

ESG & SUSTAINABILITY

TECHNICAL MANAGEMENT FRAMEWORK



Management Principle: No ESG claim is reported without a defined boundary, documented methodology, controlled data source, named owner, approval workflow and retained evidence suitable for assurance.

01 | DOCUMENT PURPOSE, SCOPE & DESIGN STATUS

Purpose: This document converts the three-page ADS ECO ESG & Sustainability source brief into an implementation-oriented management framework. It preserves the source vision and pillars while adding technical systems, data architecture, governance controls, KPI definitions, reporting workflows and implementation roadmap.

Scope: Environmental management, circular economy, climate, energy, water and biodiversity; Social value, workforce development, health and safety, community engagement and local economic impact; Governance, ethics, risk management, compliance, responsible investment and transparent reporting; Digital ESG monitoring, carbon accounting, data governance, assurance and investor dashboards.

Design Status: Quantitative targets and system capacities are indicative. Final commitments require verified baselines, ESIA/ESMS development, engineering design, permits, commercial agreements and management approval. All metrics must have defined boundary, methodology, owner and evidence.

Executive Summary & Strategic Vision

Vision: Build a world-class sustainable eco-industrial ecosystem that embeds environmental protection, social responsibility and transparent governance into every operational and investment decision.

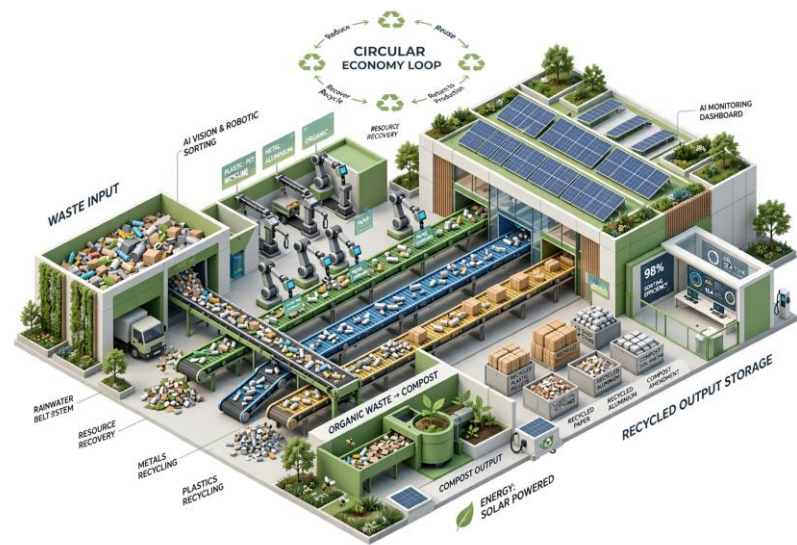
Value Proposition: Reduce environmental impacts, generate green employment, strengthen community value, improve operational resilience and provide credible ESG evidence to investors, lenders, authorities and partners.

Target outcomes from source brief: landfill diversion >95%, GHG reduction - 60% by 2030*, renewable energy 100%*, water recycled >80%, local employment >70%*, training >40 hours/FTE/year, community investment >2% profit*, safety TRIR <1.0, grievance closure >=90% – all indicative and requiring formal definition, baseline and approval before external use.

Pillar	Focus	Technical System
ENVIRONMENTAL	Climate, circularity, energy, water, pollution, biodiversity	IoT sensors, SCADA, mass balance, carbon engine, GIS
SOCIAL	Workers, contractors, communities, skills, safety, diversity, grievances	HRIS, LMS, HSE system, stakeholder management, mobile inspections
GOVERNANCE	Ethics, compliance, risk, internal controls, cybersecurity, procurement	GRC platform, registers, approvals, audit trails, SOC
DIGITAL INTELLIGENCE	Real-time monitoring, analytics, reporting, evidence	API-first architecture, analytics engines, dashboards, assurance exports

02 | INTEGRATED ESG VALUE ARCHITECTURE & OPERATING MODEL

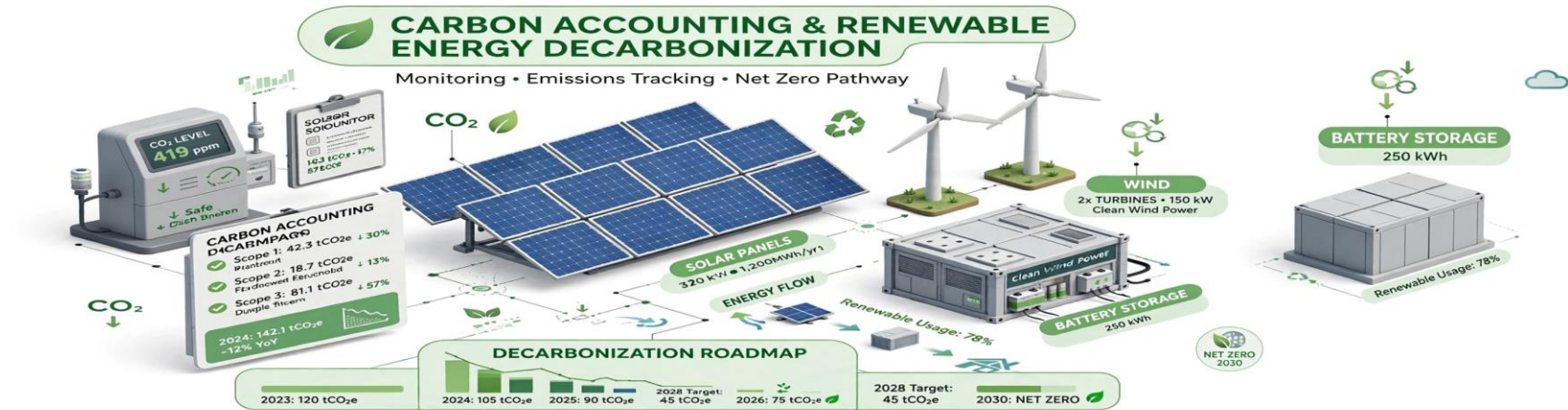
ESG managed as one operating system. Environmental: Manage climate, circularity, energy, water, pollution prevention, biodiversity and resource efficiency. Social: Manage workers, contractors, communities, skills, safety, diversity, grievances and local economic impact. Governance: Manage ethics, compliance, risk, internal controls, cybersecurity, procurement, reporting and accountability. Operating Model Cycle: Accountability (Board oversight, executive ownership, named data/process owners) → Integration (ESG embedded in design, procurement, operations, maintenance and finance) → Evidence (Every result supported by source records, calculations and approvals) → Improvement (Targets translated into action plans, budgets, benefits and closure tracking).



Management Principle	Implementation
Climate & Energy	GHG inventory, decarbonization plan, renewable generation, efficiency and resilience
Circular Economy	Mass balance, recovery yields, landfill diversion, quality, traceability and end markets
Natural Resources	Water balance, smart metering, treatment, reuse, discharge control, leak detection, air/odour/noise monitoring
People & Communities	Jobs, skills, health, safety, community value, grievance mechanism
Governance	Ethical conduct, risk control, compliance and accountability
Digital Intelligence	IoT, SCADA, GIS, analytics and AI for real-time ESG management
Transparency	Consistent management, investor and sustainability disclosures
Continuous Improvement	Convert findings and data into funded actions and measurable benefits

03 | ENVIRONMENTAL PILLAR – TECHNICAL FRAMEWORK

Control Hierarchy: Avoid impacts through site planning and design → Reduce impacts through efficient technology and operating controls → Recover materials, energy, water and nutrients → Treat residual emissions and waste to required standards → Monitor performance and investigate exceedances → Restore affected areas and continuously improve. Technologies: Digital weighbridges, RFID/QR, AI sorting, NIR/VIS/XRT/LIBS sensing, magnetic and eddy-current separation, robotic quality control, WMS/ERP integration. Management Controls: Waste acceptance criteria, hazardous-waste segregation, contamination limits, calibrated mass balance, storage controls, chain-of-custody records, customer specifications.



Carbon Accounting, Renewable Energy & Decarbonization

Scope: Scope 1 (fuel combustion, process, fugitive), Scope 2 (imported electricity/heat), material Scope 3 (waste transport, purchased goods, downstream).

Requirements: Define organizational and operational boundaries per GHG Protocol, maintain controlled emission-factor and GWP libraries, separate fossil and biogenic carbon where relevant, track data quality, estimation methods and uncertainty, reconcile energy, fuel, waste and production data, retain evidence and approvals for external assurance. Decarbonization Levers: Solar PV, biogas/biomethane, waste-to-energy and other renewables; BESS, smart-grid control and peak-demand management; High-efficiency motors, VFDs, compressed air, heat recovery and building controls; Fleet optimization, EV charging and lower-carbon logistics; Methane capture, organic treatment and process optimization; Supplier engagement and lower-carbon product design.

KPI	Formula	Unit	Source	Owner / Freq	Indicative Target*
GHG emissions reduction	(Baseline - Current)/Baseline	%	Carbon engine, fuel, electricity, waste	ESG/Finance monthly	-60% by 2030
Renewable energy share	Renewable electricity / total electricity	%	EMS, meters, GoO	Energy Mgr monthly	100% by 2030
Landfill diversion	Non-landfilled / total waste	%	Weighbridges, WMS, certificates	Ops daily/monthly	>95% by 2030
Water recycled & reused	Recycled / total demand	%	Water meters, WWTP SCADA	Utilities monthly	>80% by 2030

04 | WATER STEWARDSHIP, POLLUTION PREVENTION & BIODIVERSITY

Water Stewardship: Meter all major inputs, uses, losses, treatment flows, reuse and discharge. Smart meters with leak detection, online quality monitoring with alarms, hold points and corrective action. GIS & Biodiversity: Map sensitive receptors, habitats, green infrastructure, restoration areas, rainwater/green buffer zones. Incident Management: Digitally record spills, exceedances, complaints, investigations and closure evidence with photos, lab reports, approvals. Resource Efficiency: Energy, water, materials and maintenance optimization using SCADA, IoT and AI forecasting. Pollution Prevention: Air emissions CEMS for WtE (NO_x, SO_x, PM, HCl, HF, dioxins), odour monitoring e-nose, noise monitoring, soil and groundwater wells with threshold alerts.

05 | SOCIAL PILLAR – GREEN JOBS, SKILLS & INCLUSIVE VALUE



Workforce: Fair recruitment, equal opportunity, local employment >70%*, workforce planning, retention, wellbeing and employee voice. Capability: Role-based technical, digital, ESG, H&S and leadership training with competency verification. Community: Stakeholder engagement, grievance mechanism, local procurement, education partnerships and transparent impact measurement. Competency Architecture: Induction, code of conduct and worker rights; Process safety, electrical safety, confined space, lifting, work at height, emergency response; Waste identification, hazardous-material handling and environmental controls; SCADA, IoT, cybersecurity, data quality and digital work instructions; AI/robotics operation, maintenance and quality control; ESG data ownership, carbon accounting and sustainability reporting; Supervisor leadership, incident investigation and root-cause analysis; Community engagement, grievance handling and responsible procurement. Indicative target >40 training hours per employee per year, risk and role-based final definition.

Social KPI	Definition	Unit	Source	Frequency	Target*
Local employment	Local employees / total	%	HRIS verified addresses	HR quarterly	>70%
Training intensity	Training hours / avg FTE	hrs/FTE	LMS, attendance	HR/HSE monthly	>40 hrs/year
Safety TRIR	(Recordable injuries x 200k)/hours	rate	HSE system, hours	HSE monthly	<1.0
Community investment	Community investment / profit	%	Finance, program records	Finance annual	>2%

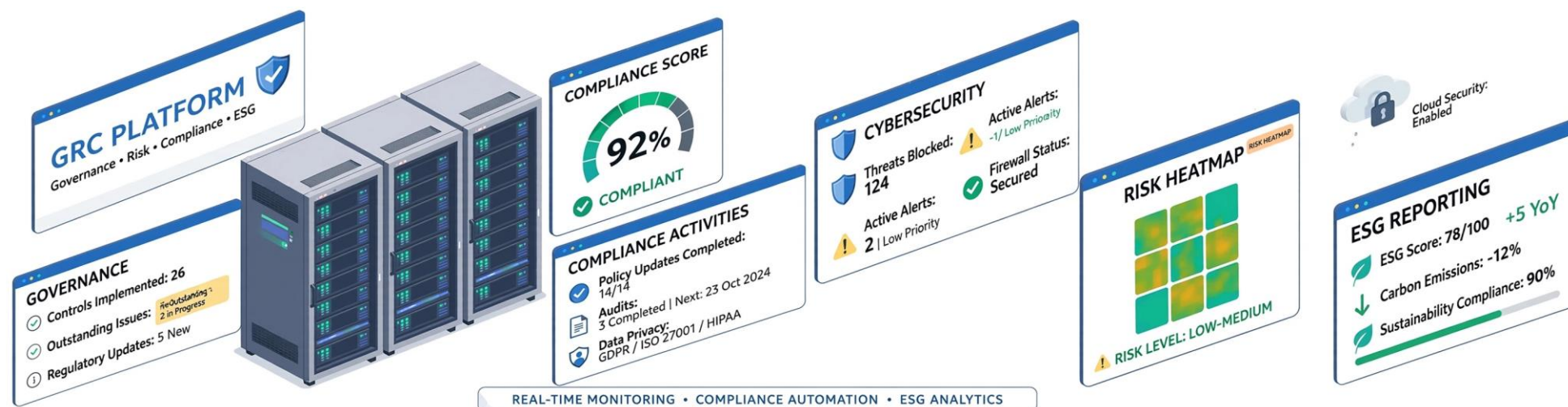
06 | OCCUPATIONAL HEALTH, SAFETY & EMERGENCY MANAGEMENT

Prevent: HSE-by-design reviews, hazard studies HAZID/HAZOP, machine guarding, traffic separation, ventilation, ergonomics, fire protection, contractor prequalification. **Control:** Permit-to-work, LOTO, gas testing, PPE, digital inspections, exposure monitoring, maintenance controls, safety observations. **Respond & Learn:** Emergency command, medical response, spill and fire plans, drills, incident reporting, RCA, action tracking, lessons learned. **Digital Tools:** Mobile inspections offline/online forms, geotagged evidence, automatic escalation; Connected permits electronic approvals, isolation verification and conflict detection; Wearables optional lone-worker, fatigue, gas exposure and restricted-zone alerts; Computer vision PPE, unsafe-zone and traffic-risk detection where legally and ethically appropriate; Predictive analytics trend leading indicators, maintenance condition and recurring root causes; Emergency systems mass notification, muster accounting, GIS incident map and response logs; Contractor controls prequalification, induction, access, competency and performance scoring; Occupational health exposure records, health surveillance and confidential case management.

07 | COMMUNITY ENGAGEMENT, LOCAL VALUE & GRIEVANCE MANAGEMENT

Engagement Cycle: Identify – stakeholder map, vulnerable groups, authorities, workers, suppliers, communities and partners; Disclose – plain-language project, risk, monitoring and performance info through accessible channels; Consult – meetings, surveys, workshops before material decisions; Respond – record issues, assign owners, agree actions and communicate outcomes; Measure – track participation, grievances, local jobs, procurement, education and investment outcomes. **Grievance Mechanism:** Multiple accessible intake channels, confidentiality and non-retaliation, categorization, severity and response deadlines, investigation, remedy, appeal and closure confirmation, trend analysis and management review. **Local Economic Development:** Local recruitment and apprenticeship pathways, supplier development and transparent tender opportunities, university/vocational partnerships, support for local service businesses and circular start-ups, community investment linked to needs and outcomes, public reporting of commitments, beneficiaries and results. Avoid reporting activity counts as impact without evidence of change.

08 | GOVERNANCE, ETHICS & ACCOUNTABILITY



Policies: Code of conduct, anti-corruption, human rights, HSE, environment, procurement, data and disclosure. Controls: Segregation of duties, approvals, registers, due diligence, monitoring, escalation and audit. Incentives: Link management objectives and selected remuneration metrics to validated ESG outcomes. Transparency: Board reporting, stakeholder communication, investor disclosures and issue remediation. Governance Structure: Board oversight, ESG & Risk Committee, executive sponsor, ESG lead, named data/process owners for each KPI with RACI matrix.

Governance KPI	Definition	Source	Owner	Target
ESG compliance score	Weighted completion of obligations, controls and actions	Compliance register, assurance findings	Compliance monthly	Board-approved threshold
Grievance closure	Grievances closed on time / due	Stakeholder management system	Community monthly	>=90% on time
Supplier ESG screened	Screened suppliers / critical suppliers	Procurement system, due diligence	Procurement quarterly	100% critical suppliers
Training completion (ethics)	Completed ethics training / required	LMS, attestations	HR/Compliance	100%

09 | ESG RISK, COMPLIANCE & RESPONSIBLE PROCUREMENT

Enterprise Risk Integration: Illustrative heatmap with likelihood vs impact, final ratings through structured risk workshops and approved risk criteria. Responsible Procurement Control Set: Supplier code of conduct and contract ESG clauses; Risk-based supplier due diligence and beneficial-ownership checks; Sanctions, anti-bribery, AML and conflict-of-interest screening; Human-rights, labor, H&S and environmental requirements; Origin, chain-of-custody and recycled-content evidence; Cybersecurity and data-protection expectations for connected suppliers; Supplier scorecards, corrective plans, audits and termination criteria; Local procurement and supplier-capacity-development programs. Compliance Registers: Permits and legal obligations, ESIA/ESMS commitments, policy attestations and training completion, incidents/investigations/corrective actions, whistleblowing cases and protected investigations, external assurance findings and remediation.

10 | DIGITAL ESG MANAGEMENT PLATFORM

Vision: Secure, integrated architecture for real-time monitoring, analytics, reporting and evidence. Integration: API-first connectivity to operational technology (weighbridges, SCADA, EMS, WMS, ERP, HRIS, LMS, HSE, laboratory) and enterprise systems, with controlled manual entry only where required. Data Layers: Ingestion (sensors, meters, IoT, GIS, RFID), Processing (validation, mass balance, carbon engine, circularity, water, safety, social), Analytics (carbon, circularity, water, safety, social and governance engines with alerts, forecasts and scenario analysis), Trust (role-based access, audit trails, master-data control, evidence attachments, approvals, backup, disaster recovery and assurance exports). Principle: A dashboard is not evidence by itself. Assurance requires traceability from displayed result to source data, calculation logic, control performance, approvals and retained documentation.

ESG Data Governance, Assurance & Cybersecurity

Domain	Controls
Data Governance	Boundary definition, methodology library, owner assignment, calculation logic, evidence retention, version control
Assurance	Internal controls, independent verification, traceability chain, sampling, findings tracking, ISO 14064-3
Cybersecurity OT/IT	Network segmentation, IAM with MFA, least privilege, secure config, patching, vulnerability mgmt, monitored logging
Data Protection	Encryption in transit and at rest, controlled backups, supplier and cloud security due diligence, privacy-by-design
Incident Response	Incident response plan, recovery testing, business continuity, whistleblower protection, ethical AI governance



11 | KPI FRAMEWORK, MATERIALITY & STANDARDS ALIGNMENT

Double-Materiality View: Impact materiality (inside-out) and financial materiality (outside-in). Illustrative prioritization – final requires stakeholder input, impact assessment, financial analysis and management approval. Reference Frameworks: UN SDGs – strategic impact alignment; GRI Standards – impact-focused sustainability reporting; ISSB / IFRS S1-S2 – investor-focused sustainability and climate disclosures; EU CSRD / ESRS – double materiality, policies, actions, metrics and targets where applicable; EU Taxonomy – eligible/aligned sustainable activities; GHG Protocol / ISO 14064 – corporate GHG inventory, calculation and verification; ISO 14001 / 45001 / 50001 – environmental, occupational H&S and energy management; ISO 27001 / IEC 62443 – information and industrial-control cybersecurity; IFC / EBRD Requirements – environmental and social risk management for investment and lending. Use most current applicable versions and maintain requirements register and documented crosswalk to ADS ECO policies, controls, data and disclosures.

12 | IMPLEMENTATION ROADMAP, REPORTING PACK & NEXT ACTIONS

Phase	Key Activities	Deliverables
0 Baseline (Month 1-2)	Appoint sponsor, ESG lead, data owners; Approve scope, boundaries, material topics, standards; Baseline, gap, legal, data-readiness	ESG charter, RACI, materiality draft, baseline report
1 System Design (Month 3-5)	Confirm indicative commitments to approved targets; Prioritize meters, sensors, integrations; Select platform architecture and partners	Approved targets, metering plan, architecture design, procurement spec
2 Pilot (Month 6-8)	Launch pilot dashboards for carbon, circularity, water and H&S; Implement data governance controls	Pilot dashboards, data quality report, control documentation
3 Scale & Assurance (Month 9-12)	Rollout to all sites, train users, internal controls testing, first assurance readiness	Full ESG platform, training records, assurance roadmap, first reporting calendar
4 Reporting (Year 1+)	Monthly exec dashboard, quarterly Board/ESG & Risk Committee, annual sustainability report, investor KPI package, regulatory compliance	Monthly dashboard, quarterly Board report, annual report, GHG inventory and assurance statement

Core Reporting Pack: Monthly executive ESG dashboard and action tracker; Quarterly Board / ESG & Risk Committee report; Annual sustainability report and disclosures; Investor and lender KPI package with evidence index; Regulatory, permit and ESMS compliance reports; GHG inventory, carbon-reduction plan and assurance statement; Community, workforce, H&S and supplier performance reports. Immediate Next Actions: Appoint executive sponsor, ESG lead and data owners; Approve scope, boundaries, material topics and reporting standards; Complete baseline, gap, legal and data-readiness assessments; Confirm indicative commitments and convert them into approved targets; Prioritize meters, sensors, integrations and evidence requirements; Select platform architecture and implementation partners; Launch pilot dashboards for carbon, circularity, water and H&S; Prepare an assurance roadmap and first reporting calendar. Vision: Driving sustainable growth through responsible environmental, social and governance leadership – with measurable outcomes, transparent evidence and continuous operational improvement.