



## SDG BLOCKCHAIN ACCELERATOR

### Impact Measurement Framework – Template

## 1. Project Information

- **Project Name:** Sun4Schools
- **Challenge & UNDP Office:** UNDP Mauritius
- **Document Version:** Impact Measurement Framework V1

## 2. SDG Alignment

*(Specify which UN Sustainable Development Goals your project addresses. Include the specific targets and indicators.)*

**Example:**

- **SDG 13: Climate Action**
  - Target: Reduce carbon emissions through verified tokenized offsets
  - Indicator: Tons of CO<sub>2</sub> offset per transaction
- **SDG 7:**
  - Target: Focuses on increasing renewable energy share
  - Indicator: Megawatt-hours (MWh) of clean solar energy generated (measured post-installation, e.g., total MWh produced and integrated into the grid, aligning with Mauritius' 60% renewables goal by 2030).
- **SDG 5: Gender Equality**
  - Target: Ensures women participation in leadership:
  - Indicator: Percentage of women-led projects funded or women investors participating (e.g., % of total investments from women or % of schools with female administrators receiving solar funding).
- **SDG 4: Quality education**
  - Target: Promotes Education for sustainable development
  - Indicator: Number of schools equipped with solar energy (e.g., total schools funded and operational, measured by reduced energy costs and increased access to education tools).

### 3. Key Performance Indicators (KPIs)

*(Define measurable indicators that show your project's impact.)*

KPI	Measurement Method	Target / Threshold	Notes
Funds raised for solar projects	Platform backend dashboard and transaction logs	MUR 500,000 in first year	Tracks total investments/donations via simulated payments; aligns with Mauritius' 60% renewables target by 2030, monitored quarterly for pilot schools.
Number of schools funded with solar installations	UNDP/CEB project reports and on-site verification	10 schools in first year	Measures successful crowdfunding leading to installations; contributes to SDG 4 (quality education) by powering schools, with progress tracked via CEB connection agreements.
Megawatt-hours (MWh) of clean solar energy generated	CEB grid integration data and solar panel monitoring	100 MWh in first year	Post-installation metric for SDG 7; uses CEB's renewable energy tracking to ensure affordable clean

			energy, with annual audits.
Tons of CO <sub>2</sub> offset	Verified via CEB/UNDP carbon calculators (e.g., based on solar output)	50 tons in first year	SDG 13 indicator; calculated as ~0.5 tons CO <sub>2</sub> /MWh avoided, tokenized for transparency; external audits for verification.
Percentage of women investors or female-led school projects	User profiles and investment logs (anonymized)	40% participation	SDG 5 metric; tracks women donors/investors or schools with female administrators, promoted via UNDP training programs for women in renewables.
Number of users onboarded and active	Platform dashboard (login/investment activity)	500 active users	Includes local/diaspora investors; tracked via wallet connections or logins, supporting SDG 4 by enabling education on sustainable development through platform resources.

## 4. Tracking Methods

*(Describe how you will monitor and collect data for KPIs.)*

### On-chain Metrics:

As we do not yet have on-chain solutions implemented, on-chain tracking will be deferred until the rollout of crowdfunding smart contracts in future phases.

### Off-chain Metrics:

For the MVP phase, all tracking relies on off-chain methods to ensure transparency and data collection without blockchain dependencies. These include:

- Dashboard monitoring user activity (e.g., investments, logins, and project views via platform backend logs).
- External reporting (e.g., UNDP and CEB audits for solar installations and energy output).
- Surveys and on-site audits (e.g., quarterly school feedback for impact and CO<sub>2</sub> estimates).

### Example:

All investments and user activity will be logged via the platform dashboard and cross-checked weekly with UNDP reports. Solar energy generation and CO<sub>2</sub> offsets will be verified by CEB data and external audits quarterly, with manual token distribution tracked in a secure backend ledger until smart contracts are implemented.

## 5. Baseline vs Projected Outcomes

*(State your starting point and what you expect to achieve.)*

### Example:

Metric	Baseline	Projected Outcome
Funds raised for solar projects	MUR 0	MUR 500,000 in first year
Number of schools funded with solar installations	0 schools	10 schools in first year

Megawatt-hours (MWh) of clean solar energy generated	0 MWh	100 MWh in first year
Tons of CO <sub>2</sub> offset	0 tons	50 tons in first year
Percentage of women investors or female-led school projects	0%	40% participation
Number of users onboarded and active	0 users	500 active users

## 6. Monitoring & Reporting Plan

*(Define who is responsible for reporting, how often, and what format.)*

**Frequency:** Quarterly reporting (with monthly internal reviews for MVP phase).

**Responsible Party:** UNDP Mauritius Project Manager (overall coordination), Socious Fund Development Team (platform metrics), and Central Electricity Board (CEB) representatives (solar installation and energy data verification).

**Format:** Platform dashboard summaries (real-time user activity and funds raised) + off-chain PDF reports (quarterly, including project progress, CO<sub>2</sub> offsets, and SDG alignment) shared with stakeholders via email or UNDP portal.

**Tools:** Internal platform dashboard (for off-chain metrics like investments and user onboarding), CEB energy monitoring tools (for MWh generated and CO<sub>2</sub> offsets), and manual audits (e.g., school surveys for impact); future integration with Cardano tools (Ogmios, Kupo) once smart contracts are implemented.

## 7. Risks & Mitigation

*(Optional: outline potential risks in measuring impact and how you will address them.)*

**Risk:** Delays in solar installation data from schools or CEB (e.g., off-chain verification lags due to manual audits).

**Mitigation:** Establish monthly check-ins with UNDP and CEB representatives for preliminary data; use automated dashboard alerts for overdue reports.

**Risk:** Inaccurate CO<sub>2</sub> offset calculations or energy generation estimates (e.g., due to variable solar output or placeholder data in MVP).

**Mitigation:** Rely on verified CEB carbon calculators and external audits (quarterly); cross-check with independent solar monitoring tools, with notes in reports for any assumptions.

**Risk:** Low user participation or data collection (e.g., users not logging in or providing incomplete profiles for gender metrics).

**Mitigation:** Promote optional login with guest mode; run awareness campaigns via UNDP social media and school outreach to boost onboarding, targeting 500 users through targeted emails.

**Risk:** Data privacy concerns (e.g., tracking women investors without consent, per Mauritius Data Protection Act).

**Mitigation:** Use Self-Sovereign Identity (SSI) verification via Hyperledger Identus for decentralized, user-controlled identity management. Users hold their data in digital wallets, sharing only minimal, verifiable attributes (e.g., gender via zero-knowledge proofs) without storing PII on servers. This ensures anonymized aggregation for SDG 5 metrics, with revocation options and tamper-proof logs on Hyperledger's distributed ledger. Conduct annual DPA compliance audits; fallback to consent forms and guest mode for MVP.