publications/guidingprinciplesbusinessshr_en.pdf)



## TOPIC: CHILD LABOR/ FORCED LABOR

**Forced** or compulsory labour is any work or service that is exacted from any person under the menace of any penalty, and for which that person has not offered himself or herself voluntarily.

<https://unglobalcompact.org/what-is-gc/mission/principles/principle-4>

**Child labour:** relates to the prohibition of employment of children who are under the legal minimum working age. ILO Conventions provide the framework for national law to prescribe a minimum age for admission to employment or work that must not be less than the age for completing compulsory schooling, and in any case not less than 15 years.

Type of Work	Developed countries	Developing countries
Light Work	13 Years	12 Years
Regular Work	15 Years	14 Years
Hazardous Work	18 Years	18 Years

<https://unglobalcompact.org/what-is-gc/mission/principles/principle-5>

## TOPIC: HARASSMENT AND DISCRIMINATION

**Discrimination:** Discrimination in employment and occupation means treating people differently or less favourably because of characteristics that are not related to their merit or the inherent requirements of the job. In national law, these characteristics commonly include: race, colour, sex, religion, political opinion, national extraction, social origin, age, disability, HIV/AIDS status, trade union membership, and sexual orientation.

<https://unglobalcompact.org/what-is-gc/mission/principles/principle-6>

## TOPIC: EMPLOYEE VOLUNTEERING

**Freedom of association:** Freedom of association implies respect for the right of all employers and all workers to freely and voluntarily establish and join groups for the promotion and defence of their occupational interests.

<https://unglobalcompact.org/what-is-gc/mission/principles/principle-3>

## 3. HEALTH AND SAFETY

A **health and safety management system** is a structured set of policies, procedures, and practices implemented by an organization to manage health and safety risks in the workplace. It involves identifying potential hazards, assessing risks, and implementing measures to control or eliminate those risks. The aim of a health and safety management system is to promote a safe and healthy working environment for all employees, as well as to comply with relevant laws, regulations, and standards. It typically includes elements such as hazard identification, risk assessment, training, emergency response planning, and continuous monitoring and improvement. Management systems can be developed in-house or in compliance with national or international standards. Certification of management systems assures stakeholders that a company is committed to operating sustainably and has established all necessary protocols and practices.

## 4. ETHICS

A **business ethics policy** is a set of guidelines and principles that outline the standards of conduct expected of employees and the organization as a whole in their business activities. It typically covers issues such as bribery, corruption, conflicts of interest, discrimination, harassment, privacy, and environmental responsibility. The policy helps to ensure that the organization acts ethically and in compliance with legal and regulatory requirements, as well as with the organization's own values and standards. A business ethics policy can also help to promote a positive corporate culture, strengthen stakeholder trust, and minimize reputational risks. It is typically communicated to all employees and stakeholders and is subject to periodic review and updating.

## 5. ENVIRONMENT

### POLICY

**Environmental management system (EMS):** Part of the management system used to manage environmental aspects, fulfil compliance obligations, and address risks and opportunities. [NSF/ANSI 457 – 2019](#)

<https://globalelectronicscouncil.org/wp-content/uploads/NSF-457-2019-1.pdf>

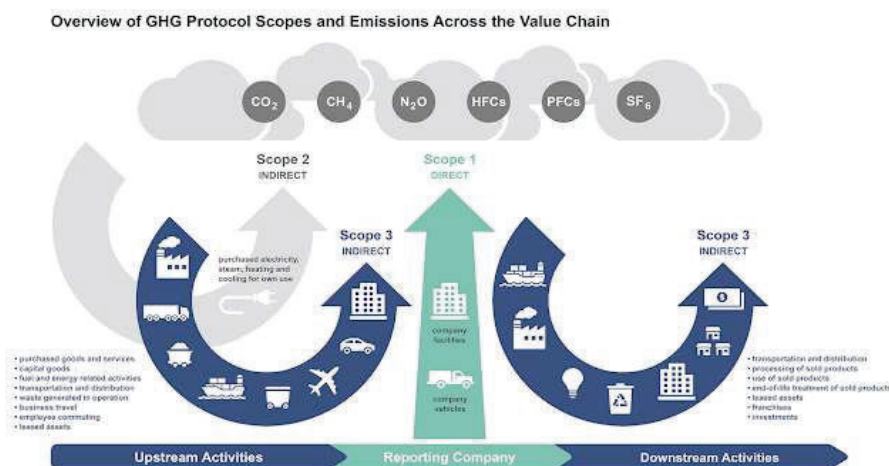
### TOPIC: GHG EMISSIONS

**Greenhouse Gasses (GHG)** include the six gases listed in the Kyoto Protocol: carbon dioxide (CO<sub>2</sub>); methane (CH<sub>4</sub>); nitrous oxide (N<sub>2</sub>O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF<sub>6</sub>). [GHG Protocol](#)

<https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>

According to the [GHG Protocol](#), a key component of effective GHG management is setting a GHG emission reduction target and tracking performance against the target. Emission reduction targets could cover:

- Scope 1 - Direct company emissions related to burning fossil fuel on-site;
- Scope 2 - Indirect company emissions related to the production of purchased electricity, heat or steam;
- Scope 3 - Indirect company emissions related to your company's value chain activities, including upstream and downstream emissions.



CDP is a non-profit organization that runs a global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. CDP uses a scoring methodology to incentivize companies to measure and manage environmental impacts through participation in CDP's climate change, water, forests, and supply chain programs. Reporting on GHG emissions is in the scope of CDP's climate change reporting template.

<https://www.cdp.net/en/info/about-us>

#### TOPIC: ENERGY

Solar panel manufacturing typically uses electrical energy purchased from the grid. Energy can account for a considerable share of the total cost of production. In light of rising energy costs and regulatory uncertainty surrounding the future of fossil-based energy, companies that diversify their energy sources may be better able to manage the associated risks and maintain a reliable energy supply. Companies that minimize their energy use through effective energy management can reduce costs and gain a competitive advantage through operational efficiency and competitive pricing of products. This is particularly important given the intense price competition within the solar technology industry.

[https://www.sasb.org/wp-content/uploads/2018/11/Solar\\_Technology\\_Project\\_Developers\\_Standard\\_2018.pdf](https://www.sasb.org/wp-content/uploads/2018/11/Solar_Technology_Project_Developers_Standard_2018.pdf)

#### TOPIC: ENERGY

An energy management system (EnMS): is a framework for energy consumers, including industrial, commercial and public sector organizations, to manage their energy use. It helps companies identify opportunities to adopt and improve energy-saving technologies, including those that do not necessarily require high capital investment. In most cases, the successful implementation of an EnMS requires specialized expertise and staff training. An EnMS may cover only part of the manufacturing operations at a given facility, or could include all buildings at a location.

<https://www.iso.org/files/live/sites/isoorg/files/store/en/PUB100400.pdf>

[https://www.unido.org/sites/default/files/2017-11/IEE\\_EnMS\\_Practical\\_Guide.pdf](https://www.unido.org/sites/default/files/2017-11/IEE_EnMS_Practical_Guide.pdf)

#### TOPIC: WATER USAGE

Solar photovoltaic panel manufacturing can be water-intensive, and ultra-pure water is a critical input in some processes. The manufacturing process can also generate wastewater, which must be treated before disposal or reuse, and can therefore result in operating costs and additional capital expenditures. Furthermore, depending on their location, solar equipment manufacturing facilities may be exposed to the risk of reduced water availability (scarcity) and related cost increases or operational disruptions. The use of local water resources is a risk that can generate tension with local water users, potentially disrupting manufacturing operations and adversely impacting brand value. To mitigate water supply and treatment risks, companies can adopt various strategies such as recycling process water, improving production techniques to lower water intensity, and improving water treatment systems.

[https://www.sasb.org/wp-content/uploads/2018/11/Solar\\_Technology\\_Project\\_Developers\\_Standard\\_2018.pdf](https://www.sasb.org/wp-content/uploads/2018/11/Solar_Technology_Project_Developers_Standard_2018.pdf)

**Water consumption** is defined as:

- Water that evaporates during withdrawal, usage, and discharge;
- Water that is directly or indirectly incorporated into the entity's product or service;
- Water that does not otherwise return to the same catchment area from which it was withdrawn, such as water returned to another catchment area or the sea.

[NSF/ANSI 457 – 2019](#)

<https://globalelectronicscouncil.org/wp-content/uploads/NSF-457-2019-1.pdf>

**Water sources** include surface water (including water from wetlands, rivers, lakes, and oceans), groundwater, rainwater collected directly and stored by the entity, and water and wastewater obtained from municipal water supplies, water utilities, or other entities. [NSF/ANSI 457 – 2019](#)

<https://globalelectronicscouncil.org/wp-content/uploads/NSF-457-2019-1.pdf>

## TOPIC: WASTE

Solar panel manufacturing may involve the use of hazardous substances that can cause adverse health and environmental impacts if not properly managed. Common thin-film technologies can utilize materials including cadmium, gallium arsenide, and copper indium gallium (di)selenide, which require careful handling during the manufacturing process and disposal. The handling and disposal of hazardous wastes produced during manufacturing can lead to operating costs, capital expenditures, and in some instances result in regulatory costs. As such, effective management of hazardous materials, including through reduction, reuse, recycling, and safe storage and disposal, can lower operating costs and mitigate potential regulatory penalties or reputational damage.

[https://www.sasb.org/wp-content/uploads/2018/11/Solar\\_Technology\\_Project\\_Developers\\_Standard\\_2018.pdf](https://www.sasb.org/wp-content/uploads/2018/11/Solar_Technology_Project_Developers_Standard_2018.pdf)

## TOPIC: RESOURCE EFFICIENCY AND RECYCLING

Recycling: Operations by which products, components, materials, or waste are processed and converted into raw materials for use in the production of new products or in processes, not including energy recovery or disposal. NSF/ANSI 457 – 2019

<https://globalelectronicscouncil.org/wp-content/uploads/NSF-457-2019-1.pdf>

Recycled material: The following equation shall be used to calculate the percentage:

recycled material by weight/ total material (of the type in the numerator) by weight × 100 = % recycled content

Recycled material calculation is applicable to the following materials:

-PV modules: semiconductor material (feedstock, powder, or wafer); glass; frame material; transparent conductive layer; metal pastes and contacts; ribbon; solder; encapsulant; and backsheet.

-PV inverters: enclosure (housing); printed circuit board assembly including capacitors; display; power semiconductor and packaging (e.g., IGBT, silicon carbide and gallium nitride); choke or inductor; cables and switches; and other plastic parts. NSF/ANSI 457 – 2019

<https://globalelectronicscouncil.org/wp-content/uploads/NSF-457-2019-1.pdf>

Guidance on PV Modules Design for Recycling is provided by Task-12 of the International Energy Agency (IEA). See PV Module Design for Recycling Guidelines

<https://iea-pvps.org/key-topics/pv-module-design-for-recycling-guidelines/>

## TOPIC: PRODUCT END-OF-LIFE MANAGEMENT

Solar panels may contain hazardous substances as well as reusable materials of high economic value. Given the rapid expansion of solar energy globally, increasing volumes of solar panels are expected to reach the end of their useful life in the medium term. In some regions, including parts of the EU, manufacturers are required by law to take financial responsibility for their products at the end-of-life stage, including collection and recycling. Product take-back, recycling, and disposal may result in higher upfront investments or capital expenditures for operators in the industry. However, as more modules reach the end of their life and this issue likely receives more legislative attention, companies may differentiate themselves through offering product take-back and recycling services. This could increase revenues as well as result in lower long-term costs by reusing recovered materials in manufacturing processes.

[https://www.sasb.org/wp-content/uploads/2018/11/Solar\\_Technology\\_Project\\_Developers\\_Standard\\_2018.pdf](https://www.sasb.org/wp-content/uploads/2018/11/Solar_Technology_Project_Developers_Standard_2018.pdf)

End-of-life (EOL): Life-cycle stage of a product when it is no longer intended for use and are destined, or intended to be destined for, dismantling, material recovery, recycling or disposal. NSF/ANSI 457 – 2019

<https://globalelectronicscouncil.org/wp-content/uploads/NSF-457-2019-1.pdf>

## TOPIC: LIFE CYCLE ASSESSMENT

Life cycle assessment (LCA): A framework for the compilation and evaluation of the inputs, outputs, and the potential environmental impacts of a product system throughout its life cycle, from the extraction of resources and the production of raw materials, to product manufacturing, transportation / distribution, use and reuse, maintenance, and recycling and/or disposal. NSF/ANSI 457 – 2019

<https://globalelectronicscouncil.org/wp-content/uploads/NSF-457-2019-1.pdf>

The ISO 14040 and 14044 standards provide the framework for LCA.

Further guidance for PV electricity generation systems is provided by the International Energy Agency (IEA) - Methodology Guidelines on Life Cycle Assessment of Photovoltaic Electricity.

<https://iea-pvps.org/key-topics/task-12-methodology-guidelines-on-life-cycle-assessment-of-photovoltaic-electricity-3rd-edition/>

## 6. RESPONSIBLE SOURCING

### TOPIC: MATERIAL SOURCING

Solar technology companies typically source numerous materials including polysilicon, metals, glass, and electrical components. Companies additionally utilize certain materials that are critical to solar panel and module manufacturing. Limited global resources of these critical materials, as well as their concentration in countries that may have relatively limited governance and regulatory structures or are subject to geopolitical tensions, expose companies to the risk of supply-chain disruptions and input-price increases or volatility. Companies can mitigate associated risks by ensuring transparency in their supply chains, working actively to source materials from reliable suppliers or regions that have minimal environmental or social risks, and supporting research for alternative inputs.

[https://www.sasb.org/wp-content/uploads/2018/11/Solar\\_Technology\\_Project\\_Developers\\_Standard\\_2018.pdf](https://www.sasb.org/wp-content/uploads/2018/11/Solar_Technology_Project_Developers_Standard_2018.pdf)

**The Cobalt Reporting Template**, a.k.a. the Extended Minerals Reporting Template (EMRT) is a free, standardized reporting template developed by the Responsible Minerals Initiative (RMI) of the Responsible Business Alliance to identify pinch points and collect due diligence information in the cobalt and mica supply chains.

**The Conflict Minerals Reporting Template** is a free, standardized reporting template developed by the Responsible Minerals Initiative (RMI) that facilitates the transfer of information through the supply chain regarding mineral country of origin and the smelters and refiners being utilized.

<https://www.responsiblemineralsinitiative.org/reporting-templates/cmrt/>

<https://www.responsiblemineralsinitiative.org/reporting-templates/emrt/>

## END OF REPORT



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