



Sokoine University of Agriculture (SUA)

CLIMATE ACTION PLAN 2026–2031

Executive summary

Climate change already affects Tanzania's agriculture, water resources, energy supply, and infrastructure, with droughts and floods disrupting livelihoods and development (United Republic of Tanzania, 2021). Across Africa, rising temperatures and variable rainfall threaten food production and water security (IPCC, 2022). For SUA, whose operations span campuses, laboratories, teaching farms and field stations, these risks demand coordinated adaptation alongside credible measurement and reduction of institutional greenhouse-gas emissions. This Plan establishes a practical framework to safeguard core functions and support national climate commitments.

SUA will implement nine coordinated climate-action workstreams: greenhouse-gas (GHG) accounting; energy; farms and land; transport; waste and water; adaptation; teaching and community engagement; responsible procurement; and monitoring and reporting. SUA will first establish traceable source records and a defensible institutional emissions baseline. The University will report emissions reductions only where verified data support them.

SUA will implement the Plan through existing institutional planning and budgeting systems. The responsible Deputy Vice-Chancellor will supervise a small Climate Action Secretariat, and the Climate Change and Biodiversity Institute (CCBI) will provide technical support. Each college, campus, farm and service unit will appoint a data focal person. The University will use this coordination arrangement during the first implementation phase rather than immediately establish a separate directorate.

By June 2031, SUA will implement the environmental commitments in its Sixth Corporate Strategic Plan, including the target for at least 5% low-carbon campus energy generation, campus water-management plans, regular carbon-footprint and climate reporting, student-led climate action, waste management and tree-planting activities. SUA will prepare and submit the implementation pathway for its commitment to achieving carbon neutrality by 2050 for formal approval following completion of its baseline and assessment of feasible reductions and costs.

1. Purpose and operating principles

- SUA will measure and report GHG emissions, energy consumption and climate-action progress using traceable institutional records and documented methods.
- SUA will implement low-cost management and maintenance measures first and will present major capital projects for investment approval based on feasibility and documented benefits.
- SUA will establish and disclose an organizational boundary covering its controlled campuses, relevant research and teaching farms, field stations and other facilities.
- SUA will report climate research, community outreach and tree planting separately from its operational GHG footprint. Emissions and scientifically verified removals will be accounted for using applicable standards.
- SUA will publish its approved Climate Action Plan and annual progress summaries and will share them with relevant local authorities and community partners.

2. Goals, commitments and performance measures

Commitment / measure	Practical interpretation	Deadline or status
University GHG baseline	SUA will complete a traceable 12-month inventory for Scopes 1 and 2 and will screen material Scope 3 sources. The University commits to progressively reducing greenhouse gas emissions across its operations against an approved baseline, supported by measurable interim reduction targets.	Initial baseline by Dec 2027
Institutional climate reporting	SUA will publish an initial implementation/data-readiness report and will issue measured GHG reports annually after completing the baseline. The University will publicly report progress towards its emissions-reduction targets and long-term carbon-neutrality commitment.	Initial from July 2027; measured update after baseline
Low-carbon campus energy	SUA will measure on-site low-carbon energy generation and total campus energy consistently and will work towards the approved 5% target. The University commits to progressively increasing renewable and low-carbon energy use and improving energy efficiency across its buildings, laboratories, farms and other operations.	June 2031
Water use	SUA will prepare and implement water-management plans for its applicable campuses and facilities.	June 2031
Waste	SUA will quantify waste streams, improve waste management and implement an institutional waste-diversion policy.	June 2031

Commitment / measure	Practical interpretation	Deadline or status
Student climate action	SUA will support and document at least one active student-led climate initiative per campus.	June 2031
Trees and restoration	SUA will monitor progress against the CSP target of 3 million trees planted, documenting sites, partners, survival and maintenance.	June 2031
Long-term carbon neutrality	SUA will develop and implement a 2050 net-zero pathway and submit interim emissions targets for approval after baseline and feasibility assessment. SUA commits to working towards carbon neutrality by 2050 through progressive reductions in greenhouse gas emissions across its operations.	Council decision after 2027 baseline

These are delivery commitments and programme milestones. SUA's long-term carbon-neutrality target is 2050. The University will establish interim targets and implementation measures through its formal target-setting process. SUA will calculate the 5% campus low-carbon energy indicator using a defined energy boundary, measurement period and denominator.

3. Governance: who does what

Role	Main responsibility
University Council / Management	Council and Management will approve the Plan, commitments and annual budget and will review implementation results.
Designated Deputy Vice-Chancellor	The designated DVC will sponsor delivery, resolve cross-unit issues and review quarterly progress.
Climate Action Secretariat (2 designated officers initially)	The two designated officers will maintain the action register, coordinate monthly data returns, issue dashboards and manage approved ranking evidence.
CCBI and technical academic experts	CCBI and technical experts will develop accounting methods, quantify emissions, train data owners, check uncertainty and assess mitigation measures.
Directorate of Estates and Works (DEW)	Estates will provide records for electricity, generators, renewable generation, water, facilities and waste and implement related measures.
Farms, livestock and research/field stations	Farm and field-station managers will record animals, manure, fertilizers, land use, fuel and relevant operational activity data.

Role	Main responsibility
Finance / Procurement / HR / Transport	These offices will provide procurement, expenditure, staffing, travel, vehicle and investment records; Procurement and Finance will document sustainable purchasing and investment measures.
Registrar / QA / Communications / SUASO	These offices will compile student evidence, quality-check submissions, coordinate public communication and support consultations.

The Climate Action Secretariat will coordinate implementation and institutional reporting; it will not duplicate CCBI's academic and technical functions. CCBI will lead GHG methods and technical reviews, while line managers will retain responsibility for their operational records. After 18–24 months, University Management will assess whether the workload and financial case justify establishing a Sustainability Directorate.

4. Priority technical task: institutional GHG inventory

4.1 Boundary and baseline

SUA will apply the GHG Protocol Corporate Accounting and Reporting Standard and Scope 2 Guidance and will use ISO 14064-1 where additional alignment is useful. The technical team will document the organisational boundary consistently across campuses, farms, research stations, residences, buildings and vehicles, and will record boundary decisions for subsidiaries, contractors, joint ventures and externally funded field projects. SUA will assess the availability of FY 2026/27 records (July 2026–June 2027) and will adopt that period as the initial baseline if complete and reliable records can be assembled. Otherwise, it will select and disclose the first complete 12-month reporting period.

4.2 Data to collect every month

Emissions / metric	Source activity data	Data owner
Scope 1: fuel combustion	Litre's diesel/petrol, LPG and other fuels at generators, boilers, vehicles, tractors and machines.	Estates; Transport; Farms
Scope 1: agricultural	Livestock by type/age, feed/manure systems, fertilisers, lime and cultivated land-management records.	Farms; academic units
Scope 1: refrigerants	Refrigerant type, recharge/leak quantities, equipment servicing logs.	Estates / laboratories
Scope 2: purchased electricity	TANESCO meter IDs, monthly kWh bills, periods, on-site PV production and exports.	Estates / Finance

Emissions / metric	Source activity data	Data owner
Scope 3: relevant sources	Official flights, purchased goods, purchased services, waste disposal, commuting, outsourced transport and capital goods, screened for materiality.	Finance; HR; Travel; Procurement
Environmental indicators	Total energy (GJ), solar (kWh/GJ), water (m ³), waste (kg), gross building floor area (m ²), GHG emissions intensity (tCO ₂ e/m ²), trees planted and surviving, community activities.	Estates; Finance; campus focal persons; CCBI; CFWT

CCBI, working with responsible data owners, will calculate emissions from validated activity records and documented emission factors. The inventory will convert relevant gases into carbon dioxide equivalent (tCO₂e) using a consistent global-warming-potential basis and will document data gaps, assumptions and uncertainty. SUA will report total purchased electricity and its renewable generation distinctly; it will disclose avoided emissions separately from the corporate inventory and will not assume that solar generation automatically removes Scope 2 emissions.

Where material, SUA will assess land emissions and removals under the applicable GHG Protocol Land Sector and Removals Standard (effective 1 January 2027). The technical team will quantify and report fossil-fuel emissions, land-sector emissions, verified carbon removals and any separately issued carbon credits transparently and distinctly. SUA will not convert tree counts into unverified tonnes of carbon dioxide removal.

The Secretariat and Estates will maintain a verified register of gross building floor area. CCBI will calculate annual GHG emissions intensity (tCO₂e/m²) using an explicitly stated emissions numerator, gross floor-area denominator and consistent reporting boundary. Absolute GHG emissions and agricultural emissions will also be reported separately so that changes in this intensity indicator do not conceal changes in total emissions.

4.3 Quality assurance and annual reporting

- Each data focal person will record the reporting site, month, units, data custodian and source-document location for every activity-data entry.
- Estates, Finance, Transport and Farm managers will reconcile monthly electricity, fuel and farm source records; focal persons will flag missing data, duplicates and unusual changes for correction.
- CCBI will conduct technical checks on calculations, emission factors and uncertainty; Finance and Quality Assurance will confirm that institutional statistics are consistent before public disclosure.
- Once the initial baseline is completed, SUA will assess the need, cost and scope of independent external verification and will procure it if approved and funded. Internal source-document controls will continue regardless of the external assurance decision.

5. Actions that can start immediately

5.1 Electricity and buildings

- Estates will establish a campus-wide electricity-meter register, record monthly readings and catalogue all existing solar PV and inverter generation outputs.
- Estates will inspect high-consumption buildings, generators, laboratories and residences and will correct avoidable energy losses, leaks and unnecessary standby consumption.
- Estates will implement prioritised LED lighting, timer and occupancy controls and routine energy-efficient operating practices through scheduled maintenance.
- Estates and Finance will prepare costed feasibility studies for additional solar PV, solar water heating and energy-efficient facilities and will submit qualifying investments through the capital-budget process.
- SUA commits to progressively improving energy efficiency across its buildings and facilities through appropriate technologies, infrastructure improvements, maintenance practices and responsible energy use, while monitoring energy consumption and associated emissions.

5.2 Farms, agriculture and land

- Farm managers will maintain monthly records of livestock, manure systems, fertiliser use and fuel consumption across teaching, research and commercial farm operations.
- Farm managers and livestock experts at SUA will identify, prioritise and implement feasible improvements in nutrient use, manure management, water efficiency and land restoration.
- CCBI will assess land-based carbon removals using documented scientific methods; land managers will retain ownership, monitoring, permanence and tenure records before any verified credit or removal claim is made.
- The units responsible for tree planting will record each site, species, planting date, seedlings planted, survival checks and maintenance actions.

5.3 Water, waste and transport

- Estates will map water supplies, consumption points, leaks, storage facilities and relevant wastewater streams and will prepare and implement practical water-management plans.
- Estates and campus focal persons will record waste quantities and treatment routes, introduce segregation and implement composting and responsible disposal where technically feasible.
- Transport will maintain vehicle fuel and journey logs, coordinate official travel and apply virtual meetings to reduce avoidable trips.
- The Secretariat and relevant student services will conduct a short voluntary staff and student commuting survey and will protect respondents' personal information.

5.4 Adaptation and public engagement

- The Secretariat, Estates and farm units will establish and annually update a campus climate-risk register covering flooding, drought, extreme heat, storms, water disruptions and agricultural risks.
- The Secretariat will identify emergency contacts, agree practical actions with Morogoro and other relevant local authorities and retain minutes and evidence of joint preparedness activities.

- Each campus will document at least one external climate-education or adaptation activity annually, identifying the participating partners, programme, dates and beneficiaries.
- Following approval, University Communications will publish the Plan and send it to relevant local authorities and community organisations, keeping web links and written acknowledgements.
- SUA commits to strengthening climate resilience across its campuses, farms and other institutional facilities through regular climate-risk assessments, adaptation planning and appropriate interventions to address climate-related risks.
- SUA commits to promoting climate change education, environmental awareness and sustainable practices among students, staff and surrounding communities. The University will support student-led environmental societies and initiatives, integrate climate-related knowledge into relevant teaching and training programmes, and strengthen partnerships for climate action.

5.5 Sustainable Procurement and Investment

SUA commits to integrating environmental sustainability considerations into its procurement and investment practices. The University will establish and implement appropriate guidelines promoting energy-efficient, low-emission and environmentally responsible goods, services, infrastructure and investments, consistent with national legislation and institutional procedures.

6. Action register: implementable 2026–2031 workplan

No.	What will be done	Lead	When	Proof of completion
A1	The DVC will designate the sponsor, Secretariat and focal persons and will endorse their terms of reference.	DVC / Management	Dec 2026	Signed appointment + TOR
A2	Estates and farm units will establish verified registers of sites, meters, vehicles and farm operations.	Estates / Farms / Secretariat	Feb 2027	Site + source registers
A3	Focal persons will submit monthly energy, fuel, farm and waste records using common templates.	Data focal persons	Feb 2027 onwards	Monthly returns with evidence
A4	CCBI will train data owners in GHG accounting and QA/QC and issue a data-management procedure.	CCBI / Secretariat	Mar 2027	Training record + data SOP
A5	Communications will publish the adopted Plan and formally share it with local authorities.	DVC / Communications	Mar 2027	URL + dispatch evidence
A6	The Secretariat will publish the first climate implementation and data-readiness report.	Secretariat / QA	Jul 2027	Dated summary public

No.	What will be done	Lead	When	Proof of completion
A7	CCBI will complete the FY 2026/27 GHG baseline or document and adopt another valid 12-month period.	CCBI / Secretariat	Dec 2027	Signed Scope 1–2 inventory + Scope 3 screen
A8	Management will submit quantified interim targets for review and formal approval.	Management / CCBI	Jun 2028	Approved target with scope and base year
A9	Estates will implement metering, lighting and maintenance measures and track energy performance.	Estates	2027–2031	Annual kWh, bills and completed works
A10	Estates will implement site water plans, waste monitoring and approved diversion measures.	Estates / CoNAS	2027–2031	m ³ , kg and signed plans/policy
A11	Farm units will strengthen manure, fertiliser and soil records and implement feasible mitigation improvements.	Farms / COA	2027–2031	Farm emissions and practice logs
A12	Colleges, SUASO and CCBI will document at least one active student-led environmental initiative per campus each year and deliver partner climate education and outreach programmes.	Colleges / SUASO / CCBI	Annual, 2027–2031	Campus activity registers, attendance and partner evidence
A13	CFWT and partners will record planting activities and survival against the approved CSP target.	CFWT / Partners	To Jun 2031	Site-based counts and survival
A14	Estates, Finance and CCBI will review climate risks and prepare investment cases.	Estates / Finance / CCBI	2028 & 2030	Updated risk register / investment cases
A15	The Secretariat will publish annual GHG and climate progress reports and quarterly management dashboards.	Secretariat / Management	Annual after baseline	Public report and evidence index
A16	Procurement and Finance will develop and implement sustainable procurement and investment guidelines, retain supporting records and report actions annually.	Procurement / Finance	Guidelines by Dec 2027; annual thereafter	Approved guidance, procurement evidence and annual summary

No.	What will be done	Lead	When	Proof of completion
A17	Estates and CCBI will establish verified gross building-area and GHG intensity records and report tCO ₂ e/m ² annually using a consistent boundary.	Estates / CCBI / Secretariat	Baseline by Dec 2027; annual thereafter	Building register and annual intensity calculation

7. First 90 days and first-year sequencing

Period	Immediate deliverables	Management checkpoint
Day 0–30	The DVC will confirm the sponsor and focal persons; units will map policies, electricity accounts, fleet/farm sites and data gaps.	Management will approve the TOR, boundary-mapping team and initial operating budget.
Day 31–60	The Secretariat will issue source registers and templates; CCBI will train focal persons; units will begin monthly recording.	Management will check site completeness and data-owner assignments.
Day 61–90	CCBI will assess 2025/26 data availability, finalise FY 2026/27 baseline methods and engage local government/community partners.	Management will approve the inventory protocol and authorise public release of the Plan.
Apr–Jun 2027	The team will compile initial GHG activity data, implement no-regret energy and waste actions and complete the climate-risk register.	Management will review readiness, financing needs and corrections to external reporting.
Jul–Dec 2027	SUA will publish its initial implementation report and complete the 12-month baseline after collecting the required records.	Management will sign off the QA-reviewed baseline and initiate target-setting.

8. Performance dashboard and report calendar

Indicator	Unit / calculation	Frequency
GHG emissions	tCO ₂ e, separately Scopes 1, 2 and disclosed Scope 3 categories; base-year variance.	Annual after baseline

Indicator	Unit / calculation	Frequency
GHG emissions intensity	Annual tCO ₂ e per m ² of verified gross building floor area, calculated from a clearly stated emissions numerator and consistent institutional boundary.	Annually after baseline
Electricity and fuel	kWh; litres; total GJ using documented energy conversion factors.	Monthly / annual
On-site low-carbon energy	Metered renewable generation in kWh and GJ; percentage of defined total campus energy.	Monthly / annual
Water	Water used (m ³); water loss where measurable.	Monthly / annual
Waste	Kg by type and treatment; waste managed and waste diverted as separately defined quantities.	Quarterly / annual
Agriculture	Animal data, fertiliser, manure systems and verified farm tCO ₂ e.	Quarterly / annual
Land restoration	Trees planted and surviving, sites and maintenance; do not call tree numbers CO ₂ removals.	Annual
Adaptation and outreach	Number of documented risk actions, partnerships, programmes and participants.	Annual
Data quality	% University sites and fuel/utility accounts with complete source records.	Quarterly

The Secretariat will issue a one-page performance dashboard to the DVC every quarter and will coordinate an annual public implementation report. Each report will identify the reference period, boundary, data quality, approval authority and any restated estimates. QS and THE submissions will draw only on approved institutional evidence and will follow the indicator definitions and reference years applicable to each ranking cycle. The annual report will also document progress towards the University's emissions-reduction targets, renewable energy commitments, energy efficiency improvements, climate adaptation measures and long-term carbon-neutrality goal.

9. Indicative first-year resources (TZS)

The resource table provides indicative allowances for 2026/27 mobilisation and initial measurement; it is not a procurement quotation or an approved appropriation. SUA will initially use existing staff, meeting facilities and accounting systems. The responsible offices will obtain the required approvals for visits, allowances, equipment and external services in accordance with SUA financial and procurement rules.

Item	Indicative amount (TZS)
Governance launch, site-mapping materials and record templates	3,000,000
Data-steward training and validation sessions	7,000,000
Inventory technical work: 4 experts × 20 eligible days × TZS 220,000	17,600,000

Item	Indicative amount (TZS)
Transport/site visits and source-data recovery	10,000,000
Basic metering, data storage and field equipment allowance	6,000,000
Energy, farm, water and waste baseline inspections	6,000,000
Climate-risk meetings and government/community consultations	3,000,000
Internal QA, report production and online public disclosure	4,000,000
Contingency (approximately 10% of direct costs)	5,660,000
TOTAL (rounded)	62,260,000

The expert-day amount is a budgeting assumption and will be applied only where University rules permit it. This budget excludes major solar and water infrastructure, fleet replacement, large-scale tree planting, third-party assurance and research grants. SUA will finalise costs through approved workplans, budgeting and procurement.

10. Long-term direction beyond 2031

After validating its institutional GHG footprint, SUA will develop and implement a quantified carbon-reduction pathway with feasible milestones for 2030, 2035 and 2040, towards its commitment to achieving carbon neutrality by 2050. The pathway will define covered emission scopes, the treatment of material agricultural emissions, practical mitigation measures, required capital investment, financing sources and separately accounted carbon removals. University Management will submit the proposed interim targets and implementation costs to Council for consideration and formal decision. If carbon credits form part of an approved future strategy, SUA will account for them transparently, prevent double counting and prioritise feasible direct emission reductions.

11. Approval, review and amendment

This Plan will take effect following approval by the relevant SUA authority. The Secretariat will prepare an annual implementation report and coordinate a substantive review in 2028/29. University Management will update annual activities and indicative costs through the budget cycle; changes to approved targets or material inventory accounting policies will require formal approval and transparent public disclosure.

Annex A. Minimum site data return

Field	Entry / description
Site and officer	The monthly return will identify the site, accountable focal person and reporting period.
Electricity	The return will capture meter numbers, TANESCO invoices, kWh and PV generation/export.
Fuel	The return will capture fuel type, litres, use category and supporting documents.

Field	Entry / description
Agriculture	The return will capture livestock activity, manure, fertilisers, lime and farm area.
Refrigerants	The return will capture refrigerant type and service or recharge quantities.
Water / Waste	The return will capture water consumption, waste quantity and disposition.
Source evidence	The return will capture source file locations, completeness checks and corrections.

Technical references and institutional alignment

Sokoine University of Agriculture (2026). Sixth Corporate Strategic Plan 2026/27–2030/31.

https://www.sua.ac.tz/sites/default/files/20092023_Second_selection/SUACSP/SUACSP_6TH%20Edition.pdf

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United Republic of Tanzania (2021). Tanzania's Nationally Determined Contribution. Vice President's Office, Division of Environment. https://unfccc.int/sites/default/files/NDC/2022-06/TANZANIA_NDC_SUBMISSION_30%20JULY%202021.pdf