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ORIGIN

EO100TM Technical Supplement EO100.4: Solar

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EO100™ Standard Technical Supplement

Effective Date

The Technical Supplement for Solar is effective August 12th, 2024.

Applicability

Operators seeking certification for utility, commercial and/or industrial solar development projects are assessed against the EO100™ Technical Supplement for Solar and the overarching EO100™ Standard for Responsible Energy Development.

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FOREWORD

The mission of Equitable Origin (EO) is to partner with businesses, communities, and government to support transparent, sustainable, and equitable development of energy through an independent, stakeholder-negotiated, market-driven certification system that distinguishes and rewards operators for outstanding social, environmental and safety performance.

The overarching EO100™ Standard for Responsible Energy Development applies to all Operators seeking certification and one or more additional technical supplements are applied in addition. The Technical Supplements to the EO100 Standard for Responsible Energy Development serve to add specific Performance Targets under the following five Principles of the Standard for solar developers seeking EO100 certification:

- Principle 1: Corporate Governance, Transparency & Business Ethics
- Principle 2: Human Rights, Social Impacts & Community Development
- Principle 3: Indigenous Peoples' Rights
- Principle 4: Fair Labor & Working Conditions
- Principle 5: Climate Change, Biodiversity & Environment

The Performance Targets in the document reflect the expectations of multiple stakeholders regarding the management and mitigation of social and environmental impacts associated with the development of solar resources.

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1.0 GLOSSARY

Agri-voltaics – the practice of using land for both agriculture and solar photovoltaic energy generation (also known as agrisolar or dual use solar).

Battery off-gassing – the venting or release of gases from lithium-ion batteries, often due to misuse, abuse, or damage.

Certifiable Unit – The scope of the assessment area including all facilities located within the predetermined geographical area. Facilities include solar panels, batteries, ancillary equipment, water treatment/storage facilities, generators, etc. Certifiable unit terminology is sometimes used interchangeably with ‘Site’.

Certified Unit - Subsequent to the Certifiable Unit achieving EO100™ certification it is called the Certified Unit. Sometimes used interchangeably with Site.

Certification or Standard – Voluntary schemes with third party assurance that a product, process or service is in conformity with certain standards or requirements (such as EO100).

EPEAT – EPEAT Ecolabel for electronics

ESG – Environmental, Social and Governance.

Extremely High Baseline Water Stress – Categorized as extremely high (>80%) by the WRI Water Risk Atlas. Baseline Water Stress is calculated as the ratio of total water withdrawals to available renewable surface and groundwater supplies.

FPIC – Free, Prior and Informed Consent

GHG - Greenhouse Gas emissions including but not exclusive to CO₂, CH₄, N₂O

High Baseline Water Stress – Categorized as high (40-80%) by the WRI Water Risk Atlas. Baseline Water Stress is calculated as the ratio of total water withdrawals to available renewable surface and groundwater supplies.

Historically marginalized groups (HMGs) – groups of people who have been oppressed or disempowered by discriminatory groups and have experienced social, economic, or political exclusion (e.g., women, Indigenous Peoples, immigrants, people with disabilities, youth, etc.).

ILO – International Labour Organization.

Net Zero Emissions – achieved when anthropogenic emissions of GHGs to the atmosphere are balanced by anthropogenic removals over a specified period (IPCC, 2018).

Paris Agreement – Referring to the UN Paris Climate Agreement.

Reclamation – The process of bringing a project area back to how it originally looked before development took place on the land.

Renewable Energy Sector – All entities that are part of the supply chain for generating power from renewable sources, including those involved in: raw materials extracting, processing and producing; semi-product manufacturing; original equipment manufacturing; producers, distributors and installers of wind turbines and solar panels; entities involved in decommissioning renewable energy technologies and processing waste streams; renewable energy suppliers; contracting authorities in the renewable energy sector and financial enterprises.¹

¹ [International Responsible Business Conduct Agreement for the Renewable Energy Sector](#)

2.0 SCOPE

This Technical Supplement applies to onshore, utility-scale and other large-scale industrial photovoltaic (PV) solar (including community solar) and applies to the solar energy development and operations segments of the value chain. It is not intended for certification of residential solar projects, such as rooftop solar arrays.

Operators are expected to implement the EO100™ Standard in full and reference this Technical Supplement to ensure that, for the following environmental, social and governance (ESG) Performance Targets, Certifiable Units meet the intent of the Performance Targets' applicability to solar operations.

This site-level certification applies to solar projects in all operational phases, including development and siting, construction, operations, decommissioning, and circularity and end of life. Individual performance targets will be assessed based on the phase of project development and will be the responsibility of the operator. For the purposes of the EO100, the term "operator" is used to describe any and all project partners, including but not limited to investors, developers, asset owners, operators or any other entity responsible for the ownership or management of the site.

3.0 SUMMARY OF EO100™ PRINCIPLES AND OBJECTIVES

Table 1 summarizes the 5 Principles covered in the Standard and the Objectives under each Principle. This Technical Supplement does not add Performance Targets under every Objective covered in the Standard but only those that have specific requirements for solar operations. Those Objectives with additional Performance Targets covered in this Technical Supplement are highlighted in darker orange in Table 1.

Table 1: Summary of EO100 Principles and Objectives

This Technical Supplement includes performance targets in the dark orange topic areas above.

Principle 1: Corporate Governance, Transparency & Ethics	Principle 2: Human Rights, Social Impacts & Community Development	Principle 3: Indigenous Peoples' Rights	Principle 4: Fair Labor & Working Conditions	Principle 5: Climate Change, Biodiversity & Environment
1.1 Legal Compliance	2.1 Human Rights	3.1 Free, Prior & Informed Consent (FPIC)	4.1 Labor & Working Conditions	5.1 Environmental Management & Mitigation
1.2 Financial Disclosure	2.2 Fair, Inclusive Engagement & Good Faith Consultation	3.2 Engagement & Participation	4.2 Child Labor	5.2 Emergency Preparedness & Response Planning
1.3 Bribery, Corruption, Money Laundering & Financing of Terrorism	2.3 Human Rights & Security Personnel	3.3 Cultural Impacts	4.3 Forced Labor	5.3 Energy Efficiency
1.4 Management Systems	2.4 Land Rights	3.4 Use of Traditional Natural Resources	4.4 Freedom of Association & Collective Bargaining	5.4 Waste Production & Management
1.5 Contractors	2.5 Resettlement	3.5 Culture-Based Intelligence & Traditional Knowledge	4.5 Equal Opportunities & Treatment	5.5 Remediation of Environmental Liabilities
1.6 Transparency & Disclosure	2.6 Uncontrolled Settlements	3.6 Voluntary Isolation	4.6 Working Hours & Leave	5.6 Closure & Restoration
	2.7 Community Health & Safety		4.7 Remuneration	5.7 Greenhouse Gas Emissions
	2.8 Sustainable Community Investment		4.8 Workplace Grievances	5.8 Ozone Depletion
	2.9 Cultural Heritage		4.9 Occupational Health & Safety	5.9 Biodiversity & Ecology
	2.10 Grievance Mechanism		4.10 Workplace Emergency Preparedness & Response Planning	5.10 Air
				5.11 Water
				5.12 Land
				5.13 Land Restoration
				5.14 Visual & Ambient Impacts

4.0 PRINCIPLE 1: CORPORATE GOVERNANCE, TRANSPARENCY & BUSINESS ETHICS

4.1 Objective 1.4: Management Systems

The goal of this Objective is to ensure that the Operator implements effective social and environmental management systems including risk identification, assessment, impact management and mitigation, and monitoring and evaluation of impacts at each stage of the project life cycle. Table 2 contains additional Performance Target for solar operations that cover supply chain concerns.

Table 2: Objective 1.4 Performance Targets

Performance Target Level		
1	2	3
-	101.1.4.1 Operator shall disclose risks and opportunities associated with the integration of renewable energy into existing energy infrastructure.	-

4.2 Objective 1.5: Contractors

The goal of this Objective is for the Operator to ensure that contractors, subcontractors and suppliers working on and around the project site comply with all legal standards and uphold ethical, social and environmental standards in conformance with the requirements of the EO100 Standard.

Table 3: Objective 1.5 Performance Targets

Performance Target Level		
1	2	3
101.5.1 Operator shall implement a management system to address subcontractor non-conformances.	-	-

4.3 Objective 1.6: Transparency and Disclosure

The goals of Objective 1.6 are to ensure that the Operator provides stakeholders with free and reasonable access to information about the Operator's social and environmental policies, activities, and performance. This section was enhanced in the most recent review to include performance targets

related to a company's corporate GHG policies and ensuring that those align with the UN Paris Climate Agreement. Table 4 lists the additional Performance Targets under this Objective.

Table 4: Objective 1.6 Performance Targets

Performance Target Level		
1	2	3
-	101.1.6.3 Operator shall provide affected communities with up-to-date information regarding ongoing uncertainties and risks of solar development, including quantitative documentation of uncertainties when appropriate and practicable at every stage of the project (e.g., quantified probabilities of risks to water or other resources, and characterization of resulting consequences).	-
101.1.6.1 Operator shall disclose the amount of administrative and non-administrative fines issued and the number of sanctions ("Notices of Violation") for violation of any laws and regulations.	-	-
101.1.6.2 Operator shall disclose all trade association memberships and has a policy commitment to ensure that their lobbying activities are in line with the Paris Agreement.	101.1.6.4 Operator shall disclose its lobbying positions and report on how its goals, direct lobbying activities and association membership(s) are in line with the EO100 Standard.	101.1.6.6 Operator shall publish a review of lobbying activities and positions of the trade associations in which they are a member to ensure they lobby in accordance with the Paris Agreement. If the review of the trade association lobbying activities shows misalignment with the goals of the Paris Agreement, the operator reports on the actions it has taken in response, including leaving the association.
-	101.1.6.5 Operator shall disclose whether it is owned in part or full by a company with fossil fuel assets.	-

4.4 Objective 1.7: Supply Chain Management

The goal of this Objective is for the Operator to conduct due diligence to ensure that its suppliers comply with all legal standards and uphold ethical, social and environmental standards in conformance with the requirements of the EO100 Standard.

Table 3: Objective 1.7 Performance Targets

Performance Target Level		
1	2	3
101.1.7.1 Operator shall implement a supply chain due diligence program for the responsible sourcing of all raw material inputs.	101.1.7.4 Operator's supply chain due diligence management system shall follow the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas five steps to identify and manage risks of contributing to or being directly linked to significant adverse impacts.	101.1.7.8 Operator shall incorporate into its commercial contracts/written agreements with suppliers a requirement to conduct due diligence in accordance with the OECD Guidance.
101.1.7.2 Operator shall make best efforts to ensure it sources solar panels, batteries, ancillary equipment, generators, etc. from manufacturing facilities that have undergone third-party audits based on a reputable international standard(s) (e.g., EPEAT, ISO, Solar Stewardship Initiative, etc.).	101.1.7.5 Operator shall require all solar panels, batteries, ancillary equipment, and generator suppliers to evaluate and manage environmental, social and governance risks and impacts associated with extraction and processing of input materials in line with OECD Due Diligence Guidance and/or the Solar Stewardship Initiative.	101.1.7.9 Operator shall require, where feasible, that all solar panels, batteries, ancillary equipment, and generator suppliers source their products' input minerals and metals (e.g., Aluminum, Copper, Steel, Iron, etc.) from suppliers that have obtained certification under a valid ESG or environmental certification or standard (e.g., Aluminium Stewardship Initiative, Copper Mark, IRMA, Towards Sustainable Mining, etc.).
101.1.7.3 Operator shall disclose information on its supply chain due diligence for high-risk materials, including information on supply chain management, risk and impact assessments, supplier assessment activities etc. such as the processes to monitor/track performance of risk	101.1.7.6 Operator shall disclose information on its supply chain due diligence, including information on all supply chain management activities, risk and impact assessments, supplier assessment activities, monitoring of its performance on risk prevention/mitigation measures and improvements over time.	101.1.7.10 Operator shall require its suppliers (including suppliers of minerals and metals) to evaluate and manage environmental, social and governance risks and impacts associated with extraction and processing.

prevention/mitigation measures and improvements over time.		
	101.1.7.7 Operator shall disclose (1) the name and location of first-tier suppliers and (2) the sourcing countries of at least three raw materials at high risk of adverse human rights impacts.	101.1.7.11 Operator shall require its suppliers to disclose the list of all the qualified smelters/refiners that the supplier has independently assessed to conform to the due diligence processes set out in the OECD Guidance.

5.0 PRINCIPLE 2: HUMAN RIGHTS, SOCIAL IMPACTS & COMMUNITY DEVELOPMENT

5.1 Objective 2.1: Human Rights

The goal of this Objective is to ensure that the Operator implements the United Nations Guiding Principles on Business and Human Rights and respects all internationally recognized human rights within its area of impact.

Table 5: Objective 2.1 Performance Targets

Performance Target Level		
1	2	3
101.2.1.1 Operator shall assign board-level responsibility for human rights within as well as the organization of the day-to-day responsibility for human rights across relevant internal functions.	-	-

5.2 Objective 2.2: Fair, Inclusive Engagement & Good Faith Consultation

The goal of this Objective is to ensure that the Operator identifies and engages honestly, frequently and collaboratively with all project-affected stakeholders through a process of fair, representative, and non-discriminatory consultation. Operator allows for meaningful input into project-related decisions, practices, and performance by those stakeholders before and during the full project cycle.

Table 6: Objective 2.2 Performance Targets

Performance Target Level		
1	2	3
101.2.2.1 Operator shall conduct thorough community engagement and consultation around project risks and impacts that allow for broad participation of local communities.	101.2.2.2 Operator shall require field-based staff to complete training on cultural sensitivity and awareness.	-

5.3 Objective 2.5: Resettlement

The goal of this Objective is to ensure that the Operator strives to avoid the physical and/or economic displacement of people from areas affected by the project and considers feasible alternative project designs to do so.

Table 7: Objective 2.5 Performance Targets

Performance Target Level		
1	2	3
101.2.5.1 Operator shall demonstrate that the project has not caused economic and/or physical displacement or resettlement. If it has, the Operator shall conduct a resettlement impact assessment and can demonstrate how displacement impacts have been mitigated and compensated.	-	-

5.4 Objective 2.7: Community Health & Safety

The goal of this objective is to ensure that the Operator promotes community health, including monitoring indicators of community health and by communicating risks and managing incidents quickly and efficiently to avoid or minimize the risk of community exposure to health and safety hazards and the risk of impacts on ecosystem services. Table 8 summarizes the additional Performance Targets applicable to solar operations.

Table 8: Objective 2.7 Performance Targets

Performance Target Level		
1	2	3
101.2.7.1 Where operations encroach into urban and suburban environments, Operator shall engage and consult affected communities regarding appropriate setbacks (i.e., the distance between residential, commercial, or other potentially sensitive land use areas and well sites) or additional control measures and safeguards that could be implemented in cases where regulation does not align with stakeholder expectations or does not exist, where appropriate and practicable.	101.2.7.5 Operator shall use a risk-based approach to determine and consistently apply setbacks from occupied buildings such as houses, schools, churches, and commercial establishments and from potentially sensitive land use areas; and related concerns of local community stakeholders during the siting process.	-
101.2.7.2 Operator shall gather and use information about community road use to avoid negatively affecting the health of local community members such as ensuring safe driving practices, minimizing the use of roads during peak hours and taking special precautions near schools (see also 1.4 Management Systems: Secondary & Cumulative Impacts).	101.2.7.6 Operator shall adjust activity schedules to prevent or reduce traffic congestion and maintain a record of associated traffic accidents.	-
101.2.7.3 Operator shall provide orientation and safety training for all visitors to the site.	101.2.7.7 Operator shall carry insurance for all on-site visitors' safety and protection.	-
101.2.7.4 Operator shall conduct a pre-construction analysis of road conditions and make any needed enhancements and/or repairs prior to any vehicle traffic.	101.2.7.8 Operator shall evaluate road damage caused by its operations and compensate for or remediate any negative impacts.	-

5.5 Objective 2.8: Sustainable Community Investment

The goal of this Objective is to ensure that the Operator supports the development of communities where operations take place through community-led initiatives that promote sustainable improvements in the quality of life of affected communities. Table 9 summarizes the additional Performance Targets applicable to solar Operators.

Table 9: Objective 2.8 Performance Targets

Performance Target Level		
1	2	3
101.2.8.1 Operator shall track and report on project and community development impacts.	-	101.2.8.10 Operator shall provide support to historically marginalized communities outside of the direct project area.
101.2.8.2 Operator shall have a commitment to identify potential benefit and ownership-sharing options that serve affected communities including a commitment to explore co-ownership models. This commitment recognises that affected communities have a right to decide their own priorities in terms of how they may benefit from projects.	101.2.8.6 Operator shall discuss and agree on benefit-sharing opportunities with communities.	101.2.8.11 Operator shall establish community-agreed metrics for success with the community.
101.2.8.3 Operator shall seek opportunities to implement equitable deals with communities (e.g., equity and/or ownership).	101.2.8.7 Operator shall demonstrate shared benefits or co-ownership of the project with the community.	101.2.8.12 Operator shall disclose its best practices in benefit-sharing to enhance knowledge and practice in this area.
101.2.8.4 Operator shall have established goals for hiring workers from conventional energy.	101.2.8.8 Operator shall provide training and apprenticeship opportunities for workers transitioning from conventional energy.	-
101.2.8.5 Operator shall provide training and apprenticeship opportunities for local workers.	101.2.8.9 Operator shall set targets for and record local job creation. Operator communicates anticipated job creation numbers and reports actual job creation figures over the course of the project.	101.2.8.13 Operator shall set targets for and record sourcing from businesses owned by people from underrepresented groups (e.g., Indigenous- and Women-Owned Businesses).

5.6 Objective 2.10: Grievance Mechanism

The goal of this Objective is to ensure that the Operator establishes an accessible, transparent, culturally appropriate, trustworthy, and inclusive project-level grievance mechanism for individuals and communities who may be adversely impacted by development activities.

Table 10: Objective 2.10 Performance Targets

Performance Target Level		
1	2	3
101.2.10.1 Operator shall identify reasonable community impact concerns and respond to them. Concerns are discussed and appropriate responses are prepared, budgeted, implemented and monitored. Operator maintains statistics on local community concerns and monitors trends. Reports on grievance trends and resolution measures shall be provided to senior management and back to the local community, taking into account confidentiality concerns.	-	-

6.0 PRINCIPLE 3: INDIGENOUS PEOPLES' RIGHTS

6.1 Objective 3.1: Free, Prior & Informed Consent (FPIC)

The goal of this Objective is to ensure that the Operator obtains FPIC of the affected communities of Indigenous Peoples when the project activities may affect the rights of Indigenous Peoples as established in the United Nations Declaration on the Rights of Indigenous Peoples and ILO Convention 169 on Indigenous and Tribal Peoples, and in the constitution of the country of operation.

Table 11: Objective 3.1 Performance Targets

Performance Target Level		
1	2	3
101.3.1.1 Operator shall obtain Free, Prior and Informed Consent (FPIC) for the disposal or long-term storage of hazardous materials on the lands or territories traditionally occupied or otherwise used or acquired by Indigenous Peoples.	-	-
101.3.1.2 Operator shall obtain FPIC for extraction of water for operational activities where the water is drawn from sources within Indigenous lands, territories and resources or from water bodies on which the reliability of those sources depend.	-	-

6.2 Objective 3.2: Engagement & Participation

The goal of this Objective is to ensure that the Operator undertakes an inclusive process of fair, representative and non-discriminatory engagement and good faith consultation with all project-affected communities of Indigenous Peoples.

Table 12: Objective 3.2 Performance Targets

Performance Target Level		
1	2	3
-	101.3.2.1 Operator shall engage or hire a representative Indigenous liaison(s) and compensate them.	-

7.0 PRINCIPLE 4: FAIR LABOR & WORKING CONDITIONS

7.1 Objective 4.2: Child Labor

The goals of Objective 4.2 are to ensure the Operator does not engage in or support the employment of children, in accordance with ILO Conventions 138 and 182 and ILO Recommendations 146 and 190. Table 13 summarizes the additional Performance Targets applicable to solar operations.

Table 13: Objective 4.2 Performance Targets

Performance Target Level		
1	2	3
101.4.2.1 Operator shall establish a system to monitor labor throughout its supply chain to ensure no child labor is engaged, including terminating contracts with providers that employ children or are at risk of using child labor.	101.4.2.2 Operator and its contractors shall monitor compliance with the policy. Operator demonstrates that its contractors do not use child labor.	101.4.2.3 Operator shall disclose its policies and processes for due diligence and monitoring of its supply chain regarding child labor as well as steps taken to assess and manage these risks. Operator shall disclose its process of assessing its effectiveness in ensuring that child labor is not used.

7.2 Objective 4.3: Forced Labor

The goals of Objective 4.3 are to ensure that the Operator does not use forced or compulsory labor (including bonded, indentured or prison labor), nor restricts the freedom of movement of employees in accordance with ILO Convention 29 and 105. Table 14 summarizes the additional Performance Targets applicable to solar operations.

Table 14: Objective 4.3 Performance Targets

Performance Target Level		
1	2	3
101.4.3.1 Operator shall establish a system to monitor its supply chain to ensure no forced labor is engaged, including terminating contracts with providers that employ or are at risk of employing forced labor.	101.4.3.2 Operator and its contractors shall monitor compliance with the policy. Operator demonstrates that its contractors do not use forced labor.	101.4.3.4 Operator shall disclose its policies and processes for due diligence and monitoring of its supply chain regarding forced labor as well as steps taken to assess and manage these risks. Operator shall disclose its process of assessing its effectiveness in ensuring that forced labor is not used, including sourcing reports/verifications.
-	101.4.3.3 Operator shall not source solar panels, batteries, ancillary equipment, generators, etc. from areas with alleged forced labor.	-

7.3 Objective 4.5: Equal Opportunity & Treatment

The goals of Objective 4.5 are to ensure that the Operator provides equal opportunities and fair treatment of workers and does not practice or condone any form of discrimination in the workplace in accordance with ILO Conventions 100 and 111.

Table 15: Objective 4.5 Performance Targets

Performance Target Level		
1	2	3
101.4.5.1 Operator shall implement policies and practices to promote diversity, equity and inclusion (DEI) with measurable goals and targets.	-	-
101.4.5.2 Operator shall have diverse representation (including women and underrepresented groups) on the Board of Directors and other leadership committees.	-	-

7.4 Objective 4.6: Working Hours & Leave

The goals of Objective 4.6 are to ensure that the Operator applies normal working hours, rest days, and legally mandated leave in accordance with applicable law and ILO Conventions 1, 14, 132 and 183. Table 16 summarizes the additional Performance Targets applicable to solar operations.

Table 16: Objective 4.6 Performance Targets

Performance Target Level		
1	2	3
101.4.6.1 Operator shall establish a policy for workday breaks and rest facilities, in line with international best practices (e.g., ILO Convention No. 153, ILO Fact Sheet Rest Periods).	-	-
101.4.6.2 Operator shall apply the working hours and leave policies to its contractors and suppliers.	-	-

7.5 Objective 4.7: Remuneration

The goals of Objective 4.7 are to ensure that the Operator pays workers a living wage plus associated benefits. Table 17 summarizes the additional Performance Targets applicable to solar operations.

Table 17: Objective 4.7 Performance Targets

Performance Target Level		
1	2	3
101.4.7.1 Operator shall ensure equal pay for work of equal value, in accordance with ILO 100.	-	-

7.6 Objective 4.9: Occupational Health and Safety

The goals of Objective 4.9 are to ensure that the Operator respects the right to health by providing safe and healthy working conditions for directly and indirectly employed workers. Table 18 summarizes the additional Performance Targets applicable to solar operations.

Table 18: Objective 4.9 Performance Targets

Performance Target Level		
1	2	3
101.4.9.1 Operator shall conduct due diligence when hiring contractors regarding health and safety issues; ensure contractor conformance with operator's health and safety policies and evaluate health & safety performance of contractors. Contractors must meet any applicable training and safety levels required of employees.	-	-
101.4.9.2 Operator shall minimize the risk of traffic accidents by ensuring all employees and contractors receive comprehensive worker training on driving safety, including driving heavy vehicles in residential or commercial areas.	-	-
101.4.9.3 Operator shall ensure chemical labeling, training, Personal Protective Equipment (PPE), secondary containment and monitoring procedures are in place to safely manage the handling, storage and disposal of chemicals.	-	-
101.4.9.4 Operator shall conduct hazard risk assessments, including electrocution and fire risks, and develop risk management plans to mitigate incidents.	-	-
101.4.9.5 Operator shall disclose management systems used to integrate a culture of safety in all operations within the Certifiable Unit including training provided to employees and contractors and frequency of safety inspections.	101.4.9.6 Operator shall disclose the total recordable incident rate (TRIR) including number of fatalities occurring within the Certifiable Unit for the past 1 year, 2 years, and 3 years preceding the assessment. Incident rate includes any recordable incident that occurs including incidents involving contractors or short service employees. Statistics and learnings are shared within the corporation with other business units.	101.4.9.7 Operator shall disclose learnings from incidents or near misses over the course of the 3 years preceding the assessment. The discussion is shared among trade associations, peer operations or publicly disclosed and best practices show evolution with time.

7.7 Objective 4.10: Workplace Emergency Preparedness & Response Planning

The goal of this Objective is to ensure that the Operator has the capacity to respond to operational emergencies and incidents in a manner that prioritizes worker health and safety.

Table 19: Objective 4.10 Performance Targets

Performance Target Level		
1	2	3
101.4.10.1 Operator shall provide proper training for onsite workers in case of any exposure to hazards and pays for the proper emergency equipment. Operator ensures emergency protective equipment is accessible and available for immediate use.	-	-

8.0 PRINCIPLE 5: CLIMATE CHANGE, BIODIVERSITY, & ENVIRONMENT

8.1 Objective 5.4: Waste Production and Management

The goals of Objective 5.4 are to ensure adequate treatment of facilities at end of life as well as ensure that sell-off of aging inventory is not a common practice by ensuring that the purchaser has adequate funds to close, remediate and reclaim sites.

Table 21: Objective 5.4 Performance Targets

Performance Target Level		
1	2	3
-	101.5.4.5 Operator shall mitigate environmental and health risks associated with the polysilicon and/or cadmium in its supply chain.	-
101.5.4.1 Operator shall require suppliers to disclose the percentage of products by revenue that contain IEC 62474 declarable substances, arsenic compounds, antimony compounds, or beryllium compounds.	-	-
101.5.4.2 The decommissioning plan shall include financial resources to manage end of life (including the recycling and material recovery stages).	101.5.4.6 Operator shall calculate and disclose the percentage of hazardous waste recycled as the total weight of hazardous waste generated that was recycled, divided by the total weight of hazardous waste generated, including raw	-

	materials sourcing and waste generation as per ISO 14040/14044.	
101.5.4.3 Operator shall identify and secure a recycling company to recycle solar panels damaged during transportation, installation, or operation as well as at the end of project life. Operator shall ensure the project's damaged and/or decommissioned solar panels are recycled.	101.5.4.7 Operator shall conduct due diligence on recyclers to ensure reputability (e.g., check third-party certifications, closure plans, insurance, hazardous waste permits, etc.).	
101.5.4.4 Operator shall participate in manufacturer take back programs, where applicable.	101.5.4.8 Operator shall participate in industry efforts (e.g., Basel Action Network's e-Trash Transparency Project) to improve the recycling of solar panels.	-

8.2 Objective 5.5: Remediation of Environmental Liabilities

The goals of objective 5.5 are to ensure Operator identifies and addresses pre-existing and 'orphan' environmental liabilities.

Table 22: Objective 5.5 Performance Targets

Performance Target Level		
1	2	3
101.5.5.1 Within the Certifiable Unit, Operator shall disclose a list of active sites or facilities with decommissioning plans, sites and facilities that have been decommissioned, and those sites and facilities in the process of being decommissioned or repurposed/refurbished into an updated renewables site.	-	-
101.5.5.2 Operator shall disclose the total amount of financial provisions made by the organization for decommissioning and closure or repurposing/refurbishing, as well as post-decommissioning and closure monitoring and aftercare for their fields and facilities.	101.5.5.5 Operator shall conduct a risk-based analysis of liabilities to prioritize refurbishment, closure and remediation. Factors that should be considered are age and proximity: livestock, known wildlife habitats, communities, residences, ground and surface water.	
101.5.5.3 Operator shall ensure proper end of life treatment of project infrastructure to reduce the risk of public liabilities. Operator commits to and discloses planned timelines.	-	-
101.5.5.4 Before divesting assets, Operator shall conduct a due diligence process in which they confirm that the buyer has adequate financial means to close, recycle and reclaim facilities and infrastructure when they reach end of life.	-	-

8.3 Objective 5.6: Closure & Restoration

The goals of objective 5.6 are to ensure Operator plans financial provision for closure and remediation with the end goal of full restoration of land and water resources to an end state agreed upon with stakeholders, including regulators, local communities and Indigenous Peoples.

Table 23: Objective 5.6 Performance Targets

Performance Target Level		
1	2	3
-	101.5.6.1 Operator shall disclose timelines and funding for closure with stakeholders and communicate regularly on it, especially when changes are anticipated.	-

8.4 Objective 5.7: Greenhouse Gas Emissions

The goals of objective 5.7 are to incentivize better practices for reducing methane and overall greenhouse gas emissions in the renewable energy sector. Table 24 contains several Performance Targets aimed at conducting and improving life cycle analysis of renewable energy projects, calculating and disclosing greenhouse gasses and renewable energy credits.

Table 24: Objective 5.7 Performance Targets

Performance Target Level		
1	2	3
		101.5.7.5 Operator shall estimate and quantify scope 3 emissions, using GHG Protocol or another industry-accepted protocol.
101.5.7.1 Operator shall set corporate GHG intensity reduction targets (short, medium and long term) in line with requirements under the Task Force on Climate-Related Financial Disclosures (TCFD) with plans to align with requirements to meet the Paris Agreement which includes a strategy towards net-zero emissions by 2050 or sooner.	101.5.7.2 Operator shall demonstrate progress towards meeting the targets set under PT1 and that they are on a trajectory to meet or exceed their corporate ambition.	101.5.7.6 Operator has achieved net zero in its corporate operations.
-	101.5.7.3 The operator shall request and track manufacturers' product-specific carbon analysis such as a Life Cycle Assessment (LCA) for solar panels (e.g., EPEAT).	101.5.7.7 The operator shall source only from suppliers that have conducted a product-specific carbon analysis such as a Life Cycle Assessment (LCA) for solar panels (e.g., EPEAT).
-	101.5.7.4 Operator shall calculate and disclose the additionality of the project if it has associated renewable energy credits (RECs) or is part of an offtake agreement.	101.5.7.8 Operator's carbon reductions and additionality have been certified by a reputable standard (e.g., The Verified Carbon Standard).

8.5 Objective 5.9: Biodiversity & Ecology

The goals of objective 5.9 are to ensure Operator applies best practices in project design, construction and operation to ensure the healthy functioning of ecosystems and sustainability of natural resources affected by its activities. Operator takes actions in line with the Mitigation Hierarchy to protect the integrity of areas of High Conservation Value, Critical Habitat and any priority ecosystem services that affected communities depend upon.

Table 25: Objective 5.9 Performance Targets

Performance Target Level		
1	2	3
101.5.9.1 Operator shall conduct avian and bat collision and impact studies for its site and transmission infrastructure.	101.5.9.4 Operator shall take steps to mitigate lake effect for birds and bats in its solar installations.	-
101.5.9.2 Operator shall evaluate potential risks and impacts to wildlife migratory corridors and habitat for species native to the site area when locating infrastructure.	-	-
101.5.9.3 Operator shall use best international practices such as monitoring, deterrent and curtailment tools to mitigate avian and bat collision at its site, including transmission and generation tie-in infrastructure.	101.5.9.5 Operator shall demonstrate and disclose the effectiveness of its avian and bat collision minimization practices at least annually.	-

8.6 Objective 5.10: Air

The goals of Objective 5.10 are to ensure that the Operator's activities improve or do not negatively affect the air quality in affected airsheds and that the best available technology is used to control air pollutant emissions from combustion and fugitive sources.

Table 26: Objective 5.10 Performance Targets

Performance Target Level		
1	2	3
-	101.5.10.3 Operator uses best management practices to prevent and mitigate battery off gassing.	-

Performance Target Level		
1	2	3
101.5.10.1 Operator shall use best management practices to control dust. Dust suppression techniques may include enclosures and covers, spraying, irrigation, stabilization and revegetation of cleared land. Project roads should be sealed as far as practicable to minimize dust from vehicles.	-	-
101.5.10.2 Operator uses best management practices to mitigate impacts of chemical and detergent sprays used for solar panels.	-	-

8.7 Objective 5.11: Water

The goals of Objective 5.11 are to ensure that the Operator's activities improve or do not negatively affect the quality and quantity of groundwater or surface water in affected terrestrial and marine areas. Discharges to water meet or exceed international standards and have no negative impacts on human health, ecosystem health and the use of water to meet social, cultural, economic, and environmental needs.

Table 27: Objective 5.11 Performance Targets

Performance Target Level		
1	2	3
101.5.11.1 Operator shall respect water rights and water use rights of local and Indigenous communities, both formal and informal, that are affected by the site's water use. In countries where water rights are commoditized, fair compensation is made to appropriate parties for acquisition of the necessary water.	-	-
101.5.11.2 Operator shall assess and document fresh water use by measuring water use from all sources: aquifer, river, basin, and catchment. Operator assesses and reports methods to reduce overall water use.	101.5.11.7 Operator shall develop local source water protection plans that include addressing regional water risks, engaging with key stakeholders and supporting projects that improve watersheds and aquifers.	-
101.5.11.3 Operator shall manage impacts related to stormwater and extreme flow events, including flooding	101.5.11.8 Operator shall monitor surface water withdrawals tied to seasonal flows to ensure flow rates are not significantly impacted considering	-

	cumulative impacts and are in line with local regulations and sustainability of local community access and use where regulations do not exist.	
101.5.11.4 Operator shall disclose total volume of fresh water use, and recycled water use annually for the site.	-	-
101.5.11.5 Operator shall have a policy to use non-potable or brackish water whenever technically and economically feasible.	-	-
101.5.11.6 Operator shall disclose (1) total fresh water withdrawn (2) total fresh water consumed and the percentage of each in regions of High or Extremely High Baseline Water Stress.	101.5.11.9 Operator shall require suppliers to track (1) total fresh water withdrawn (2) total fresh water consumed and the percentage of each in regions of High or Extremely High Baseline Water Stress.	-

8.8 Objective 5.12: Land

The goals of Objective 5.12 are to ensure that the Operator minimizes deforestation or the clearance of land in line with the Mitigation Hierarchy.

Table 28: Objective 5.12 Performance Targets

Performance Target Level		
1	2	3
101.5.12.1 Operator shall minimize operation's physical footprint by maximizing the efficiency and proximity of infrastructure.	101.5.12.6 Where practical, Operator shall co-locate infrastructure (e.g. roads and utility lines in the same right of way) to minimize surface disturbance.	101.5.12.9 Operator shall evaluate landscape-level and potential cumulative impacts if significant infrastructure development is required and develop and implement mitigation measures in consultation with local communities.
101.5.12.2 The supplier shall have a plan for the rehabilitation and restoration of the land to its pre-existing use or better.	-	-
101.5.12.3 Operator shall minimize, where feasible, development on lands that are classified as high-value/high-productivity farmland and shall not displace agricultural land uses.	101.5.12.7 Operator shall ensure where projects developed on high-value agricultural lands, will be returned to the original condition at the end of project life.	101.5.12.10 Operator shall ensure that projects developed on high value agricultural lands will be returned to a better condition at the end of project life.

Performance Target Level		
1	2	3
101.5.12.4 The supplier shall employ best practices such as dual use to protect soil health, lands and waterways, to protect agricultural integrity (e.g., agri-voltaics, managed livestock grazing or dual crop production, etc.).	101.5.12.8 Operator shall reduce land impacts where possible by siting projects at lower-quality locations, such as brownfields, abandoned mining land or existing transportation and transmission corridors.	-
101.5.12.5 Operator shall evaluate potential risks and impacts to wildlife migratory corridors and habitat for species native to the site area when locating infrastructure.	-	-

8.9 Objective 5.13: Land Restoration

The goals of Objective 5.13 are to ensure that the Operator maximizes ongoing restoration or land is otherwise reclaimed to equivalent capability. Land capability and soil quality in uncleared areas are maintained or enhanced.

Table 29: Objective 5.13 Performance Targets

Performance Target Level		
1	2	3
101.5.13.1 Operator shall use pollinator-friendly, native species to minimize the area of unrestored land in the project area (e.g., under and around solar installations).	-	-

8.10 Objective 5.14: Visual and Ambient Impacts

The goals of Objective 5.14 are to ensure that the Operator avoids or minimizes negative impacts of project activities on landscape features, character and aesthetics and on human and ecosystem health related to emissions of light, heat, and odors.



Table 30: Objective 5.14 Performance Targets

Performance Target Level		
1	2	3
101.5.14.1 Operator shall mitigate glare impacts of solar installation on aviators, drivers, and other nearby stakeholders.	-	-

9.0 NORMATIVE AND SUPPORTING REFERENCES

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