# TANZANIA RENEWABLE ENERGY ASSOCIATION (TAREA)

# STRATEGY 2023-2027

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TAREA

Tanzania Renewable Energy Association

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# Abbreviations

| | |
|---|---|
| **AC** | Advisory Committee |
| **ACCESS** | Alliance for Civil Society Organizations for Clean Energy Access |
| **ACET** | Association of Consulting Engineers - Tanzania |
| **AFD** | Agence Francaise de Development |
| **AGM** | Annual General Meeting |
| **ARE** | Alliance for Rural Electrification |
| **ATC** | Arusha Technical College |
| **B2B** | Business to Business |
| **bbw gGmbH** | Bildungswerk der Bayerischen Wirtschaft Gesellschaft mit beschränkter Haftung |
| **bfz gGmbH** | Berufliche Fortbildungszentren der Bayerischen Wirtschaft Gesellschaft mit beschränkter Haftung |
| **BMO** | Business Member Organization |
| **BUREA** | Burundi Renewable Energy Association |
| **CoET** | College of Engineering and Technology |
| **CONAS** | College of Natural and Applied Science |
| **COSTECH** | Commission for Science and Technology |
| **COVID-19** | Coronavirus disease 2019 |
| **CRDB** | Cooperative Rural Development Bank |
| **CSE** | Centre for Science and Environment |
| **CTCN** | Climate Technology Centre & Network |
| **DPs** | Development Partners |
| **DTP** | Deutsch-Tansanische Partnerschaft e.V |
| **DVD** | Digital Video Disc |
| **E4D** | Employment and Skills for Development in Africa |
| **EC** | Executive Committee |
| **EAC** | East African Community |
| **EACREEE** | East Africa Centre for Renewable Energy and Energy Efficiency |
| **EAREF** | East Africa Renewable Energy Federation |

| | |
|---|---|
| **EE** | Energy Efficiency |
| **EELA** | Energy Efficiency Lighting and Appliances |
| **Endev** | Energizing Development Consortium |
| **EPD** | Energy Private Developers Association |
| **ESECA** | European Sustainable Energy Cluster Partnership for Africa |
| **ESIA** | Environmental and Social Impact Assessment |
| **EU** | European Union |
| **EWB-SE** | Engineers Without Borders-Tanzania |
| **EWURA** | Energy and Water Utilities Regulatory Authority of Tanzania |
| **FCC** | Fair Competition Commission |
| **FDC** | Folks Development College |
| **FIs** | Finance Institutes |
| **FLnTF** | Five Loaves & Two Fish Corporation |
| **GCF** | Green Climate Fund |
| **GEF** | Global Environment Facility |
| **GIZ** | Deutsche Gesellschaft für Internationale Zusammenarbeit |
| **GOGLA** | Global Off Grid Lighting Association |
| **GW** | Gigawatt |
| **HA-ILE** | Haar-Ilembula Partnership |
| **HH** | City of Hamburg |
| **Hivos** | Humanistisch Instituut voor Ontwikkelingssamenwerking |
| **HM** | Herrnhuter Missionshilfe e.V |
| **ISA** | International Solar Alliance |
| **kW** | Kilowatt |
| **kWh** | Kilowatt-hour |
| **$kW_p$** | Kilowatt peak |
| **$kWhm^{-2}d^{-1}$** | Kilowatthour per square meter per day |
| **LED** | Light Emitting Diode |
| **LIFE** | Life International Foundation for Ecology |
| **MEPS** | Minimum Energy Performance Standards |

| | |
|---|---|
| **MoFP** | Ministry of Finance and Planning |
| **MLH** | Ministry of Land and Housing |
| **MIBI** | Ministry of Industry, Business and Investment |
| **MNRT** | Ministry of Natural Resources and Tourism |
| **MoA** | Ministry of Agriculture |
| **MoE** | Ministry of Energy |
| **MoFL** | Ministry of Fisheries and Livestock |
| **MoHA** | Ministry of Home Affairs |
| **MoLH** | Ministry of Land and Housing |
| **MoU** | Memorandum of Understanding |
| **MoW** | Ministry of Water |
| **MoWT** | Ministry of Works and Transport |
| **m/s** | Meter per second |
| **Mtoe** | Megatons oil equivalent |
| **MW** | Megawatt |
| **MWh** | Megawatt hour |
| **MWp** | Megawatt peak |
| **NABA** | Norwegian African Business Association |
| **N/A** | Not Applicable |
| **NEMC** | National Environment Management Council |
| **NGO** | Non-Government Organization |
| **NIRC** | National Irrigation Commission |
| **NL** | The Embassy of the Kingdom of the Netherlands |
| **NSSF** | National Social Security Fund |
| **OSHA** | Occupational Safety and Health Authority |
| **PMO-LYED** | Prime Minister's Office Labour, Youth, Employment and People with Disability |
| **PPA** | Power Purchase Agreement |
| **PUE** | Productive Use of Energy |
| **PUM** | Netherlands Senior Experts Organization |

| | |
|---|---|
| **PV** | Photovoltaic |
| **RALGA** | Regional Administration and Local Government Authority |
| **RE** | Renewable Energy |
| **REA** | Rural Energy Agency |
| **REEEP** | Renewable Energy and Energy Efficiency Program |
| **RENAC** | Renewables Academy |
| **RET** | Renewable Energy Technology |
| **REZA** | Renewable Energy Zanzibar Association |
| **RPLA** | Recognition of Prior Learning Assessment |
| **RUWASA** | Rural Water and Sanitation Agency |
| **SACREEE** | SADC Centre for Renewable Energy and Energy Efficiency |
| **SADC** | Southern Africa Development Cooperation |
| **SDGs** | Sustainable Development Goals |
| **SE4ALL** | Sustainable Energy for All |
| **Sida** | Swedish International Development Agency |
| **Sido** | Small Industries Development Organization |
| **SMEs** | Small and Medium Entreprises |
| **SNV** | Netherlands Development Organization |
| **SPP** | Small Power Project |
| **SWOT** | Strengths Weaknesses Opportunities Threats Analysis |
| **TA** | Technical Advisor |
| **TAF** | Global Technical Assistance Facility for Sustainable Energy |
| **TAFIRI** | Tanzania Fishery Research Institute |
| **TANESCO** | Tanzania Electricity Supply Company |
| **TANGSEN** | Tanzania Gender and Sustainable Energy Network |
| **TAREA** | Tanzania Renewable Energy Association |
| **TASEA** | Tanzania Solar Energy Association |
| **Tb** | Tetrabyte |
| **TBS** | Tanzania Bureau of Standards |
| **TFS** | Tanzania Forestry Agency |

| | |
|---|---|
| **TGDC** | Tanzania Geothermal Development Company |
| **TIRDO** | Tanzanian Industrial Research & Development Organization |
| **TRA** | Tanzania Revenue Authority |
| **TV** | Television |
| **TZS** | Tanzania Shilling |
| **UDSM** | University of Dar es Salaam |
| **UNDP** | United Nations Development Program |
| **UNIDO** | United Nations Industrial Development Organization |
| **UNREEEA** | Uganda National Renewable Energy and Energy Efficiency Alliance |
| **URT** | United Republic of Tanzania |
| **USAID** | United States Agency for International Development |
| **VAT** | Value Added Tax |
| **VETA** | Vocational Education and Training Authority |
| **VETC** | Vocational Education Training Centre |
| **VPO** | Vice President Office |
| **VTC** | Vocational Training Centre |
| **WCF** | Workers Compensation Fund |
| **WRI** | World Resources Institute |
| **WWF** | World Wildlife Federation |

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# Preface

The development of the Strategic Plan 2023-2027 was a process that involved TAREA members actively. The first involvement was members, individual non-members and development partners presenting their inputs through questionnaires. The second involvement was the validation workshop that involved members in Dar es Salaam, Arusha and Mwanza. The draft TAREA Strategy 2023-2027 Document was approved by the Executive Committee on 20th January 2023.

TAREA thanks USAID through Shell Foundation and GOGLA which has contributed finance for the development of this Strategy.

## Endorsed by

**Eng. Prosper Magali**
**Chairperson for TAREA**

**Place: Dar es Salaam** **Date:30th January 2023**

# 1.0 Introduction

TAREA (Tanzania Renewable Energy Association), previously known as TASEA (Tanzania Solar Energy Association) was established in 2000 and registered with No SA10900 on 7th May 2001 by the Ministry of Home Affairs, under Societies Act CAP.337 [R.E.2002] as a member-based non-profit non-governmental organization of renewable energy stakeholders working in Tanzania Mainland standing for the recognition of the excellence of renewable energy technologies and services. Since its inception, TAREA has grown from a small committee carrying out a limited number of activities to an organization with 982 registered members [December 2022], 5 full-time employees, 2 volunteers, 1 German Senior Technical Advisor and an extensive portfolio of projects and programs it has carried out under its mandate.

## 1.1 Strategy Review

TAREA had been implementing the Strategy 2020-2024. In the 21st Annual General Meeting that was held on 23rd June 2022, members decided to review the TAREA Strategy.

The review of the strategy aims to achieve the following:

1) A strategy with forward-thinking capacitating the association to play an effective role of advocacy and services within the renewable energy and energy efficiency sectors.
2) A strategy reflecting emerging technologies focusing on the energy transition and decarbonization of the economy.
3) A strategy accommodating specific technologies that contribute to the blue economy promoting the use of renewable energy to support marine socio-economic activities.
4) A strategy that capitalizes on the current government priorities, which supports the development of renewable energy and energy efficiency to develop on-grid and off-grid renewable energy. Further to promote new technologies like green hydrogen, use of direct geothermal heat, waste to energy and e-mobility, which are still in their early stages but offer significant opportunities for energy sector stakeholders.
5) A strategy that includes inputs from all categories of renewable energy stakeholders (TAREA members, development partners, donors, government, other associations, non-member developers, end-users and interested individuals).
6) A strategy reflecting the market status of renewable energy in mainland Tanzania and promoting its development.
7) A strategy mainstreaming the current government and donors' plans in the areas of renewable energy, energy efficiency and climate change.
8) A strategy responding to the renewable energy market recession caused by external influences in particular COVID-19, the Ukraine war and ensuing negative global economic, social and environmental impacts.
9) A strategy highlighting TAREA's short, medium and long-term activities, implementation plan and the support (TA, funds, etc.) needed.

The development of the Strategy for 2023-2027 involved the following activities:

(1) Assess members' satisfaction;
(2) Assess members' needs;
(3) Assess development partners' opinions;
(4) Review previous activities carried out by TAREA
(5) Review the United Republic of Tanzania and development partners/international missions and agencies country cooperation strategies from which the project-based activities were developed;
(6) Review of funding that is required to cover costs of the implementation of activities
(7) Review capacity and resources, both internal and external, that are existing and required
    i. Identification of potential partnerships
    ii. SWOT analysis (See appendix 1)
    iii. Stakeholder analysis (See appendix 2)
    iv. Organizational environment analysis (See appendix 3)
    v. Member service development
    vi. Gender mainstreaming
    vii. National, regional and international policies, strategies and goals reviews (See appendix 5)
(8) Mainstream EAC regional renewable energy issues and operations.

## 1.2 History

Tanzania Renewable Energy Association (TAREA) was initiated in 2000, following a three-day workshop, where it was agreed by some industry players that there was a need for a network devoted permanently to the promotion of solar energy in Tanzania. With inputs from stakeholders, a committee was established to set up the organization and its governing structure. It was formally registered at the Ministry of Home Affairs on 7th May 2001 as Tanzania Solar Energy Association (TASEA). Members in the Annual General Meeting held on 21st August 2010 decided to change from TASEA to TAREA due to the increased operations from solar technologies to other renewable energy technologies like wind, biomass and mini-hydro.

TAREA hired its first staff with the support of Deutsch-Tansanische Partnerschaft e.V. (DTP). Since this time, the organization has also been assisted by some German and Tanzanian volunteers. TAREA has two branches that serve in the Northern Zone and Lake Victoria Zone.

# 2.0 Governance and Current status

## 2.1 Governance

### 2.1.1 Overall Governance and Administration

The Constitution sets out how the organization is governed in principle and the office bearers who are responsible for carrying out activities. The revised Constitution was approved by members at the Annual General Meeting on 21st August 2010. The overall governance structure of the association is shown in Figure 1.

### 2.1.2 Annual General Meeting

As a membership organization, the supreme authority of the group is the Annual General Meeting (AGM) which is held each year at an appropriate location. At this time officers and committee members of the organization are elected (i.e. every three years) and annual reports are presented. TAREA has managed to observe the leadership election as it has been stated in the constitution.

### 2.1.3 Board of Trustees

The Board of Trustees reports to the Annual General Meeting. In addition to being responsible for providing custody to the property and assets of the Association and disposal thereof in the event of dissolution of TAREA, it is proposed that the Board of Trustees shall also support the Association with a high level of strategic advisory and patronage role and shall provide advice in resource mobilization and fundraising.

Members of the Board of Trustees shall convene annually before the Annual General Meeting, whereby the Board of Trustees provides a report to the Annual General Meeting.

### 2.1.4 Executive Committee

The day-to-day running of the Association's affairs is vested in the Executive Secretary with support from the Secretariat and the Advisory Committee. As shown in Table 2-1, the Executive Committee is composed of TAREA office bearers plus representatives from the industry and the sector. The Executive Committee meets 4 times per year and regular records of meetings are kept.

Members of the Executive Committee report to the Annual General Meeting. As mentioned in the Constitution, the Executive Committee shall be responsible for managing the affairs of the Association in conforming to the Constitution and By-Laws.

In addition to the Executive Committee comprising the officers of the Association, Executive Committee shall comprise four nominees of the Annual General Meeting

representing different membership categories and shall consist of not more than five Chairpersons representing the TAREA Branches and Committees.

In addition to the duties and responsibilities indicated in the Constitution, the Executive Committee shall have the power to co-opt additional members to the Committee as required for a specific task. In this regard, the Executive Committee may hire and remunerate such employees as may be required for conducting the business of the Association. These additional members may be remunerated for conducting the business of the Association subject to the approval of the Executive Committee.

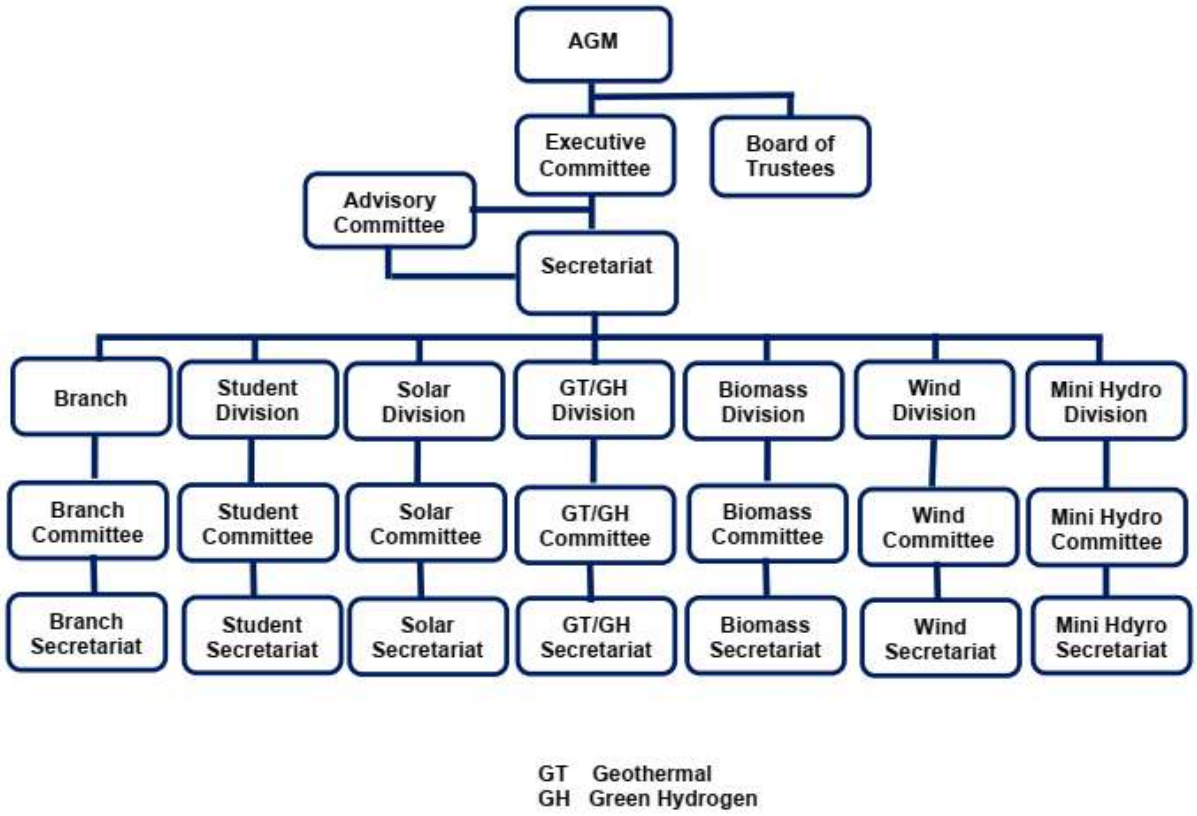


Figure 1: Governance Structure

**Table 2-1 TAREA Executive Committee Members [2021-2024]**

| Name | Organisation | Role |
|---|---|---|
| Eng. Prosper Magali | Watu na Umeme Ltd | Chairperson |
| Ms Brenda Kazimili | University of Dar es Salaam | Vice Chairperson |
| Eng. Hamisi Mikate | Ensol (T) Ltd | Treasurer |
| Dr.-Ing. Matthew Matimbwi | TAREA | Executive Secretary |
| Ms Emma Laswai | TAREA | Deputy Executive Secretary |
| Mr Godwin Msigwa | Canopus Energy Solutions | Member |
| Eng. Leonard Pesambili | TANGSEN | Member |
| Eng. Lydia Mugarula | Freelance | Member |
| Eng. Restuta Kokushuliza | University of Dar es Salaam | Member |
| Eng. Elson Malyi | Jeel International Ltd | Chairperson Lake Victoria Zone Branch |
| Eng. Daniel Ngwenya | Freelance | Chairperson Northern Zone Branch |
| Eng. Ngwisa Mpembe | Consulting Engineer | Chairperson Advisory Committee |
| Prof.-Eng. Cuthbert Kimambo | University of Dar es Salaam | Ex-Chairperson |
| Prof.-Eng. John Geoffrey | University of Dar es Salaam | Ex-Chairperson |
| Prof.-Eng. Amirabi Kweka | Tumaini University | Ex-Chairperson |

With regards to the termination of the appointment of members to the Executive Committee, members of the Executive Committee who do not attend three consecutive meetings will result to terminate their appointment. However, the Executive Committee member has the right to appeal the decision of removal to the Chairperson in writing.

The extended proposed duties and responsibilities of the Executive Committee, as well as the criteria for termination of their appointment, will need to be communicated to the Executive Committee members at their next meeting, and the agreement will need to be reached at the next Annual General Meeting (AGM).

### 2.1.5 Advisory Committee

The Advisory Committee provides technical support to both the Executive Committee and Executive Secretary on matters about the efficient operation of TAREA. Meetings of the Advisory Committee shall still be convened monthly.

**Table 2-2 Members of the Advisory Committee [April 2021-March, 2024]**

| Name | Organization | Role |
|---|---|---|
| Eng. Ngwisa Mpembe | Lahmeyer Consulting Engineers | Chairperson (Solar Energy) |
| Dr.-Ing Sarah Ayeng'o | University of Dar es Salaam | Secretary (Solar Energy) |
| Eng. Afriksad Ndilanha | Envotec Services | Member (Biomass) |
| Eng. Cynthia Elceus | Tanzania Geothermal Company | Member (Geothermal/Green Hydrogen) |
| Eng. Shedrack Wililo | STET International | Member (Mini Hydro) |
| Eng. Frank Tarimo | Windlab | Member (Wind Power) |
| Dr. Gerd-Henning Vogel | TAREA | Senior Technical Advisor |

As indicated in the Constitution, the functions and responsibilities of the Advisory Committee include advising the Executive Committee and Executive Secretary on matters related to realizing TAREA's mission, visions and objectives, advising on the day-to-day administrative matters of TAREA, and devising and implementing strategies.

Advisory Committee comprises seven appointees. Only one member of the Advisory Committee is elected by the Annual General Meeting through votes. The Chairperson of the Advisory Committee convenes and chairs the meetings of the Advisory Committee. The Secretary of the Advisory Committee acts as the Secretary to the Advisory Committee meetings and carries out an advisory role to the Chairperson of the Advisory Committee.

### 2.1.6 Divisions

As stated in the Constitution, the Association shall establish as many Divisions as the Executive Committee considers necessary. Each Division shall elect a Committee Chairperson and Secretary every three years and shall be responsible to the Executive Committee. Those Divisions include Student Division, Solar Division, Biomass Division, Wind Division, Mini Hydro Division and Geothermal/Green Hydrogen Division. A new division is formed per the needs of the members. The Divisions shall represent affiliated Industries Associations, academic institutions or sector bodies.

### 2.1.7 Branches

Since the inception of TAREA two branches have been established in the Northern and Lake Victoria Zones with offices in Arusha and Mwanza, respectively. It is proposed that each branch be governed independently, being only nominally affiliated with TAREA, but shall still report to the Executive Secretary. Branches will serve as link points and outreach points that help build the organization's

membership. The number of TAREA Branches can be increased to include other administrative regions across Mainland Tanzania.

## 2.2 Current Status

### 2.2.1 Membership

The membership of TAREA has shown gradual growth over the years to reach 998 registered members (December 2022). A membership list is retained in the Secretariat database and is maintained and updated by the Secretariat. There is an established, organized method of applying for membership that includes a professionally developed registration form. TAREA Membership entitles subscribers to informational materials, an invitation to meetings, etc. Payment is on an annual basis, from January 1 to December 31. Table 2-3 illustrates the evolution of membership from 2020 to 2022.

### 2.2.2 Registration Membership Profile

The total number of registered members (December 2022) amounts to 998 members. The total number of paid members is addressed under the 'Membership Revenue Profile' of section 2.3.3. Table 2-3 indicates the various membership categories that comprise the registration membership profile.

**Table 2-3 Registered membership category [2020-2022]**

| Membership Category | Members | | |
|---|---|---|---|
| | 2020 | 2021 | 2022 |
| ***Corporate Membership*** | | | |
| Large Business/ Organisation | 93 | 96 | 107 |
| Small Business | 67 | 70 | 74 |
| ***Dealer Membership*** | 8 | 9 | 9 |
| ***Professional Membership*** | | | |
| Practising Professionals *(consulting professionals, engineers)* | 197 | 210 | 224 |
| Recognized Technicians *(technicians and installers)* | 187 | 194 | 213 |
| ***Associate Membership*** | 64 | 66 | 68 |
| ***Student Membership*** | 243 | 257 | 283 |
| ***International Membership*** | | | |
| Corporate *(Companies, institutions and organizations)* | 7 | 8 | 8 |
| Individual | 11 | 11 | 12 |
| **TOTAL** | **877** | **921** | **998** |

### 2.2.3 Membership Revenue Profile

Table 2-4 illustrates the membership contribution for the period of 2020-2022

**Table 2-4 TAREA membership contributions for 2020-2022**

| Year | Amount TZS |
|---|---|
| 2020 | 20,874,684 |
| 2021 | 21,770,579 |
| 2022 | 21,641,700 |

A provisional projection of paid members was undertaken for the period 2023-2027 as indicated in Table 2-5. These projections are based on the annual membership increases indicated in Table 2-6. In the same table 2-5, the actual figures are shown.

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**Table 2-5 Active membership number projection 2023-2027**

| Membership category | 2020 | | 2021 | | 2022 | | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Plan | Actual | Plan | Actual | Plan | Actual | Plan | Plan | Plan | Plan | Plan |
| ***Corporate*** | | | | | | | | | | | |
| Small corporate | 35 | 12 | 40 | 8 | 45 | 11 | 15 | 18 | 20 | 22 | 25 |
| Large corporate | 40 | 35 | 45 | 39 | 50 | 46 | 50 | 55 | 60 | 65 | 70 |
| ***Dealers*** | 5 | 1 | 5 | 1 | 7 | 1 | 3 | 5 | 8 | 10 | 12 |
| ***Professional*** | | | | | | | | | | | |
| Practising professionals | 85 | 76 | 90 | 63 | 100 | 69 | 72 | 75 | 80 | 85 | 90 |
| Recognized technicians | 65 | 44 | 70 | 17 | 80 | 14 | 40 | 45 | 50 | 55 | 60 |
| ***Associate*** | 25 | 13 | 30 | 10 | 35 | 8 | 10 | 12 | 14 | 15 | 20 |
| ***Student*** | 50 | 7 | 55 | 21 | 60 | 36 | 45 | 47 | 50 | 55 | 57 |
| ***International*** | | | | | | | | | | | |
| Corporate | 6 | 3 | 8 | 2 | 10 | 3 | 5 | 6 | 8 | 10 | 12 |
| Individual | 2 | 1 | 2 | 2 | 2 | 2 | 3 | 4 | 5 | 7 | 8 |
| **Total number of members** | **313** | **192** | **345** | **163** | **389** | **190** | **243** | **267** | **295** | **324** | **354** |

**Table 2-6 Projected annual membership increase**

| Year | 2020 | | 2021 | | 2022 | | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Plan | Actual | Plan | Actual | Plan | Actual | Plan | Plan | Plan | Plan | Plan |
| ***Corporate*** | | | | | | | | | | | |
| Small business (%) | 3 | -8 | 3 | -33 | 4 | 38 | 36 | 20 | 11 | 10 | 14 |
| Large business/organization (%) | 6 | 3 | 6 | 11 | 8 | 18 | 9 | 10 | 9 | 8 | 8 |
| ***Dealers*** (%) | 1 | -50 | 1 | 0 | 1 | 0 | 200 | 67 | 60 | 25 | 20 |
| ***Professional*** | | | | | | | | | | | |
| Practising professionals (%) | 11 | 13 | 11 | -17 | 12 | 10 | 4 | 4 | 7 | 6 | 6 |
| Recognized technicians (%) | 5 | -28 | 6 | -61 | 6 | -18 | 186 | 13 | 11 | 10 | 9 |
| ***Associate*** (%) | 3 | -32 | 3 | -23 | 4 | -20 | 25 | 20 | 7 | 7 | 33 |
| ***Student*** (%) | 4 | -65 | 4 | 200 | 4 | 71 | 25 | 4 | 6 | 10 | 4 |
| ***International*** | | | | | | | | | | | |
| Corporate (%) | 5 | -25 | 5 | -35 | 5 | 50 | 67 | 20 | 33 | 25 | 20 |
| Individual (%) | 1 | n/a | 1 | 100 | 1 | 0 | 50 | 33 | 25 | 20 | 14 |

In addition to projecting future membership numbers, the anticipated membership revenue was projected. This was determined based on the registration and annual fees (provided in Table 2-4). The resulting projected revenue is indicated in Table 2-7

**Table 2-7: Projected membership revenue 2020 - 2027**

| Year | Plan | Actual |
|---|---|---|
| 2020 | 38,001,000 | 20,874,684 |
| 2021 | 38,132,000 | 21,770,579 |
| 2022 | 41,124,000 | 21,641,700 |
| 2023 | 27,702,000 | |
| 2024 | 30,472,000 | |
| 2025 | 33,824,000 | |
| 2026 | 37,207,000 | |
| 2027 | 40,556,000 | |

## 3.0 Operational Costs

TAREA, as a fully-fledged independent organization, has an office located at Mandela Road, Plot 1080 Mabibo External, Export Processing Zones Authority, and Shopping Arcade 17. According to TAREA's Statement of Income and Expenditure for the year ended 31st December 2022, TAREA's office operating cost amounted to TZS 446,717,263. The financial statement is presented in section 3.5, which provides a breakdown of all income and expenditure activities from 2020 and illustrates the projected income and expenditure up until 2027.

TAREA has a modest set of office equipment and a small demonstration PV set. This equipment has been donated by the UNIDO, Greenlink and CTCN.

TAREA has got a power backup whose installation was supported by DTP and improvement in 2022 supported by the Chloride Exide-Solar.

The organization maintains 3 bank accounts at the CRDB. Two of three signatories are required for access to funds and the signatories are the Chairperson, the Treasurer and another appointed member.

# 4.0 Activities 2020-2022

TAREA has been an active player in the Tanzania renewable energy and energy efficiency network. It has facilitated several events and activities with membership support. Key activities carried out from 2020 to 2022 are summarized below.

**Table 2-1 TAREA Activity Summary 2020-2022**

## 4.1 Outcome1: Knowledge Management & Information Dissemination

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| Renewable Energy Training and employability | Training of new & re-training of existing human capacities. | Trained 16 solar photovoltaic artisans in Masasi District for Academic Solar Program | Enzkreis |
| | | Trained 50 public and private experts on the use of Energy Access Explorer | WRI |
| | | Facilitated with MoE to enable 3 youths to attend a solar energy master's degree course in New Delhi | ISA |
| | | Supported the establishment of solar artisan training at Moravian Church VTCs of Namtumbo, Kakozi and Songea | Herrnhuter Missionshilfe e.V |
| | | Supported the establishment of solar artisan training at Masasi Folks Development College | Enzkreis |
| | | Trained 232 solar artisans in cooperation with ATC | PUM |
| | | Trained 20 girls on the skills of artisanal solar photovoltaic technology in the Masasi District for enabling livelihood | Hivos |
| | Sensitize VETCs conducting RE training | Initiated the project “enabling youth employment in the solar photovoltaic industry | E4D-GIZ |

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| | Facilitate continued local and international training on renewable energy | Participated in the implementation of the program Global Capacity Building in Renewable Energy. 45 international experts were trained. | LIFE Academy/Sida |
| | | Supported in training on the financing of Productive Use of Energy | RENAC |
| | | Continued to implement the REN Volunteering Program | DTP/HH |
| | Support certification of trained personnel with VETA | Developed RPLA tools for renewable energy artisans with VETA Developed RPLA tools for renewable energy artisans with VETA | bfz gGmbH |
| | Lobbying & visiting sites where renewable energy work is undertaken.<br>▪ Carrying out demonstrations (involve members)<br>▪ Engaging with local media<br>▪ Sensitize potential financiers and investors on opportunities in RETs and mini-grids | Conducted dialogue and site visits with officers of the MoE, VPO, MoFP, NIRC and MoW on smallholder solar irrigation. | NL |
| | | Participated in the dialogue and site visits with 5 commercial banks in the Iringa region on the potential of financing renewable energy technologies. | Mott Foundation |
| | Engaging with EAC authorities in creating a conducive business environment | Conducted EAREF meeting with East Africa Community on the regional renewable energy challenges | WWF-Kampala |
| | Develop a platform for student awareness | Supported several students from colleges and universities to attend Practical Training and Internship Placements | TAREA |

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| Support research programmes | Engage with institutions and transfer knowledge to industry | Participated in the research of solar fishing lights to establish regulations, conducted by TAFIRI | COSTECH |
| | Support the use of RETs in the mobility | Participates in the project to develop national e-mobility regulations | CTCN |
| | Study different solar technologies for fishing | Support the study of fishing light appropriate for the Lake Tanganyika | FLnTF |
| e-information | Publish e-newsletter<br>▪ Social media handles<br>▪ Online Renewable Energy<br>▪ Stakeholders directory | Information was disseminated through social media handles of Facebook, LinkedIn and Twitter; and e-newsletter.<br><br>Stakeholders' online directory established and updated. | TAREA |
| Promotional material | Develop a calendar, posters, information leaflets, T-shirts, pens, cloth bags, stickers etc | Promotional materials (posters, banners, leaflets, T-Shirts, pens, cloth bags and stickers) procured and distributed. | Enzkreis/Hivos /bfz/E4D-GIZ/ HH |
| | | Printed and distributed 2,500 copies of TAREA success stories booklets | bfz gGmbH |
| Events | Host, facilitate and attend workshops, seminars, conferences and fairs<br>▪ Workshop on Quality Service improvement<br>▪ Technology workshops<br>▪ Networking<br>▪ Village exhibitions & roadshows<br>▪ Workshops on regulations, laws and incentives | Conducted workshops on clean cooking technologies in Mang'ula and Malinyi | OffgridSun |

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| | | ▪ Attended a national clean cooking conference organized by the Ministry of Energy in Dar es Salaam | MoE |
| | | ▪ Conducted Public-Private Dialogue on Net Metering Scheme with EWURA, MoE and TANESCO | EU |
| Website | Up-to-date news & information<br>▪ Report on EAC and SADC renewable energy activities | Opportunities from EAC and SADC published for members. | TAREA |
| | ▪ Promote biogas, solar cookers, solar driers, small hydro and wind initiatives | Published news on the technologies developed in mainland Tanzania. | |
| | ▪ Include a library of reports & publications for download | Page of downloads established | |
| | ▪ Include links to important sites | Links of corporate members and partners placed on the website | |
| | ▪ Advertising banners to pay for managing site | Banners uploaded to the website | |
| | ▪ Maintain social media handles (e.g. Facebook, LinkedIn, Twitter and YouTube) | Social media handles links placed on the website. | |

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| Mass media | Utilize media (television, radio, newspapers) to publicize; Encourage TAREA members to develop articles & publish under TAREA - could include member success stories<br>▪ Publish e-newsletter<br>▪ Social media handles<br>▪ Establish renewable energy radio<br>▪ Produce and disseminate renewable energy literature for people with disabilities | Members' projects published.<br><br>Swahili solar booklet written by a member, Godwin Msigwa published and distributed. | UNDP and EU |
| Events | Host, facilitate and attend workshops, seminars, conferences and fairs<br>▪ Workshop on Quality Service improvement<br>▪ Technology workshops<br>▪ Networking<br>▪ Village exhibitions & roadshows<br>▪ Workshops on regulations, laws and incentives | ▪ Conducted workshops on clean cooking technologies in Mang'ula and Malinyi | OffgridSun |
| | | ▪ Attended a national clean cooking conference organized by the Ministry of Energy in Dar es Salaam | MoE |
| | | ▪ Conducted Public-Private Dialogue on Net Metering Scheme with EWURA, MoE and TANESCO | EU |

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| Demonstrations | Develop project documents and implementation demonstrating the the potential of RETs on: | | |
| | ▪ Health | Provided technical support to the installation of solar systems, 30.64kWp in Masasi for health | Enzkreis |
| | ▪ Education | Provided technical support to the installation of solar systems, 46.40kWp in Masasi for education | Enzkreis |
| | | Installed 1.2kWp solar photovoltaic system at the Preiswerk Girls Secondary School, Ifakara | URBIS Foundation |
| | | Provided technical support to the installation of solar system 0.6kWp at Kakozi Moravian VTC | Herrnhuter Missionshilfe e.V |
| | ▪ Water | Installed solar pumping system 2.4kWp for Preiswerk Girls Secondary School in Ifakara. | URBIS Foundation |
| | ▪ Women empowerment | Trained 20 girls in Masasi to become solar artisans. | Hivos |
| | ▪ Poverty alleviation | Initiated training of 200 solar artisans for Geita, Manyara, Shinyanga and Simiyu regions | E4D-GIZ |
| | ▪ Environmental sectors | Installed improved institutional firewood stoves at 2 secondary schools in the Malinyi district. | URBIS Foundation |
| | ▪ Productive use systems | Solar irrigation was demonstrated to the MoA and NIRC and 5 banks | NL/ Mott Foundation |
| Technology monitoring | Identify and monitor the performance of existing demo systems, documents and disseminate | Published the impacts of the solar water pumping system at the Preiswerk Girls Secondary School. | URBIS Foundation |
| | | Published TAREA best practices | bfz gGmbH |

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| Information collection and dissemination | Prepare books, guidelines, manuals, fact sheets, and DVDs on renewable energy | Guidelines on the use of improved biomass stoves developed, printed and distributed | Enzkreis |
| | | Development of training manuals for solar photovoltaic artisans (theory and practice) initiated | GIZ |
| | | Review of solar artisanal training syllabus to include on-grid technologies initiated | GIZ |
| | | Distributed the booklet “Umeme wa Jua” written by a member Godwin Msigwa | UNDP/EU |
| | Expose rural areas to media – made possible by producing a video on project work | Live radio programs conducted in Masasi and Newala districts | Enzkreis |
| | Translated extracts of the Cookstove Standards into Swahili | Cookstove standards training manual for local SMEs | SNV |
| | Translate relevant materials into Swahili | Booklet and manual on solar photovoltaic written in Swahili | UNDP/EU |
| | Establish information and energy data gathering, packaging in collaboration with Local Government Authorities and Ministry of Energy | Worked on the review and updating Energy Access Explorer | WRI |
| | | Collected data on the producers of the biomass improved biomass stoves | SNV |
| | Develop PUE directory | Initiated the study to collect data and develop the PUE directory in cooperation with SELCO Foundation | SELCO Foundation |

## 4.2 Output 2: Networking of public and private renewable energy and energy efficiency stakeholders

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| Facilitating lectures & seminars at the country; EAC and SADC levels | TAREA to arrange a forum where players from the renewable energy sector can meet & network with one another. Bring in experts to lecture on renewable energy aspects:<br>▪ Finance Renewables<br>▪ Project Management<br>▪ Renewable energy technologies<br>▪ Advocacy on policies and regulations | ▪ Conducted National Renewable Energy Public-Private Dialogue in Dodoma | EU |
| | | ▪ Cooperated with ARE in conducting Tanzania Renewable Energy Investment Forum in Dar es Salaam | EU |
| | Dissemination of the biomass stoves standards | Conducted training for the biomass cookstove SMEs in Morogoro, Iringa and Arusha on the use of the cookstoves standards | SNV/Endev |
| TAREA directory | Continue & update (every 2 years) electronic directory of stakeholders | Developed a new on-line Tanzania Renewable Energy Actors Directory | TAREA |
| TAREA branches | ▪ Establish new branches in Tanzania<br>▪ Strengthen existing branches | Efforts were invested to strengthen the Northern Zone Branch by hiring a new Branch Secretary | TAREA |
| Networking in the country; regions and International levels | Establish a forum for collaboration to discuss renewable energy technologies, working together & identifying synergies | Conducted EAREF working event in Arusha | WWF Kampala |
| | | Conducted a workshop to determine the formation of a clean cooking platform | SNV |
| | Look at standards, exchange of information, policies, & legislation of other countries | Participated in developing MEPS on lights | EELA |
| | Strengthen cooperation between the the renewable energy industry and academic/training institutions | Signed MoU with Arusha Technical College | TAREA |

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| | Work with regional bodies on the common sectorial challenges | Participates in the EELA Steering Committee | SACREEE |
| | | Facilitated the formation of the East Africa Renewable Energy Federation (EAREF) | bfz gGmbH/ TAREA |
| | Conduct knowledge exchange/transfer worldwide | Made a presentation on the best practices for developing and implementing community solar photovoltaic systems to district councils in partnership with German districts. | Global Engagement GmbH |
| | | Made a presentation on the best practices for developing and implementing community solar photovoltaic systems to the members of Tanzania Network e.V. | Tanzania Network e.V |
| | Forging new partnerships | TAREA forged new partnerships with ARE, CLASP, Elektriker ohne Grenzen e.V, Embassy of the Kingdom of the Netherlands, ESECA, GOGLA, Herrnhuter Missionshilfe e.V, Hivos, MUTINA Group GmbH, NABA, OffgridSun Srl, Shell Exploration and Development Ltd, SELCO Foundation, SIDO, SNV, REEEP, FLnTF and WRI. | TAREA |
| | Joined membership | TAREA joined PREVENT Waste Alliance | TAREA |

## 4.3 Output 3: Support the creation of enabling environment and framework for sustainable renewable energy and energy efficiency markets

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| Government engagement | Advocate for transparent application of taxes on renewable energy technologies | Conducted meeting with Tax Reform Task Force of the Ministry of Finance and Planning in Dodoma on the tax exemption for solar irrigation pump and solar fishing light | NL |
| | Encourage Government:<br>▪ To set up an Energy Desk at District level (RALGA) | Masasi District Council and Masasi Town Council staff trained in the management of renewable energy | Enzkreis |
| | ▪ To set up Energy Strategy for the Local Energy Planning (goes beyond electricity & includes sustainability) at each district | Advocated Ministry of Energy which is now developing a national renewable energy strategy and TAREA participates in the process. | TAREA |
| | ▪ To develop: acts; regulations; standards; and labels on energy efficiency for buildings and appliances | Advocated TBS to develop MEPS for solar pump | NL |
| | | Initiated the development of MEPS for refrigerators and distribution transformers | Green Climate Fund |
| | ▪ To participate in improving 1 biomass energy testing laboratory | Advocates with UNCDF and EU to procure the emission analyser for TBS | EU/SNV/ Endev |
| | | Agreed with Sido to support biomass clean cooking SMEs | SNV/Endev |
| | ▪ To participate in the energy strategy development | Participated in the development of the Cooking Energy Action | SNV/Endev |
| | ▪ Through the Ministry of Health, to monitor indoor air pollution | Encouraged the Ministry of Health to establish a monitoring unit for indoor air pollution in mainland Tanzania | SNV/Endev |
| | ▪ To provide incentives for solar photovoltaic mini-grids | EWURA started in August 2022 issuing cost-reflective tariffs to the RE mini-grids | Sida |

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| | ▪ To effect policy inclusion and recognition of the solid biomass energy for cooking | ▪ Convinced VPO to coordinate biomass cooling sector<br>▪ Ministry of Energy developed Cooking Energy Plan | SNV/Endev |
| | ▪ To include solar irrigation pump in the list of agricultural implements | NIRC recognized and included solar irrigation technology in the Irrigation Master Plan | NL |
| | ▪ To support low-enthalpy uses of geothermal energy for heating | Initiated coordination with Tanzania Geothermal Company | TAREA |
| | **Advocate:**<br>▪ Ministry of Water and Rural Water and Sanitation Agency (RUWASA) for use of solar photovoltaic and wind technologies in the community water schemes | Initiated the dialogue and developed a demonstration project in Mpwapwa, Dodoma | CTCN |
| | ▪ Vice President Office Ministry Responsible for the Environment and Union Affairs to enact electronic wastes management regulations | Initiated the dialogue with VPO | TAREA |
| | Ministry of Energy and related agencies to support energy use for productive uses | Ministry of Energy supported PUE to increase energy use, production and climate change mitigation. | City of Wuerzburg/ NL/ Mott Foundation /REEEP |
| | REA to continue training wind power artisans | REA stopped training artisans.<br>TAREA made a plan with WindEmpowerement but COVID-19 hindered the implementation. | WindEmpowe-rement |
| | ▪ Promote TAREA recognition through participation in the preparation of plans, regulations and strategies | TAREA participates in the development of renewable energy strategy, various TBS committees, CookFund Project Implementation Committee and EU-Tanzania Investment Forum Task Force | EU/ TBS |

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| | Promote knowledge of renewable energy related taxes to renewable energy actors | Conducted training workshop with TRA on the Finance Act 2022 and HS Codes for solar technology | USAID/Shell Foundation/ GOGLA |
| | Continue demonstrating the potential of renewable energy technologies at household, community and institutions level | Installed solar water pumping system at Preiswerk Secondary School in Ifakara | URBIS Foundation |
| | Promote the use of clean sources of energy in the form of heat and electricity in an efficient manner | Installed improved firewood stoves at 2 secondary schools in the Malinyi district | URBIS Foundation |
| | | Conducted activities on biomass cooking policy dialogue | SNV |
| | Raise community awareness on management of electronic wastes | Not implemented | |
| | Promote wind for water pumping | Projected initiated with WindEmpowerement at Kenyana | WindEmpowe-rement |
| | Promote low-enthalpy geothermal heat applications for households, industry and services such as tourism | Not implemented | |
| | Continue raising awareness on accessing quality renewable energy products and services | Conducted awareness on the solar pump MEPS | NL |

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| Support Project Developers | Project development of large-scale renewable energy<br>▪ Provide advice<br>▪ Partnering & linking with local players<br>▪ Promote Public-Private-Partnership | Conducted Renewable Energy Investment Forum with Alliance for Rural Electrification in Dar es Salaam | EU |
| | | Supported renewable energy project planning for Emmaberg Girls Secondary School | SchuPa Tansania e.V |
| | | Supported renewable energy project planning for Ilembula | HA-ILE e.V |
| | | Supported planning of solar systems and training of solar photovoltaic instructors for the Moravian VTCs | Herrnhuter Missionshilfe e.V |
| | | Supported the rehabilitation of the water scheme at Mbingu Sisters Centre for Franciscan Sisters of Charity | Nord-Sud Bruecken/ Power4Africa |
| | | Supported planning of energy systems for Ilembula Hospital and water pumping system for Mayale village | Haar-Ilembula Partnership |
| | | Dialogue with the Energy Development Partners Group to support the development of renewable energy | EU |
| | | Supported planning of sustainable energy systems for the Emmaberg Girls Secondary School, Makambako | SchuPa Tansania e.V |
| Mechanisms of financing | Investigate relevant mechanisms of financing small-scale & standalone Renewables<br>▪ Subsidies/ smart finance for consumers<br>▪ Provide a platform for sharing information<br>▪ Productive uses support schemes | Conducted awareness raising to the banks on the potential of financing renewable energy projects. | Mott Foundation |

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| Adopting other Standards | TAREA to advocate TBS on the development/adopting other standards and code of conduct for: | | |
| | ▪ Wind energy | Not implemented | |
| | ▪ Solar driers | Not implemented | |
| | ▪ Solar water heaters | Not implemented | |
| | ▪ Bioenergy appliances/stoves | Biomass cookstove standards developed | TBS |
| | ▪ Solid & liquid biomass and biogas cooking fuels | Liquid biomass standards developed | TBS |
| | ▪ LED (light-emitting diode) lighting | MEPS for lights developed | EELA/TBS |
| | ▪ Solar photovoltaic street lights | Not implemented | |
| | ▪ Solar photovoltaic water pumps | MEPS for solar pump developed | NL |
| | RE&EE sectors representation | TAREA was represented by members in the TBS Committees of batteries; Bbiomass technologies; biofuel technologies; electrical energy; electronics; and renewable energy | TBS |
| | ▪ Geothermal heat applications | Not implemented | |
| | Advocate Tanzania Bureau of Standards to continue with enforcement of solar photovoltaic standards | Continued working with TBS | TBS |
| Buildings and appliances standards for renewable & energy efficiency | Look at potential demand & interest at household; business; and public | | |
| | ▪ Develop awareness-raising forums such as seminars & short courses | Not implemented | |
| | ▪ Become involved in programmes with large institutions (e.g. Universities) | Initiated the development of MEPS for refrigerators and distribution transformers | CLASP/GCF |
| | ▪ Work with municipal planning offices & NEMC (National Environmental Management Council) | Worked with Masasi District Council and Masasi Town Council on the energy efficiency | Enzkreis |

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| | ▪ Work with consulting firms like ACET (Association of Consulting Engineers Tanzania) Use regional case studies – EAC and SADC | Not implemented | |
| | ▪ Investigate opportunities for Energy Auditing | Not implemented | |
| Enterprise development | ▪ Encouraging key players in developing business & product models for local manufacturing | Supported the Envotec Energy Services Co. to develop and test the firewood/charcoal stove at CREEEC | OffgridSun |
| | ▪ Development of successful sustainable business models | Not implemented | |
| | ▪ Assist entrepreneurs to gain knowledge on developing proposals | Implemented with the support of GIZ | E4D-GIZ |
| | ▪ Promote the use of solar lanterns for fishing on the Lakes of Tanganyika and Nyasa; and Indian Ocean | Initiated development of fishing light for Lake Tanganyika | FLnTF |
| | ▪ Champion household/community financing in accessing renewable energy technologies | Piloted solar financing in Kilombero and Malinyi districts | Microfinanza |
| Small scale manufacturing initiatives | Create a platform to share information Technical advice (testing, manuals, dissemination)<br><br>Small-scale wind turbines, cookstoves, biogas digesters, inverters, controllers, lights, briquettes, lanterns | Supported testing of the biomass stove for Envotec Energy Service at CREEC in Kampala | OffgridSun Srl |

## 4.4 Output 4: Promote Institutional Capacity Building

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| Building TAREA network capacity | Build TAREA capacity on: | | |
| | Competitive bidding | Members participated in the training by GIZ | E4D-GIZ |
| | Energy auditing | Not implemented | |
| | Renewable Energy Environmental Social Impact Assessment (ESIA) | Not implemented | |
| | Developing joint venture agreements | Facilitated one B2B with ARE | EU |
| | Solicit information on the coming opportunities | Opportunities shared with members | TAREA own resources |
| | Finance management | Developed the financial guideline | TAREA own resources |
| | Advocacy and lobby | Trained Public-Private Dialogue Team | EU |
| | Capacity on OSHA | Trained one staff on OSHA | TAREA own resources |
| | Develop the premise for TAREA | Not implemented | |
| | Improve Information and Communication Technology facilities | Purchased laptops with 1Tb storage and high graphic resolutions | bfz gGmbH |
| | Install video conference facility | Not needed. 4 Laptops had been purchased for the purposes | bfz gGmbH |
| | Equip secretariats with documentation equipment | Automatic copier machine procured | bfz gGmbH |
| | Strengthen association management | TAREA Executive training on the Business Membership Organization (BMO) Management | bfz gGmbH |

| Activity | Details | Output | Support /Contribution |
|---|---|---|---|
| | Strengthen Human Capacity in<br>▪ Developing responsive project proposal writing and fundraising skills | 4 members of staff trained | bfz gGmbH |
| | ▪ Use of social media | 2 staff instructed on the updating website | Frithjof Gressman |
| | ▪ Lobbying and advocacy | A team of 12 members trained | EU |

For a sustainable Future
TAREA
Tanzania Renewable Energy Association

# 5.0 Proposed Strategy for 2023-2027

The foundation of this reviewed strategy lies in the objective of the organization as it defines its key purpose and role. The proposed activities that have been identified are therefore aimed at achieving the specific objective "to promote the sustainable development of Renewable Energy in Tanzania Mainland".

The activities that will realize the objective of the association are presented in the following 4 focal areas:

1) Managing knowledge and information dissemination
2) Networking public and private renewable energy and energy efficiency stakeholders
3) Supporting the creation of an enabling environment and framework for sustainable renewable energy and energy efficiency markets
4) Promotion of institutional capacity building.

The activities proposed to include both association core activities and project-based activities. For each of the activities, basic details have been provided; target recipient, possible funding sources and the timing for implementation. While it is assumed that the core activities will be carried out by existing staff and volunteers and funded through the core funding. Some activities will require additional resources (finance and human capacity).

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Where applicable, an indicative budget has also been provided, however, it is noted that this will be highly dependent on the specific time of implementation, activities and deliverables, which will need to be defined in a detailed project proposal.

Budgets are not provided for activities defined as core TAREA activities. It is also noted that many of the non-core activities may be managed by TAREA, however, their implementation might be carried out by local consulting individuals and firms through a transparent bidding process.

Furthermore, TAREA will also expand several of the proposed activities to the branches. These activities will form part of the action plans which will be developed by the branches.

The activities are on basis of short, medium and long terms. The short-term activities are the ones which will be implemented within 2 years. The medium-term activities are the ones which will be implemented from 3 to 5 years The long-term activities are the ones which will be implemented beyond 5 years.

TAREA shall mainstream the environment and gender within its institutional structure and implementation of the activities.

## 5.1 TAREA Project-Based Activities 2023-2027

### 5.1.1 Output 1: Knowledge Management & Information Dissemination

| Activity | Details | Target recipient | Rough budget (USD x1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| Renewable Energy Training and employability | Training of new & re-training of existing human capacities. | | | | | | | | |
| | ▪ Sensitize VETCs to conduct RE& EE Training (solar, wind, hydro, biogas, bioethanol, green hydrogen, biomass and geothermal) | VETA, VETCs | 20/year | DPs/GIZ | □ | □ | □ | □ | □ |
| | ▪ Train RE Trainers | VETCs | 150/year | E4D-GIZ | □ | □ | □ | □ | □ |
| | ▪ Review the training curriculum of artisanal solar photovoltaic to the on-grid level | VETCs | 80 | E4D-GIZ | □ | | | | |
| | ▪ Support certification of trained personnel with VETA | Artisans | 150 | DPs | □ | □ | | | |
| | ▪ Support the establishment of RE training at FDCs and VETCs | FDCs/VETCs | 10/activity | DPs/ Enzkreis/ HM/Members | □ | □ | □ | □ | □ |
| | ▪ Support certification of practising personnel with EWURA | Artisans | N/A | TAREA Core Activity | □ | □ | □ | □ | □ |
| | ▪ Support the certification harmonization of trained personnel within EAC | Artisans | 50 | DPs | | | □ | □ | □ |
| | ▪ Continue Internship Programs | Interns | 10/year | DTPs/HH | □ | □ | □ | □ | □ |
| | ▪ Train district officers on the renewable energy management | RALGA | 50/year | URT/DPs | □ | □ | □ | □ | □ |
| | ▪ Support youth with PT placements | Students | N/A | TAREA Core Activity | □ | □ | □ | □ | □ |

| Activity | Details | Target recipient | Rough budget (USD x1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| | ▪ Training on manufacturing clean cooking solutions (fuels and appliances) | Manufacturers | 20 | DPs | □ | □ | □ | □ | □ |
| | ▪ Develop training manuals on RE&EE technologies and practices. | Artisans/ Planners/ Engineers | 10/manual | DPs | □ | □ | □ | □ | □ |
| | ▪ Dialogue/support Universities to offer market demand-driven training | Universities/ Colleges | 25 | DPs/URT | □ | □ | □ | □ | □ |
| | ▪ Develop and implement renewable energy training for people with disabilities. | Artisans | 50/training | DPs | □ | □ | □ | □ | □ |
| | Facilitate continued local and international training on renewable energy that focuses on: | | | | | | | | |
| | ▪ Technology (planning, development, operations and troubleshooting | Individual experts | 15/year | DPs | □ | □ | □ | □ | □ |
| | ▪ Technology maintenance | Individual experts | 15/year | DPs | □ | □ | □ | □ | □ |
| | ▪ Project management | Engineers/ developers | 30/training | DPs | | | | □ | □ |
| | ▪ Financing | Developers/FIs | 30/event | DPs | □ | □ | □ | □ | □ |
| | ▪ Business planning | Developers | 30/training | DPs | □ | □ | □ | □ | □ |
| | ▪ Responsible bidding | Developers/ Consultants | 50/year | DPs/GIZ | □ | □ | | | |
| | ▪ Carbon trading models and project development | Developers | 100/training | DPs | □ | | □ | | |
| | ▪ Productive uses of energy | Experts/ Planners | 50/year | URT/DPs | □ | □ | □ | □ | □ |

| Activity | Details | Target recipient | Rough budget (USD x1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| | ▪ Fishermen to understand the regulations on solar fishing lights | Fishermen | 40/training | GOGLA/ DPs | □ | □ | | | |
| | ▪ Understanding regulations and guidelines on carbon trading | Developers/ NEMC/ Consultants | 50/training | EU/VPO/ MoE/DPs | □ | □ | | | |
| | ▪ Building codes with EE | Developers/ MLH/ LGAs/ Consultants | 50/training | EU/MoE/DPs | □ | □ | □ | □ | □ |
| | ▪ Business partnership creation | Businesses | 25/training | GIZ/TAREA | □ | □ | | | |
| Awareness of technologies | Carry out awareness-raising for renewable energy by: | | | | | | | | |
| | ▪ Lobbying & visiting sites where renewable energy work is undertaken locally and internationally | Financiers/ Clients/ Decision-makers | 60/event | TAREA/DPs | □ | □ | □ | □ | □ |
| | ▪ Encouraging industries to adopt renewable energy technologies | MIBI/Industries | 25/year | DPs | | □ | □ | □ | □ |
| | ▪ Lobby for RE power grid connection | TANESCO/MoE /EWURA | 200/event | TAREA/DPs | □ | □ | | | |
| | ▪ Carrying out demonstrations of RE&EE technologies (involve members) | Decision makers/ Clients/ Planners | 50/demo | TAREA/DPs | □ | □ | □ | □ | □ |
| | ▪ Engaging with local media | Public | 5/year | TAREA/DPs | □ | □ | □ | □ | □ |
| | ▪ Sensitize potential financiers and investors on opportunities in RE&EE | Developers/FIs | 20/year | TAREA/DPs | □ | □ | □ | □ | □ |
| | ▪ Engaging with EAC authorities in creating a conducive business environment | State and EACI authorities | 30/year | DPs | □ | □ | □ | □ | □ |

| Activity | Details | Target recipient | Rough budget (USD x1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| Student awareness programme | Develop a platform for student awareness. TAREA will: | | | | | | | | |
| | ▪ Identify key institutions to establish Student Divisions | Universities, VETCs and Schools | 5/Event | URT/DPs/TEA | □ | □ | □ | □ | □ |
| | ▪ Arrange talks at Vocational Centres; Primary & Secondary Schools; Colleges and Universities on renewable energy | Universities, VETCs and Schools | 50 | Government & development partners | □ | □ | □ | □ | □ |
| Support research programmes | Engage with institutions and transfer knowledge to the industry | | | | | | | | |
| | ▪ Research and disseminate the use of RE in small PUE appliances for irrigation, spraying insect exterminator, milking, repelling, drying/cooling etc. | Communities/ Researchers/ Businesses | 100 per event | DPs | □ | □ | □ | □ | □ |
| | ▪ Explore the use of tidal energy | MoE/ Developers | 100 | DPs/ Developers | □ | □ | □ | □ | □ |
| | ▪ Explore the storage of heat energy for cooking (solar) | SMEs/UDSM | 100 | DPs/ Developers/U DSM | | □ | □ | □ | □ |
| | ▪ Research on disposal of RE e-wastes | NEMC/ VPO/TAFIRI | 50 / event | URT/DPs | □ | □ | | | |
| | ▪ Support incubation of the local innovators | Engineers | 50 / event | COSTECH/ Sido | □ | □ | □ | □ | □ |
| | ▪ Support the use of RETs in the e-mobility (land and marine). | End users/ investors | 60 / event | URT/Members /DPs | □ | □ | □ | □ | □ |

| Activity | Details | Target recipient | Rough budget (USD x 1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| | ▪ Study solar technologies for fishing on different water bodies | End users/ investors | 100/event | URT/Members /DPs | □ | □ | □ | □ | □ |
| | ▪ Study and transfer to the businesses the applications of wind for electricity and water pumping | Communities/ Researchers/ Businesses | 100/year | DPs/URT | □ | □ | □ | □ | □ |
| | ▪ Support the promotion of the energy-intensive energy storage | Developers | 150 | DPs | □ | □ | □ | □ | □ |
| | ▪ Support the introduction of green hydrogen | Investors | 150 | URT/Members /DPs | □ | □ | □ | □ | □ |
| e-information | Publish<br>▪ e-newsletter<br>▪ Social media handles<br>▪ Online Renewable Energy Stakeholders directory | Members & other key stakeholders | N/A | TAREA Core Activity | □ | □ | □ | □ | □ |
| Website | ▪ Up-to-date news & information<br>▪ Promote RE&EE initiatives<br>▪ Include a library of reports & publications for download<br>▪ Include links to important sites<br>▪ Advertising banners to pay for managing the website site | Members/ DPs; Financiers/ Students/ Researchers/ RE&EE stakeholders | N/A | TAREA Core Activity | □ | □ | □ | □ | □ |
| Promotional material | Develop posters; leaflets; T-Shirts; pens; cloth bags; and stickers. | Government; Private sector & consumers | 50 | TAREA Core Activity and sponsors | □ | □ | □ | □ | □ |

| Activity | Details | Target recipient | Rough budget (USD x1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| Mass media | ▪ Utilize media (television, radio, newspapers) to publicize; Encourage TAREA members to develop articles & publish them under TAREA | Local and international stakeholders | 50 | TAREA Core Activity | □ | □ | □ | □ | □ |
| | ▪ Implement TAREA media programs | Local Stakeholders | 50 | DPs | □ | □ | □ | □ | □ |
| | ▪ Develop a concept to establish renewable energy radio, online platforms | Local Stakeholders | 10/year | DPs | □ | □ | □ | □ | □ |
| Events | Host, facilitate and attend workshops, seminars, conferences and fairs | | | | | | | | |
| | ▪ National/International forums | | 100/event | | □ | □ | □ | □ | □ |
| | ▪ Workshops on regulations, laws and incentives | | 10/event | | □ | □ | □ | □ | □ |
| | ▪ Networking | | 10/event | | □ | □ | □ | □ | □ |
| | ▪ Village exhibitions & roadshows | | 20/event | | □ | □ | □ | □ | □ |
| | ▪ Technology workshops | | 10/event | | □ | □ | □ | □ | □ |
| | ▪ B2B | | 10/event | | □ | □ | □ | □ | □ |
| | Continue with renewable energy day, Raising awareness & market, including training and workshops | Public | 100/event | DPs/ members | □ | □ | □ | □ | □ |

| Activity | Details | Target recipient | Rough budget (USD x1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| Technology Demonstrations | Develop project documents and implementation demonstrating the potential of RETs on: | Private Stakeholders/ International Delegates | | DPs/ members | | | | | |
| | ▪ Health | | 60/activity | | □ | □ | □ | □ | □ |
| | ▪ Waste to energy | | 100/activity | | □ | □ | □ | □ | □ |
| | ▪ Education | | 50/activity | | □ | □ | □ | □ | □ |
| | ▪ Water | | 50/activity | | □ | □ | □ | □ | □ |
| | ▪ Agriculture | | 50/activity | | □ | □ | □ | □ | □ |
| | ▪ Youth and Women empowerment | | 50/activity | | □ | □ | □ | □ | □ |
| | ▪ Environmental sectors | | 50/activity | | □ | □ | □ | □ | □ |
| | ▪ Productive use systems (off-grid: marine & land) | | 50/activity | | □ | □ | □ | □ | □ |
| | ▪ e-mobility (land and marine) | | 100/activity | | □ | □ | □ | □ | □ |
| Technology monitoring | Identify and monitor the performance of existing operating RE systems, document and disseminate | Government/ developers/ students/ end-users | 30 per year | Government/ DPs | □ | □ | □ | □ | □ |

| Activity | Details | Target recipient | Rough budget (USD x1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| Information collection and dissemination | ▪ Prepare books, guidelines, manuals, fact sheets RE&EE | Public & Private RE&EE stakeholders | 30/year | Government & DPs | □ | □ | □ | □ | □ |
| | ▪ Develop an open-source database of renewable energy | | 100 | | □ | □ | □ | □ | □ |
| | ▪ Translate relevant materials into Swahili | | 5/year | | | □ | □ | □ | □ |
| | ▪ Establish information and energy data gathering, and packaging in collaboration with stakeholders | Public & Private sectors, DPs | 50 | Government & DPs | □ | □ | □ | □ | □ |
| | ▪ Continue the promotion of locally owned and administered, data-driven, integrated, inclusive approach to planning through the Energy Access Explorer | MoE/REA/NBS /TANESCO/ EWURA/ NEMC/ Developers | 20/year | DPs/URT/ Members | □ | □ | □ | □ | □ |
| | ▪ Package and disseminate best practices | Public | 30 | DPs/ Members | | □ | □ | □ | □ |
| | ▪ Conduct online breakfast meeting | Members | N/A | TAREA | □ | □ | □ | □ | □ |

### 5.1.2 Output 2: Networking of public & private renewable energy and energy efficiency stakeholders

| Activity | Details | Target recipient | Rough budget (USD x1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| Facilitating lectures, workshops & seminars at the country; EAC and SADC levels | TAREA to arrange a forum where players from the renewable energy sector can meet & network with one another. Bring in experts to lecture on renewable energy aspects: | | | | | | | | |
| | ▪ Finance Renewables | Members of Public and TAREA Members Renewable Energy students | 10/event | Members & DPs& | ☐ | ☐ | ☐ | ☐ | ☐ |
| | ▪ Project Management | | 10/event | | ☐ | ☐ | ☐ | ☐ | ☐ |
| | ▪ Renewable energy technologies | | 10/event | | ☐ | ☐ | ☐ | ☐ | ☐ |
| | ▪ Advocacy on policies and regulations | | 10/event | | ☐ | ☐ | ☐ | ☐ | ☐ |
| | ▪ Renewable energy lectures for Renewable Energy students | | 10/event | | ☐ | ☐ | ☐ | ☐ | ☐ |
| Networking at the country; regional and international levels | Establish a forum for collaboration to discuss renewable energy technologies, working together, standards, exchange of information, policies, & legislation of other countries | Renewable Energy Stakeholders worldwide | 30/event | WWF Uganda/ DPs | ☐ | ☐ | ☐ | ☐ | ☐ |
| | Strengthen cooperation between the renewable energy industry and academic/training institutions | | 30/event | DPs | ☐ | ☐ | ☐ | ☐ | ☐ |
| | Work with regional bodies on the common sectorial challenges | | 30/event | WWF Uganda, GOGLA, DPs | ☐ | ☐ | ☐ | ☐ | ☐ |
| | Create sectorial partnerships with local and international organizations | | 30/event | TAREA | ☐ | ☐ | ☐ | ☐ | ☐ |
| | Mobilizing membership and attending international events | TAREA | 10/year | TAREA | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TAREA directory | Continue & update the online directory of stakeholders | Public | N/A | TAREA | | | | | |
| TAREA branch | Establish at most 3 new branches in Tanzania | Members and non-members | 150 | Members/ partners | | | | | |
| | Strengthen existing branches | Members | 5/year | Members | | | | | |

### 5.1.3 Output 3: Support the creation of enabling environment and framework for sustainable renewable energy and energy efficiency markets

| Activities | Details | Target recipient | Rough budget (USD x 1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| Government engagement | Meet MoE first to share TAREA's position on new Carbon trading regulations as Energy projects and their inclusion in a training session with the VPO | MoE | 10 | DPs/ Members | □ | □ | | | |
| | Train TRA inspectors on the biogas components to avoid mistakenly charging high tax | TRA | 60 | DPs | | □ | □ | | |
| | Train TRA inspectors on solar energy (components) to avoid mistakenly charging tax | TRA | 150 | GOGLA/DPs | □ | □ | □ | □ | □ |
| | Dialogue with URT on the operationalization of the Feed in Tariff | MoE/EWURA/ TANESCO | 10/event | DPs/TAREA | □ | □ | | | |
| | Encourage Government:<br>▪ To set up an Energy Desk at the District level (RALGA) | RALGA/MoE | 400 | DPs | □ | □ | □ | □ | □ |
| | ▪ To operationalize the compensation regulation when the national grid encroaches on the mini-grid | EWURA/.MoE/ REA/ TANESCO | 10/year | DPs | □ | □ | | | |
| | ▪ Ministry of Education, Science and Technology to add in the primary and secondary schools subject of climate change adaptation and mitigation | MEST/VPO/ RELGA | 50 | DPs/URT | □ | □ | □ | □ | □ |

| Activities | Details | Target recipient | Rough budget (USD x 1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| | ▪ Dialogue with the Ministry of Energy to define the share of renewable energy to the grid and the involvement of the private sector. | MoE/TANESCO | 10/even | DPs | □ | □ | | | |
| | ▪ To set up RE Strategy which goes beyond electricity & includes a blue economy and energy transition | MoE | 5/event | DPs/TAREA | □ | □ | | | |
| | ▪ To harmonize the overlapping regulations such as OSHA, NEMC, District Councils and Fire to reduce conflicts and cost | VPO/RALGA/ MoHA/ PMO-LYED | 100 | DPs/URT | | | □ | □ | □ |
| | ▪ To develop: acts; regulations; guidelines, MEPS; and labels on energy efficiency for buildings and appliances | MoE/VPO | 30/event | DTPs | □ | □ | | | |
| | ▪ To facilitate training on energy efficiency auditing and certification | Universities/ VETs | 50 | DTPs/URT/ Private sector | | □ | □ | | |
| | ▪ To harmonize the regulations governing agriculture, forestry, water, land and industries | MoE/MoA/ MoNRT/MoW/ MoIBS | 80 | DTPs/URT/ Private sector | | □ | □ | □ | □ |
| | ▪ To mainstream biogas technology in the primary and secondary schools | MoEST/MoE | 100 | DTPs | | | □ | □ | □ |
| | ▪ To participate in establishing/improving biomass energy testing laboratories | TBS/TIRDO | 10 | EU/UNDP | □ | □ | | | |
| | ▪ To provide incentives for the renewable energy mini-grids | MoE/REA | 10/event | Sida/EU | □ | □ | □ | □ | □ |
| | ▪ To include solar irrigation pumps in the list of agricultural implements | MoA/NIRC | 50 | DPs/GOGLA /NL | □ | □ | □ | | |

| Activities | Details | Target recipient | Rough budget (USD x 1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| | ▪ To support low-enthalpy uses of geothermal energy for heating | Developers | 50/event | URT/DPs | | | | | |
| | ▪ To encourage industries to have at least 10% RE power sources to reduce environmental impacts | MoIBI/MoE/VPO | 30/event | DPs | | | | | |
| | ▪ To improve the process of land acquision for the project so that it becomes shorter | MoLH/MoE/ RALGA | 20 | DPs | | | | | |
| | ▪ To use liquid waste in urban areas for energy generation | RALGA/MoE/ NEMC/VPO | 30/event | DPs | | | | | |
| | ▪ To involve TAREA in the preparation of policies, regulations, action plans and strategies | URT Ministries and agencies | 10/event | DPs/ Members | | | | | |
| | ▪ To include clean cooking kitchens at the schools | MoE/MEST | 10/event | DPs/ Members | | | | | |
| | ▪ To encourage the Ministry of Energy to promote the generation and use of green hydrogen and green ammonia | MoE/EWURA/ NEMC | 15/event | DPs | | | | | |
| | **Advocate** | | | | | | | | |
| | ▪ Tax relief on the biogas research supplies (bags, smart meters, pumps, desulfurize, chicken brooder heaters etc) | MoFP/MoE | 50 | DPs/URT | | | | | |
| | ▪ Ministry of Water and Rural Water and Sanitation Agency (RUWASA) for use of solar photovoltaic and wind technologies in the community water schemes | MoW/RUWASA/ RALGA | 120 | DPs/ Members | | | | | |

| Activities | Details | Target recipient | Rough budget (USD x 1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| | ▪ Ministry of Energy to develop regulations and regulations of developing the use of geothermal heat | MoE/TNGC/ EWURA/ NEMC | 20/year | DPs/URT | | | | | |
| | ▪ Advocate TRA issue the practice notices to guide importation exemption to avoid mistranslation of the tax inspectors | TRA/MoFP | 10 | DPs/URT | | | | | |
| | ▪ Advocate for the incentives (tax, grants, loans) for the electrical/RE clean cooking technologies | MoE/REA/MoFP | 110 | DPs/URT/ Members | | | | | |
| | ▪ Advocate for transparent application of taxes on renewable energy technologies | TRA/MoFP | 50/event | GOGLA/DPs | | | | | |
| | ▪ Advocate for the certification of the energy auditors | MoE/EWURA | 60 | DPs | | | | | |

| Activities | Details | Target recipient | Rough budget (USD x1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| | ▪ Vice President Office Ministry Responsible for Environment and Union Affairs to enact electronic wastes collection, recycling and deposition guidelines. | VPO/MFL | 20/year | DPs/GOGLA/ Members | | | | | |
| | ▪ URT Authorities to promote the use of sustainable wood fuels including briquettes and pellets. | VPO/TFS/MoE/ MoIBI | 75 | DPs/ Members | | | | | |
| | ▪ Ministry of Energy and related agencies to support energy use for productive uses | MoE/REA/MoA/ MoW/MoFL/ Water Basins | 50 | DPs | | | | | |
| | ▪ Conducive carbon trading act and guidelines | VPO | 20/event | DPs | | | | | |
| | ▪ Enabling environment for the development of e-mobility (land and marine) | MoE/NEMC/ MoWT/ TBS/ COSTECH/ MoFP/EWURA | 50/event | DPs/URT | | | | | |
| | ▪ Creation of regulations and guidelines for green hydrogen and green ammonia | MoE/EWURA/ NEMC/MoW | 100 | DPs | | | | | |
| | ▪ Creation of regulations and guidelines for waste to energy (methane for heat and electricity) | MoE/EWURA/ NEMC/RALGA | 100 | DPs | | | | | |
| | ▪ Excise Duty removal on lead acid battery | MoE/ MoFP | 25/year | DPs | | | | | |
| | ▪ The realisation of the Net-Metering Scheme | MoE/TANESCO /EWURA | 200 | DPs/ Members | | | | | |

| Activities | Details | Target recipient | Rough budget (USD x1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| | ▪ Tax incentives for solar fishing lights | MoFL/MoFP | 30/year | DPs/ Members | □ | □ | | | |
| | ▪ Challenge of imposition of VAT on the grants | MoE/MoFP/TRA /REA | 20/year | DPs/ Members | □ | □ | | | |
| | ▪ Tax incentives for solar irrigation pumps | MoA/NIRC/ MoFP | 80 | DPs/ Members | □ | □ | | | |
| Awareness-raising amongst leaders; actors/ developers and end-users | Create a forum for leaders/regulators to talk about renewable energy<br>▪ Holding seminars, leading to lobbying & advocacy | Lawmakers; Senior officials | 20/year | Government & partners | □ | □ | □ | □ | □ |
| | Promote knowledge on renewable energy-related taxes of renewable energy actors | Importers and suppliers | 10/event | Development partners | □ | □ | □ | □ | □ |
| | Continue demonstrating the potential of renewable energy technologies at household, community and institutional levels. | Decision-makers/ end-users | 50/demo | Development partners and Members | □ | □ | □ | □ | □ |
| | Promote the use of clean sources of energy in the form of heat and electricity in an efficient manner mainstreaming tree planting | Lawmakers and end-users | 20/event | DPs and members | □ | □ | □ | □ | □ |
| | Promote the replacement of fossil fuel generators with solar generators | End Users/ Lawmakers | 20 | DPs and members | □ | □ | □ | □ | □ |
| | Promote the technologies of Agrovoltaic | End Users/ Planners/ Developers | 60 | DPs and members | | □ | □ | □ | □ |

| Activities | Details | Target recipient | Rough budget | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| Support Project Developers | Promote the use of floating Solar PV | End Users/ Planners/ Developers | 100 | DPs and members | | □ | □ | □ | □ |
| | Raise community awareness on the management of electronic waste. | Communities/ Lawmakers | 10/event | DPs and members | □ | □ | □ | □ | □ |
| | Raise community awareness of energy efficiency at all levels | Communities/ Lawmakers | 20/event | DPs and members | □ | □ | □ | □ | □ |
| | Promote low-enthalpy geothermal heat applications for households, industry and services such as tourism | Lawmakers and end-users | 10/event | Partners and members | | □ | □ | □ | □ |
| | Continue raising awareness on accessing quality renewable energy products and services | End users | 5/year | Media/ Government /DPs | □ | □ | □ | □ | □ |
| | Project development of large-scale renewable energy<br>▪ Provide advice | Project developers | 10/event | Project developers/ DPs | □ | □ | □ | □ | □ |
| | ▪ Partnering & linking with local players<br>Promote Public-Private-Partnership | | | | □ | □ | □ | □ | □ |
| Mechanisms of financing | Investigate relevant mechanisms of financing small-scale, standalone & on-grid renewables: | | | | | | | | |
| | ▪ Loans/Subsidies/ smart finance for consumers | Developers/ Consumers | 20/event | FIs/URT/DPs | □ | □ | □ | □ | □ |
| | ▪ Productive uses support schemes | Businesses/ Consumers | 100 | FIs/URT/DPs | □ | □ | □ | □ | □ |

| Activities | Details | Target recipient | Rough budget | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| Adopting other Standards | TAREA to advocate TBS on the development/adoption of other standards and codes of conduct for: | | | | | | | | |
| | ▪ Wind energy | TBS | 20 | URT/DPs | | | □ | □ | □ |
| | ▪ Solar driers | TBS | 20 | URT/DPs | | | | □ | □ |
| | ▪ Solar water heaters | TBS | 20 | URT/DPs | □ | □ | | | |
| | ▪ Bioenergy appliances/ stoves | TBS | 30 | URT/DPs | □ | □ | | | |
| | ▪ Solid & liquid biomass, and biogas cooking fuels | TBS | 20 | URT/DPs | □ | □ | | | |
| | ▪ Solar photovoltaic street lights | TBS/RALGA/ TANROAD/ TARURA | 80 | URT/DPs | □ | □ | | | |
| | ▪ Geothermal heat applications | TBS | 60 | URT/DPs | | | □ | □ | □ |
| | Advocate Tanzania Bureau of Standards to continue with enforcement of standards | TBS | 5/Year | URT/DPs | □ | □ | □ | □ | □ |
| Buildings and appliances standards for renewable & energy efficiency | ▪ Look at potential demand & interest in the household; business; and public | Building sector/ Suppliers/ URT/ RE&EE actors | 20 /study | URT/DPs | □ | □ | □ | □ | □ |
| | ▪ Develop awareness-raising forums such as seminars & short courses | | 20/event | URT/DPs | □ | □ | □ | □ | □ |
| | ▪ Work with municipal planning offices | RALGA | 100 | URT/DPs | | □ | □ | □ | □ |

| Activities | Details | Target recipient | Rough budget (USD x1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| Small-scale manufacturing initiatives | Create a platform to share information and Technical advice on Small-scale manufacturing: wind turbines, cookstoves, biogas digesters, briquettes | Local manufacturers & developers | 20 per year | DPs/ Sido/ SNV | □ | □ | □ | □ | □ |
| | To support the financing of SMEs to establish local manufacturing of clean cooking solutions | Members | 150 | DPs | □ | □ | □ | □ | □ |

Tanzania Renewable Energy Association

### 5.1.4 Output 4: Promote Institutional Capacity Building

| Activities | Details | Target recipient | Rough budget (USD x1000) | Potential source of funding | Timeframe | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 2023 | 2024 | 2025 | 2026 | 2027 |
| Building TAREA network capacity | Build TAREA capacity on: | | | | | | | | |
| | ▪ Competitive bidding | Staff; Members | 50/event | URT/ DPs | | | □ | | |
| | ▪ Energy auditing | | 100 | URT/ DPs | □ | | □ | | |
| | ▪ Renewable Energy Environmental Social Impact Assessment (ESIA) | | 50 | URT/ DPs | □ | □ | | | |
| | ▪ Developing joint venture agreements | | 20 | URT/ DPs | | □ | | | |
| | ▪ Finance management | | 20/event | URT/ DPs | | □ | | □ | |
| | ▪ Advocacy and lobby | | 75 | URT/ DPs | □ | □ | □ | □ | □ |
| | Develop the premises and energy centre for TAREA | Members | 300 | DPs/ URT/ members | □ | □ | □ | □ | □ |
| | Improve Information and Communication<br>▪ Equip secretariats with documentation equipment | Staff | 10/event | DPs/ members | | □ | □ | □ | □ |
| | Strengthen Human Capacity in | | | | | | | | |
| | ▪ Responsive project proposal writing and fundraising skills | Staff | 75 | DPs | □ | □ | □ | □ | □ |
| | ▪ Use of social media | Staff | 125 | DPs | □ | □ | □ | □ | □ |
| | ▪ Lobbying and advocacy | Staff | 25/year | DPs | | □ | □ | □ | □ |
| | ▪ Employ 1 additional staff at each branch | Staff | 100 | TAREA | | □ | □ | □ | □ |
| | ▪ Employ 2 staff at the Head Quarter for communication and advocacy | Staff | 100 | TAREA | | □ | □ | □ | □ |

### 5.1.5 Summary of the costs estimated for TAREAs project-based activities 2023-2027

A summary of the proposed costs for the above-mentioned project-based activities is indicated below.

| TAREA project-based activities | Cost (USD x1000) | | | | |
|---|---|---|---|---|---|
| | 2023 | 2024 | 2025 | 2026 | 2027 |
| **Knowledge Management and Information Dissemination** | | | | | |
| Training of new & re-training of existing human capacities. | | | | | |
| ▪ Sensitize VETCs to conduct RE& EE Training (solar, wind, hydro, biogas, bioethanol, green hydrogen, biomass and geothermal) | 20 | 20 | 20 | 20 | 20 |
| ▪ Train RE Trainers | 30 | 30 | 30 | 30 | 30 |
| ▪ Review the training curriculum of artisanal solar photovoltaic to the on-grid level | 80 | | | | |
| ▪ Support certification of trained personnel with VETA | 75 | 75 | | | |
| ▪ Support the establishment of RE training at FDCs and VETCs | 10 | 10 | 10 | 10 | 10 |
| ▪ Support certification of practising personnel with EWURA | - | - | - | - | - |
| ▪ Support the certification harmonization of trained personnel within EAC | | | 20 | 15 | 15 |
| ▪ Continue Internship Programs | 10 | 10 | 10 | 10 | 10 |
| ▪ Train district officers on the renewable energy management | 50 | 50 | 50 | 50 | 50 |
| ▪ Support youth with PT placements | - | - | - | - | - |
| ▪ Develop training manuals on RE&EE technologies and practices | 10 | 10 | 10 | 10 | 10 |
| ▪ Dialogue/support Universities to offer market demand-driven training | 5 | 5 | 5 | 5 | 5 |
| ▪ Develop and implement renewable energy training for people with disabilities. | | 50 | 50 | 50 | 50 |
| Facilitate continued local and international training on renewable energy that focuses on: | | | | | |
| ▪ Technology (planning, development, operations and troubleshooting ) | 15 | 15 | 15 | 15 | 15 |
| ▪ Technology maintenance | 15 | 15 | 15 | 15 | 15 |
| ▪ Project management | 30 | 30 | 30 | 30 | 30 |
| ▪ Financing | | | | 30 | 30 |
| ▪ Business planning | 30 | 30 | 30 | 30 | 30 |
| ▪ Responsible bidding | 50 | 50 | | | |
| ▪ Carbon trading models and project development | 100 | | 100 | | |

| TAREA project-based activities | Cost (USD x1000) | | | | |
|---|---|---|---|---|---|
| | 2023 | 2024 | 2025 | 2026 | 2027 |
| ▪ Productive uses of energy | 50 | 50 | 50 | 50 | 50 |
| ▪ Fishermen to understand the regulations on solar fishing lights | 40 | 40 | | | |
| ▪ Understanding regulations and guidelines on carbon trading | 50 | 50 | | | |
| ▪ Building codes with EE | | 50 | 50 | | |
| ▪ Business partnership creation | 25 | 25 | | | |
| Carry out awareness-raising for renewable energy by | | | | | |
| ▪ Lobbying & visiting sites where renewable energy work is undertaken locally and internationally | 60 | 60 | 60 | 60 | 60 |
| ▪ Encouraging industries to adopt renewable energy technologies | | 25 | 25 | 25 | 25 |
| ▪ Lobby for RE power grid connection: | 200 | 200 | | | |
| ▪ Carrying out demonstrations of RE&EE technologies (involve members) | 50 | 50 | 50 | 50 | 50 |
| ▪ Engaging with local media | 5 | 5 | 5 | 5 | 5 |
| ▪ Sensitize potential financiers and investors on opportunities in RE&EE | 20 | 20 | 20 | 20 | 20 |
| ▪ Engaging with EAC authorities in creating a conducive business environment | 30 | 30 | 30 | 30 | 30 |
| Develop a platform for student awareness.TARE will: | | | | | |
| ▪ Identify key institutions to establish Student Divisions | 5 | 5 | 5 | 5 | 5 |
| ▪ Arrange talks at Vocational Centres; Primary & Secondary Schools; Colleges and Universities on renewable energy | 10 | 10 | 10 | 10 | 10 |
| Engage with institutions and transfer knowledge to the industry: | | | | | |
| ▪ Research and disseminate the use of RE in small PUE appliances for irrigation, spraying, insect, milking, repelling, drying/cooling etc. | 100 | 100 | 100 | 100 | 100 |
| ▪ Explore the use of tidal energy on the ocean | 20 | 20 | 20 | 20 | 20 |
| ▪ Explore the storage of heat energy for cooking (solar) | 20 | 20 | 20 | 20 | 20 |
| ▪ Research on disposal of RE e-wastes | 50 | 50 | | | |
| ▪ Support incubation of the local innovators | 50 | 50 | 50 | 50 | 50 |
| ▪ Support the use of RETs in the e-mobility (land and marine | 60 | 60 | 60 | 60 | 60 |
| ▪ Study solar technologies for fishing on different water bodies | 100 | 100 | 100 | 100 | 100 |
| ▪ Study and transfer to the businesses the applications of wind for electricity and water pumping | 100 | 100 | 100 | 100 | 100 |
| ▪ Support the promotion of the energy-intensive energy storage | 30 | 30 | 30 | 30 | 30 |
| ▪ Support the introduction of green hydrogen | 30 | 30 | 30 | 30 | 30 |

| TAREA project-based activities | Cost (USD x1000) | | | | |
|---|---|---|---|---|---|
| | 2023 | 2024 | 2025 | 2026 | 2027 |
| Publish<br>▪ e-newsletter<br>▪ Social media handles<br>▪ Online Renewable Energy Stakeholders directory | - | - | - | - | - |
| ▪ Up-to-date news & information<br>▪ Promote RE&EE initiatives<br>▪ Include a library of reports & publications for download<br>▪ Include links to important sites<br>▪ Advertising banners to pay for managing the website site | - | - | - | - | - |
| Develop posters; leaflets; T-Shirts; pens; cloth bags; and stickers. | 5 | 5 | 5 | 5 | 5 |
| ▪ Utilize media (television, radio, newspapers) to publicize; Encourage TAREA members to develop articles & publish them under TAREA | 10 | 10 | 10 | 10 | 10 |
| ▪ Implement TAREA media programs | 10 | 10 | 10 | 10 | 10 |
| ▪ Develop a concept to establish renewable energy radio, online platforms | 10 | 10 | 10 | 10 | 10 |
| Host, facilitate and attend workshops, seminars, conferences and fairs | | | | | |
| ▪ National/International forums | 100 | 100 | 100 | 100 | 100 |
| ▪ Workshops on regulations, laws and incentives | 10 | 10 | 10 | 10 | 10 |
| ▪ Village exhibitions & roadshows | 20 | 20 | 20 | 20 | 20 |
| ▪ Technology workshops | 10 | 10 | 10 | 10 | 10 |
| ▪ B2B | 10 | 10 | 10 | 10 | 10 |
| Continue with renewable energy day, raising awareness & market, including training and workshops | 100 | 100 | 100 | 100 | 100 |
| Develop project documents and implementation demonstrating the potential of RETs on: | | | | | |
| ▪ Health | 60 | 60 | 60 | 60 | 60 |
| ▪ Waste to Energy | 100 | 100 | 100 | 100 | 100 |
| ▪ Education | 50 | 50 | 50 | 50 | 50 |
| ▪ Water | 50 | 50 | 50 | 50 | 50 |
| ▪ Agriculture | 50 | 50 | 50 | 50 | 50 |
| ▪ Youth and Women empowerment | 50 | 50 | 50 | 50 | 50 |
| ▪ Environmental sectors | 50 | 50 | 50 | 50 | 50 |
| ▪ Productive use systems (off-grid: marine & land) | 50 | 50 | 50 | 50 | 50 |

| TAREA project-based activities | Cost (USD x1000) | | | | |
|---|---|---|---|---|---|
| | 2023 | 2024 | 2025 | 2026 | 2027 |
| ▪ e-mobility (land and marine) | 100 | 100 | 100 | 100 | 100 |
| Identify and monitor the performance of existing operating RE systems, document and disseminate | 30 | 30 | 30 | 30 | 30 |
| Prepare books, guidelines, manuals, and fact sheets | 30 | 30 | 30 | 30 | 30 |
| Develop an open-source database of renewable energy | 20 | 20 | 20 | 20 | 20 |
| Translate relevant materials into Swahili | | 5 | 5 | 5 | 5 |
| Establish information and energy data gathering, and packaging in collaboration with stakeholders | 10 | 10 | 10 | 10 | 10 |
| Continue the promotion of locally owned and administered, data-driven, integrated, inclusive approach to planning through the Energy Access Explorer | 20 | 20 | 20 | 20 | 20 |
| Package and disseminate best practices | | 7.5 | 7.5 | 7.5 | 7.5 |
| Conduct online breakfast meeting | - | - | - | - | - |
| **Networking of Public & Private Renewable Energy and Energy Efficiency Stakeholders** | | | | | |
| TAREA to arrange a forum where players from the renewable energy sector can meet & network with one another. Bring in experts to lecture on renewable energy aspects: | | | | | |
| ▪ Finance Renewables | 10 | 10 | 10 | 10 | 10 |
| ▪ Project Management | 10 | 10 | 10 | 10 | 10 |
| ▪ Renewable energy technologies | 10 | 10 | 10 | 10 | 10 |
| ▪ Advocacy on policies and regulations | 10 | 10 | 10 | 10 | 10 |
| ▪ Renewable energy lectures for Renewable Energy students | 10 | 10 | 10 | 10 | 10 |
| Establish a forum for collaboration to discuss renewable energy technologies, working together, standards, exchange of information, policies, & legislation of other countries | 30 | 30 | 30 | 30 | 30 |
| Strengthen cooperation between the renewable energy industry and academic/training institutions | 30 | 30 | 30 | 30 | 30 |
| Work with regional bodies on the common sectorial challenges | 30 | 30 | 30 | 30 | 30 |
| Create sectorial partnerships with local and international organizations | 30 | 30 | 30 | 30 | 30 |
| Mobilizing membership and attending international events | 10 | 10 | 10 | 10 | 10 |
| Continue& update the online directory of stakeholders | - | - | - | - | - |
| Establish new branches in Tanzania | 40 | 15 | 40 | 15 | 40 |

| TAREA project-based activities | Cost (USD x1000) | | | | |
|---|---|---|---|---|---|
| | 2023 | 2024 | 2025 | 2026 | 2027 |
| Strengthen existing branches | 5 | 5 | 5 | 5 | 5 |
| **Supporting the Creation of an Enabling Environment and Framework for Sustainable Renewable Energy and Energy Efficiency Markets** | | | | | |
| Meet MoE first to share TAREA's position on new Carbon regulations as Energy projects than their inclusion in training sessions with the VPO. | 5 | 5 | | | |
| Train TRA inspectors on the biogas components to avoid mistakenly charging high tax | | 30 | 30 | | |
| Train TRA inspectors on solar energy (components) to avoid mistakenly charging tax | 30 | 30 | 30 | 30 | 30 |
| Dialogue with URT on the operationalization of the Feed in Tariff | 10 | 10 | | | |
| Encourage Government:<br>▪ To set up an Energy Desk at the District level (RALGA) | 80 | 80 | 80 | 80 | 80 |
| ▪ To operationalize the compensation regulation when the national grid encroaches on the mini-grid | 10 | 10 | 10 | 10 | 10 |
| ▪ Ministry of Education, Science and Technology to add in the primary and secondary schools subject of climate change adaptation and mitigation | 10 | 10 | 10 | 10 | 10 |
| ▪ Dialogue with the Ministry of Energy to define the share of renewable energy to the grid and the involvement of the private sector. | 10 | 10 | | | |
| ▪ To set up RE Strategy which goes beyond electricity & includes a blue economy and energy transition | 5 | 5 | | | |
| ▪ To harmonize the overlapping regulations such as OSHA, NEMC, District Councils and Fire to reduce conflicts and cost | | | 40 | 30 | 30 |
| ▪ To develop: acts; regulations; guidelines, MEPS; and labels on energy efficiency for buildings and appliances | 30 | 30 | | | |
| To facilitate training on energy efficiency auditing and certification | | 25 | 25 | | |
| To harmonize the regulations governing agriculture, forestry, water, land and industries | | 20 | 20 | 20 | 20 |
| To mainstream biogas technology in the primary and secondary schools | | | 40 | 40 | 20 |
| To participate in establishing/improving biomass energy testing laboratories | 10 | 10 | | | |
| To provide incentives for the renewable energy mini-grids | 10 | 10 | | | |
| To include solar irrigation pumps in the list of agricultural implements | 20 | 20 | 10 | | |
| To support low-enthalpy uses of geothermal heat energy | 10 | 10 | 10 | 10 | 10 |

| TAREA project-based activities | Cost (USD x1000) | | | | |
|---|---|---|---|---|---|
| | 2023 | 2024 | 2025 | 2026 | 2027 |
| To encourage industries to have at least 10% RE power sources to reduce environmental impacts | | 30 | 30 | 30 | 30 |
| To improve the process of land acquision for the project so that it becomes shorter | | 20 | 20 | 20 | 20 |
| To use liquid waste in urban areas for energy generation | | | 30 | 30 | 30 |
| To involve TAREA in the preparation of policies, regulations, action plans and strategies | 10 | 10 | 10 | 10 | 10 |
| To include clean cooking kitchens at the schools | 10 | 10 | 10 | 10 | 10 |
| To encourage the Ministry of Energy to promote the generation and use of green hydrogen and green ammonia | 15 | 15 | 15 | 15 | 15 |
| **Advocate** | | | | | |
| Tax relief on the biogas research supplies (bags, smart meters, pumps, desulfurize, chicken brooder heaters etc) | | 20 | 10 | 10 | 10 |
| ▪ Ministry of Water and Rural Water and Sanitation Agency (RUWASA) for use of solar photovoltaic and wind technologies in the community water schemes | 40 | 20 | 20 | 20 | 20 |
| ▪ Ministry of Energy to develop regulations and regulations of developing the use of geothermal heat | 20 | 20 | 20 | | |
| ▪ Advocate TRA issue the practice notices to guide importation exemption to avoid mistranslation of the tax inspectors | 10 | 10 | 10 | | |
| ▪ Advocate for the incentives (tax, grants, loans) for the electrical/RE clean cooking technologies | 30 | 20 | 20 | 20 | 20 |
| ▪ Advocate for transparent application of taxes on renewable energy technologies | 10 | 10 | 10 | 10 | 10 |
| ▪ Advocate for the certification of the energy auditors | 20 | 10 | 10 | 10 | 10 |
| ▪ Vice President Office Ministry Responsible for Environment and Union Affairs to enact electronic wastes collection, recycling and deposition guidelines. | 20 | 20 | 20 | | |
| ▪ URT Authorities to promote the use of sustainable wood fuels including briquettes and pellets. | 15 | 15 | 15 | 15 | 15 |
| ▪ Ministry of Energy and related agencies to support energy use for productive uses | 10 | 10 | 10 | 10 | 10 |
| ▪ Conducive carbon trading act and guidelines | 20 | 20 | 20 | 20 | 20 |
| ▪ Enabling environment for the development of e-mobility (land and marine) | 50 | 50 | 50 | 50 | 50 |

| TAREA project-based activities | Cost (USD x1000) | | | | |
|---|---|---|---|---|---|
| | 2023 | 2024 | 2025 | 2026 | 2027 |
| ▪ Creation of regulations and guidelines for green hydrogen and green ammonia | 20 | 20 | 20 | 20 | 20 |
| ▪ Creation of regulations and guidelines for waste to energy (methane for heat and electricity) | 20 | 20 | 20 | 20 | 20 |
| ▪ Excise Duty removal on lead acid battery | 25 | 25 | | | |
| ▪ The realisation of the Net-Metering Scheme | 40 | 40 | 40 | 40 | 40 |
| ▪ Tax incentives for solar fishing lights | 30 | 30 | | | |
| ▪ Challenge of imposition of VAT on the grants | 20 | 20 | | | |
| ▪ Tax incentives for solar irrigation pumps | 40 | 40 | | | |
| Create a forum for leaders/regulators to talk about renewable energy Holding seminars, leading to lobbying & advocacy | 20 | 20 | 20 | 20 | 20 |
| Promote knowledge on renewable energy-related taxes of renewable energy actors | 10 | 10 | 10 | 10 | 10 |
| Continue demonstrating the potential of renewable energy technologies at household, community and institutional levels. | 50 | 50 | 50 | 50 | 50 |
| Promote the use of clean sources of energy in the form of heat and electricity in an efficient manner mainstreaming tree planting | 20 | 20 | 20 | 20 | 20 |
| Promote the replacement of fossil fuel generators with solar generators | 20 | 20 | 20 | 20 | 20 |
| Promote the technologies of Agrovoltaic | | 15 | 15 | 15 | 15 |
| Promote the use of floating Solar PV | | 70 | 10 | 10 | 10 |
| Raise community awareness on the management of electronic waste. | 10 | 10 | 10 | 10 | 10 |
| Raise community awareness of energy efficiency at all levels | 20 | 20 | 20 | 20 | 20 |
| Promote low-enthalpy geothermal heat applications for households, industry and services such as tourism | | 10 | 10 | 10 | 10 |
| Continue raising awareness on accessing quality renewable energy products and services | 5 | 5 | 5 | 5 | 5 |
| Project development of large-scale renewable energy Provide advice | 10 | 10 | 10 | 10 | 10 |
| Partnering & linking with local players Promote Public-Private-Partnership | 10 | 10 | 10 | 10 | 10 |
| Investigate relevant mechanisms of financing small-scale, standalone & on-grid renewables | | | | | |
| ▪ Loans/Subsidies/ smart finance for consumers | 20 | 20 | 20 | 20 | 20 |
| ▪ Productive uses support schemes | 20 | 20 | 20 | 20 | 20 |

| TAREA project-based activities | Cost (USD x1000) | | | | |
|---|---|---|---|---|---|
| | 2023 | 2024 | 2025 | 2026 | 2027 |
| TAREA to advocate TBS on the development/adoption of other standards and codes of conduct for: | | | | | |
| ▪ Wind energy | | | 10 | 5 | 5 |
| ▪ Solar driers | | | | 10 | 10 |
| ▪ Solar water heaters | 10 | 10 | | | |
| ▪ Bioenergy appliances/ stoves | 15 | 15 | | | |
| ▪ Solid & liquid biomass, and biogas cooking fuels | 10 | 10 | | | |
| ▪ Solar photovoltaic streetlights | 40 | 40 | | | |
| ▪ Geothermal heat applications | | | 20 | 20 | 20 |
| Advocate Tanzania Bureau of Standards to continue with enforcement of standards | 5 | 5 | 5 | 5 | 5 |
| Buildings and appliances standards for renewable & energy efficiency | | | | | |
| ▪ Look at potential demand & interest in the household; business; and public | 20 | 20 | 20 | 20 | 20 |
| ▪ Develop awareness-raising forums such as seminars & short courses | 20 | 20 | 20 | 20 | 20 |
| ▪ Work with municipal planning offices | | 25 | 25 | 25 | 25 |
| Create a platform to share information and Technical advice on Small-scale manufacturing: wind turbines, cookstoves, biogas digesters, briquettes | 20 | 20 | 20 | 20 | 20 |
| To support the financing of SMEs to establish local manufacturing of clean cooking solutions | 30 | 30 | 30 | 30 | 30 |
| **Promoting Institutional Capacity Building** | | | | | |
| Build TAREA capacity on: | | | | | |
| ▪ Competitive bidding | | | 50 | | |
| ▪ Energy auditing | 50 | | 50 | | |
| ▪ Renewable Energy Environmental Social Impact Assessment (ESIA) | 25 | 25 | | | |
| ▪ Developing joint venture agreements | | 20 | | | |
| ▪ Finance management | | 20 | | 20 | |
| ▪ Advocacy and lobby | 15 | 15 | 15 | 15 | 15 |
| Develop the premises and energy centre for TAREA | 60 | 60 | 60 | 60 | 60 |
| Improve Information and Communication: Equip secretariats with documentation equipment | | 10 | 10 | 10 | 10 |
| Strengthen Human Capacity in: | | | | | |

| TAREA project-based activities | Cost (USD x1000) | | | | |
|---|---|---|---|---|---|
| | 2023 | 2024 | 2025 | 2026 | 2027 |
| ▪ Responsive project proposal writing and fundraising skills | 15 | 15 | 15 | 15 | 15 |
| ▪ Use of social media | 5 | 5 | 5 | 5 | 5 |
| ▪ Lobbying and advocacy | 25 | 25 | 25 | 25 | 25 |
| ▪ Employ 1 additional staff at each branch | | 30 | 20 | 30 | 20 |
| ▪ Employ 2 staff at the Head Quarter for communication and advocacy | | 30 | 20 | 30 | 20 |
| **TOTAL (USD)** | **4,110** | **4,340** | **3,810** | **3,460** | **3,435** |

## 5.2 TAREA Core Activities

### 5.2.1 Institutional Activities

In addition to the project-based activities proposed in section 5.1, there are also several activities required to ensure the institutional strengthening of the organization. These are listed below.

| Activities | Details |
|---|---|
| Capacity building | Financing management systems<br>▪ Continued training for existing staff on accounting<br>▪ Part-time accountant to assist with compiling reports & provide training<br>Project management<br>▪ Train staff on project management and fundraising tools<br>Advocacy and lobbying<br>▪ Train a team on advocacy and lobbying skills<br>Working with media tools<br>▪ Train Secretariats on the use of social media handles |
| Organizational management | Train TAREA Executives on BMO management |
| Increasing Capacity for the Executive Committee | Good Corporate Governance<br>▪ Exchange visits with other similar BMOs in the region such as members of EAREF and SADC region |
| Develop Operational Plan | Executive Secretary to develop an annual operational plan, & submit it to Executive Committee<br>▪ Includes proposed budgets & activities |
| Branches | ▪ Establish & support existing branches<br>▪ Encourage the establishment of more branches<br>▪ Branches to introduce themselves to the authorities within their service areas<br>▪ Branches to strengthen membership base |
| Institutional Human Capacity | Presently 1 Executive Secretary; 1 Deputy Executive Secretary; 1 Resource Management Secretary; 1 Technical Advisor; 2 Branch Secretaries; and 2 volunteers. In the next 5 years, 1 staff should be added at each office, at the headquarter and branches. |

### 5.2.2 Other Core Activities

Apart from the institutional activities focusing on the internal strengthening of TAREA and its human resources, there are several strategic issues upcoming which are of major importance for the renewable energy sector. They need to be dealt shorty with increasing intensity in the longer run.

Under the strategic guideline of Energy Transition targeting decarbonization of the national economy, cutting-edge topics such as green hydrogen, use of direct

geothermal heat, productive use of energy (e.g. RE/PV solar for Irrigation), waste-to-energy (as part of climate change mitigation, producing methane for power generation) and e-mobility (on land and water, individually and collectively). All of them are still in their early stages but offer significant opportunities for energy sector stakeholders already in the short to medium term.

Another core activity is the overview of the status of the renewable energy market in Tanzania, also considering sector-wide feedback on the sector status and its development perspectives. In this context, also the role of TAREA as an institution representing the private RE sector and its stakeholders needs to be highlighted and strategically discussed, including possible strategic alignments in the interest of promoting RE/EE development.

With the ever-growing focus on climate change and the role the renewable energy sector plays in its mitigation, it is urgently required that TAREA plays a key role in mainstreaming the current plans and targets of the government, development partners & donors, private RE/EE stakeholders & networks, both with commercial and non-commercial/non-government orientation in the areas of renewable energy, energy efficiency and climate change. TAREA has the potential to play a mediating role in this process.

In addition, it is also very important to identify a realistic way forward for the above core activities by adequately responding to the renewable energy market recession in Tanzania caused by external influences, in particular COVID-19, the Ukraine war and ensuing negative global economic, social and environmental impacts.

# 6.0 Status of the Mainland Tanzania Renewable Energy Sector

## 6.1 Renewable Energy Market Support Frameworks

Mainland Tanzania has policies, acts, guidelines, regulations and strategies that mainstream renewable energy technologies. A renewable energy strategy is under development. Underneath are the policies, acts, guidelines, regulations, strategies and orders that support the renewable energy market in mainland Tanzania.

1) National Energy Policy, 2015
2) National Environment Policy 2021
3) National Agricultural Policy, 2013
4) Nationally Determined Contributions, July 2021
5) National Climate Change Response Strategy 2021-2026, 2021
6) Rural Energy Master Plan, 2022 (Clean Cooking and Electricity)
7) SE4All Action Agenda, December 2015
8) Finance Act 2022
9) VAT Act 2014
10) The Fisheries Act (Cap 279), the Fisheries (Amendments) Regulations 2020
11) The Electricity Act (Amendment No 3 of 2020)
12) The electricity (general) regulations, 2020
13) Carbon trading regulations, 2022
14) The Electricity (Electrical Installations Services ) Rules 2022-GN. 113
15) The Electricity (Development of Small Power Projects) Rules, 2020-GN 491
16) The Electricity (Procurement of Power Projects and Approval of Power Purchase Agreement) Rules 2019-GN 453.
17) The Electricity (Supply Services) Rules 2019 -GN 387
18) The Electricity (Generation, Transmission and Distribution Activities) Rules, 2019 GN 287
19) The Electricity (Net-Metering) Rules, 2018, GN 76
20) The Electricity (Grid and Distribution Codes) Rules 2017, GN 451
21) The Electricity System Operations Services Rules 2016, GN 324
22) The Electricity Market Operations Services Rules 2016, GN 325
23) The Electricity (Grid & Distribution Codes) Rules, 2017
24) The East African Community Customs Management Act 2004: Legal Notice No. EAC/89/2020
25) URT, Subsidiary Legislation, GOVERNMENT NOTICE No. 533 published on 19/8/2022, Electricity Act.
26) URT, Subsidiary Legislation, GOVERNMENT NOTICE No. 534 published on 26/8/2022, Electricity Act.
27) URT, Subsidiary Legislation, GOVERNMENT NOTICE No. 535 published on 26/8/2022, Electricity Act
28) Guidelines For Recognition Of Prior Learning Assessment (RPLA) In Tanzania

The Government of Tanzania has established the authorities and agencies that manage the development of the energy sector, renewable energy inclusive. The authorities and authorities are as follows.

1) Ministry of Energy

2) Ministry of Finance
3) Vice President's Office-Department of Environment
4) Ministry of Water
5) Electricity and Water Utility Regulatory Authority (EWURA)
6) Tanzania Geothermal Development Company (TGDC)
7) Tanzania Electricity Supply Company (TANESCO)
8) National Environment Management Council (NEMC) and
9) Rural Energy Agency (REA)

## 6.2 Status of the Renewable Energy Sector Development

The renewable energy that is available in mainland Tanzania is in the form of wind, hydro, biomass, geothermal and solar.

The electricity connectivity to the national grid is 39.9% of which rural connectivity is 24.3% and urban is 72.9% of the households. The contribution of solar photovoltaics to electrification is 33% of the households of mainland Tanzania [URT: REA 2020]. The use of clean cooking solutions is at 4.5% of mainland Tanzania households [World Bank, 2020].

The total number of Solar Home Systems distributed in Tanzania from January to June 2022 was 112,411 [GOGLA].

Rift Valley Energy has installed a 2.4MW wind farm that demonstrates the potential of generating electricity using wind power in Tanzania. There are several small wind turbines with an average capacity of 5kW. Wind power is used to provide mechanical energy for pumping water. The technology is commonly used in the regions of Dodoma, Iringa and Dodoma. There are more than 50 windmills in operation.

Biomass is used for cooking energy, processing agricultural products, processing building materials, processing alcohol and power generation. All sugar factories in Tanzania are generating electricity. There is still a high potential for using biomass waste from the timber industry for the production of briquets and pellets that can be used for industrial heating and cooking and power generation.

In mainland Tanzania, a total of 109 mini-grids are in operation, of which 93 mini-grids are isolated and 16 are grid-connected [EU: TAF 2020].

There are private renewable power producers who have connected to the national grid with a total capacity of 32.33MW. The producers are Tanganyika Plantation Company 9MW (Co-Generation); Tulila 5MW (Hydro); NextGen Solawazi 5MW (Solar PV); Mwenga 4MW (Hydro); Mwenga 2.4MW (Wind); Madope 1.70MW (Hydro); TANWAT 1.50MW (Co-Generation); Andoya 1.00MW (Hydro); Yovi 0.95MW (Hydro); Luponde 0.90MW (Hydro); Matembwe 0.56MW (Hydro); and Darakuta 0.32MW (Hydro) [URT: MoE, 2022].

## 6.3 Opportunities for Renewable Energy Business

The opportunities for renewable energy are due to the following targets of the Ministry of Energy.

1) Increase of annual energy consumption per capita from 377kWh (2020) to 490kWh (2025).
2) Connectivity target 39.9% (2020) to 50% (2025).
3) Increase of annual energy consumption per capita from 377kWh (2020) to 490kWh (2025).
4) Connectivity target 39.9% (2020) to 50% (2025).
5) 1.1GW renewable power generation from solar, wind and geothermal 2021 – 2025.
6) Planned solar power generation 720MW
7) Planned wind power generation 1000MW
8) Planned Diesel-Solar Hybrid generation 1MW
9) Planned Diesel-Solar-Wind Hybrid generation 7MW
10) Planned Geothermal 200MW generation by 2025
11) Geothermal generation 995MW (2025-2045)
12) Hydropower generation 5,197.40MW
13) Electrification of the islands using renewable energy mini-grids. 47 sites have been already confirmed by REA.

The potential wind speed is in the range of 3 to 10m/s. The potential sites are Makambako, Singida, Same and Mufindi.

Tanzania has a potential of 12Mtone of biomass that can generate 315MWh [URT: MoE].

Tanzania has a great potential for waste to energy. Dar es Salaam generates 4,161 tons/day of solid waste [URT: VPO, 2020]

The solar insolation in mainland Tanzania is in the range of 4-7kWhm$^{-2}$d$^{-1}$ which can enable an installation capacity of more than 670MWp [URT: MoE, 2020].

The total potential of hydro is 7,491.2MW [URT: MoE, 2020].

## 6.4 Challenges of the Renewable Energy Sector

The challenges that affect businesses in Tanzania are:

1) Change of policies as had happened to the renewable energy mini-grids in the year 2020;
2) Imposition of taxes on the renewable energy components that reduce the purchasing power of the end users like Excise Duty on lead acid batteries;
3) Limited knowledge of the human capacity of the public authorities on the renewable energy technologies that can impact energy generation and climate mitigation like the delayed implementation of the Net-Metering Scheme 2018.

4) Delayed processing and decisions on the tenders of the big renewable energy power generation projects, and
5) The slow signing of PPA for Small Power Projects.

## 6.5 Capacity/ Resourcing

It is essential that as TAREA moves forward with an expanding focus that it has the resources and capacity to implement any strategy approved by the Executive Committee.

At present, the staff complement includes:
1) The Executive Secretary-Head Office
2) The Deputy Executive Secretary-Head Office
3) Resource Management Secretary-Head Office
4) The Branch Secretary-Lake Victoria Zone Branch
5) The Branch Secretary-Northern Zone Branch
6) Senior Technical Advisor-Head Office
7) Up to 5 volunteers at a time

TAREA will have to expand its human capacity by recruiting staff with expertise in project management that will contribute to the fund-raising. The number of staff will have to be increased at the head office and branches as the activities increase.

## 6.6 Stakeholders

To be able to implement the activities listed above, it is important to work with a wide range of stakeholders, comprising members, private and government sector stakeholders, development partners, and technical stakeholders. Some of these stakeholders may be funding partners, and technical partners to support the implementation of the Strategy. Others may be co-beneficiaries of activities.

### 6.6.1 Private Sector Stakeholders

1) Alternative Energy – Africa
2) Associazione Microfinanza e Sviluppo Onlus –Italia
3) bbw gGmbH (Formerly bfz gGmbH)
4) Burundi Renewable Energy Association (BUREA)
5) Centre for Science and Environment – India (CSE)
6) Deutsch-Tansanische Freundschaft e.V (DTP)
7) Elektriker ohne Grenzen e.V
8) Energy Private Developers-Rwanda (EPD)
9) Engineers Without Borders-Sweden (EWB-SE)
10) European Sustainable Energy Cluster Partnership for Africa (ESECA)
11) Five Loaves and Two Fish Organization (FLnTF)
12) Global Off-Grid Lighting Association (GOGLA)
13) Haar-Ilembula Partnerschaft e.V
14) Herrnhuter Missionshilfe e.V
15) Humanistisch Instituut voor Ontwikkelingssamenwerking (Hivos)
16) LIFE Academy
17) Kenya Renewable Energy Association (KEREA)

18) Nordische Technologies GmbH
19) Norwegian African Business Association (NABA)
20) Power4Africa
21) PUM Netherlands senior experts
22) Renewable Energy and Energy Efficiency Program (REEEP)
23) SchuPa Tansania e.V
24) SELCO Foundation
25) Shell Foundation
26) Shell Exploration & Production Tanzania Ltd
27) Spix e.V Netzkraft Movement
28) URBIS Foundation
29) Uganda National Renewable Energy and Energy Efficiency Alliance (UNREEEA)
30) World Resources Institute (WRI)

### 6.6.2 Development Partners

1) Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
2) European Union Mission to Tanzania (EU)
3) Embassy of the Kingdom of the Netherlands
4) French Development Agency
5) High Commission of India in Tanzania
6) Landratsamt Enzkreis (Germany)
7) Norwegian Embassy
8) Swedish International Development Agency (Sida)
9) United Nations Development Program / Global Environmental Facility (UNDP/GEF)
10) United States International Development Agency (USAID)
11) World Bank

### 6.6.3 Tanzania Government Stakeholders

1) Arusha Technical College
2) Energy and Water Utilities Regulatory Authority of Tanzania (EWURA)
3) Masasi District Council
4) Masasi Town Council
5) Ministry of Agriculture
6) Ministry of Energy
7) Ministry of Fishery and Livestock
8) Ministry of Industry, Trade and Investment
9) Ministry of Tourism and Natural Resources
10) Ministry of Water
11) Ministry of Works and Transport
12) National Bureau of Statistics
13) National Environment Management Council (NEMC)
14) National Irrigation Commission (NIRC)
15) Regional Administration and Local Government (RALGA)
16) Rural Energy Agency (REA)
17) Small Industrial Development Partners (Sido)
18) Tanzania Bureau of Standards (TBS)

19) Tanzania Commission for Science and Technology (COSTECH)
20) Tanzania Electricity Supply Company (TANESCO)
21) Tanzania Fishery Research Institute (TAFIRI)
22) Tanzania Forestry Services Agency (TFS)
23) Tanzania Industrial Research & Development Organization (TIRDO)
24) Tanzania Revenue Authority (TRA)
25) University of Dar es Salaam-College of Engineering and Technology (UDSM-CoET)
26) University of Dar es Salaam-College of Natural and Applied Science (UDSM-CONAS)
27) Vice Presidents Office Ministry Responsible for Environment and Union Affairs
28) Vocational Education and Training Authority (VETA)

### 6.6.4 Membership to Other Networks

1) Alliance for Civil Society Organizations for Clean Energy Access (ACCESS)
2) Association of Association Executives
3) Climate Technology Centre and Network (CTCN)
4) East Africa Renewable Energy Federation (EAREF)
5) PREVENT Waste Alliance
6) Renewable Energy and Energy Efficiency Partnership (REEEP)
7) WindEmpowerement

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# 7.0 TAREA Funding 2023-2027

Based on budget estimates provided, a budget of TZS 10,282,670,000 for 2023 and TZS 9,030,939,000for 2027 will be required to cover basic operational costs, which include salaries of key staff, office costs and implementing the activities identified in sections 5.1 and 5.2

The projected income and expenditure for 2023 to 2027 are in the tables below.

| | Actual Financial Statement (TZS) | | | Projected budget (TZS) | | | | |
|---|---|---|---|---|---|---|---|---|
| **Income** | **2020** | **2021** | **2022** | **2023** | **2024** | **2025** | **2026** | **2027** |
| | | | | | | | | |
| Membership fee | 20,874,684 | 21,770,579 | 21,641,700 | 27,702,000 | 30,472,000 | 33,824,000 | 37,207,000 | 39,556,000 |
| Project Support Operational Costs | 50,966,565 | 40,626,528 | 53,641,700 | 68,661,000 | 75,527,000 | 83,457,000 | 91,802,000 | 95,064,000 |
| Grant Receipts | 136,706,825 | 325,118,344 | 405,858,990 | 9,972,499,000 | 10,553,449,000 | 9,394,451,000 | 8,652,596,000 | 8,600,610,000 |
| Advert on Web Page | 800,000 | 800,000 | 400,000 | 512,000 | 600,000 | 650,000 | 700,000 | 750,000 |
| Promotional materials | 1,555,000 | 0 | 925,000 | 1,184,000 | 1,302,000 | 1,439,000 | 1,583,000 | 1,724,000 |
| Contributions Income | 26,372,552 | 6,490,000 | 1,650,000 | 2,112,000 | 2,323,000 | 2,567,000 | 2,824,000 | 3,077,000 |
| Exhibitions Contributions | 0 | 2,000,000 | 0 | 200,000,000 | 220,000,000 | 242,000,000 | 266,200,000 | 270,158,000 |
| Motor Vehicles Running Costs Contributions | 5,000,000 | 5,000,000 | 8,000,000 | 10,000,000 | 10,500,000 | 13,000,000 | 16,000,000 | 20,000,000 |
| **Total TZS** | **242,275,626** | **401,805,451** | **492,117,390** | **10,282,670,000** | **10,894,173,000** | **9,771,388,000** | **9,068,912,000** | **9,030,939,000** |

| Expenditure | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|---|---|---|
| Annual General Meeting | 4,700,000 | 4,000,000 | 3,150,000 | 4,032,000 | 4,435,000 | 4,923,000 | 5,200,000 | 6,000,000 |
| TAREA AC & EC Meetings | 2,779,500 | 3,000,000 | 2,090,000 | 2,675,000 | 2,943,000 | 3,267,000 | 3,300,000 | 4,200,000 |
| Volunteer Allowances | 5,040,000 | 5,040,000 | 6,804,000 | 8,709,000 | 9,580,000 | 10,634,000 | 11,500,000 | 12,400,000 |
| Seminars/Workshops | 6,087,167 | 6,000,000 | | | | | | |
| Project Implementation | 280,000,000 | 291,200,000 | 284,980,000 | 9,817,774,000 | 10,383,251,000 | 9,208,389,000 | 8,508,000,000 | 8,455,500,000 |
| Consultancy Fee Payments | 2,000,000 | 2,500,000 | 2,800,000 | 3,200,000 | 3,500,000 | 3,885,000 | 4,000,000 | 4,500,000 |
| Printing (Visibility Materials) | 2,500,000 | 2,500,000 | 2,125,000 | 3,000,000 | 3,100,000 | 3,441,000 | 3,786,000 | 4,100,000 |
| Depreciation | 5,000,000 | 5,000,000 | 12,141,662 | 17,000,000 | 19,000,000 | 21,090,000 | 22,000,000 | 23,000,000 |
| Salaries | 35,148,000 | 38,662,800 | 50,929,349 | 75,189,000 | 82,707,900 | 91,806,000 | 95,000,000 | 96,000,000 |
| WCF | 352,821 | 386,628 | 420,927 | 539,000 | 600,000 | 666,000 | 733,000 | 800,0000 |
| NSSF Contributions | 3,514,800 | 3,866,280 | 7,902,958 | 10,116,000 | 11,128,000 | 12,241,000 | 13,466,000 | 14,200,000 |
| Housing Allowance | 13,200,000 | 13,860,000 | 14,370,000 | 18,394,000 | 20,500,000 | 22,755,000 | 25,031,000 | 26,000,000 |
| Staff Transport Allowance | 5,577,500 | 5,577,500 | 7,200,000 | 9,216,000 | 12,000,000 | 13,320,000 | 14,652,000 | 15,000,000 |
| Renewable Energy Day | 38,500,000 | 50,000,000 | 0 | 180,000,000 | 190,000,000 | 210,900,000 | 220,000,000 | 222,000,000 |
| Staff Health Insurance | 7,575,300 | 8,332,830 | 8,516,100 | 10,900,000 | 12,000,000 | 13,200,000 | 14,520,000 | 15,600,000 |
| Travel Expenses | 4,000,000 | 4,000,000 | 5,600,000 | 7,168,000 | 9,000,000 | 9,900,000 | 10,890,000 | 12,000,000 |
| Office Rent | 10,200,000 | 10,200,000 | 12,600,000 | 14,000,000 | 15,000,000 | 16,650,000 | 18,315,000 | 20,000,000 |
| Equipment Maintenance/New | 400,000 | 500,000 | 745,000 | 3,000,000 | 18,500,000 | 12,000,000 | 13,200,000 | 13,500,000 |
| Communication Costs | 7,595,900 | 7,595,900 | 8,190,000 | 10,000,000 | 11,000,000 | 11,500,000 | 12,650,000 | 13,000,000 |
| Audit Fee | 3,200,000 | 3,200,000 | 2,950,000 | 6,000,000 | 6,500,000 | 8,000,000 | 8,800,000 | 9,000,000 |
| Bank Charges | 2,000,000 | 2,200,000 | 467,177 | 1,000,000 | 1,200,000 | 2,500,000 | 2,750,000 | 3,000,000 |
| General Office Expenses | 3,500,000 | 3,500,000 | 6,600,000 | 8,500,000 | 9,000,000 | 12,000,000 | 13,200,000 | 14,000,000 |
| Vehicle Repairs and Maintenance | 2,500,000 | 3,000,000 | 6,135,000 | 14,500,000 | 18,000,000 | 25,000,000 | 27,500,000 | 28,000,000 |
| **Total TZS** | **445,370,988** | **474,121,938** | **446,717,173** | **10,224,912,000** | **10,842,944,900** | **9,718,067,000** | **9,048,493,000** | **9,019,000,000** |
| **Annual surplus (deficit)** | **(203,095,362)** | **7,608,127** | **45,400,217** | **57,758,000** | **51,228,100** | **53,321,000** | **20,419,000** | **11,939,000** |

# 8.0 Way Forward

To implement the Strategy 2023-2027, the Executive Secretary will need to develop an annual action plan, detailing the budgetary requirements to carry out the strategic plan.

The Executive Secretary will need to pursue potential donors and other funding sources to secure funding for achieving both core and project-based activities that are detailed in this strategic plan.

Concerning the existing branches, TAREA will need to focus on supporting these branches and consider formally establishing more branches. Furthermore, TAREA will extend the proposed activities to the Branches, which will incorporate these into their future action plans. Also, the Student Division and other Divisions that were identified in the review will need to be established and operationalized.

The human capacity should be increased at the Head Office and Branches. The new staff to be recruited should have the capacity for project management, and fundraising inclusive.

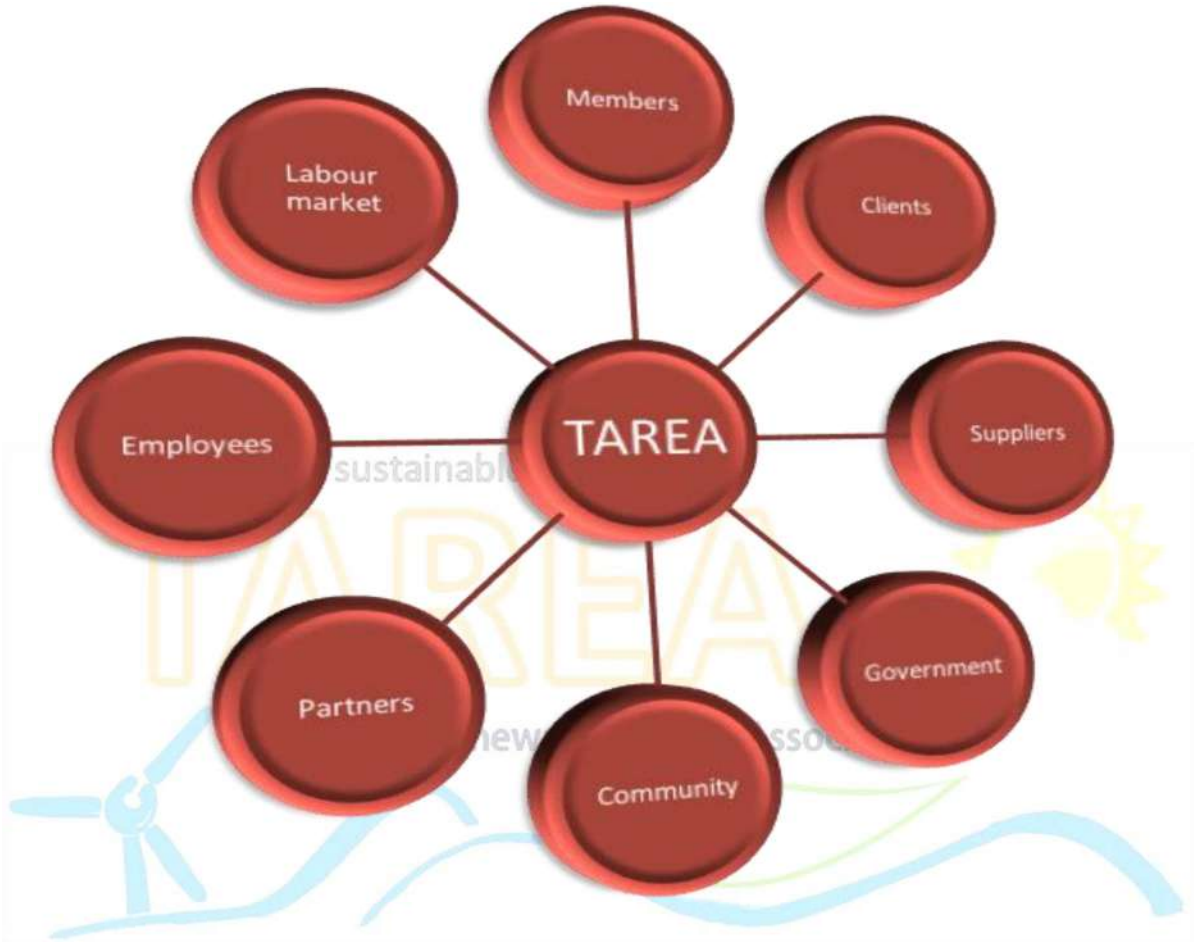
# Appendix 1: SWOT Analysis

The below table provides a brief SWOT of the Association.

| | |
|---|---|
| **Strengths:**<br>▪ Government recognition<br>▪ Public recognition<br>▪ The commitment of the government to increase the share of renewable energy<br>▪ The commitment of Members & Executive Committee<br>▪ Strong leadership<br>▪ Good governance<br>▪ Active Secretariat<br>▪ Regional and international recognition | **Weaknesses**<br>▪ Reliance on donor funding<br>▪ Limited regional participation<br>▪ Inadequate participation of other renewable energy technologies apart from solar<br>▪ Limited funding<br>▪ Low involvement in energy efficiency<br>▪ Limited human capacity |
| **Opportunities**<br>▪ Support from stakeholders (Government, donors, partners)<br>▪ Potential membership base from the regions<br>▪ Growing renewable energy industry<br>▪ Energy security<br>▪ Increase in fossil energy prices<br>▪ Climate change drivers<br>▪ New policies & legislative drivers<br>▪ Expanding to actively include the participation of other renewable energy<br>▪ Open membership to all stakeholders | **Threats**<br>▪ Poor quality products and services<br>▪ Donor-driven agenda – potential change<br>▪ Economic impacts – high-interest rate<br>▪ High tariffs on solar mini-grid electricity<br>▪ The unexpected change in policies |

# Appendix 2: Stakeholders

The following figure shows the investigative approach and an overview of TAREA's various stakeholders.



| | | |
|---|---|---|
| Members | permanent | temporary |
| | Local | International |
| | corporate | individual |
| | companies | professional |
| | NGOs | students |
| | | others |

| | | |
|---|---|---|
| Suppliers | Donors | volunteers |
| | | finances |
| | | recognition |
| | | service |
| | Members | delivery |
| | | building |
| | Service Providers | |
| | Government | resources |
| | | enabling environment |
| | | recognition |

| | |
|---|---|
| Communities | residents |
| | education institutions |
| | business entities |
| | religious institutions |
| | health institutions |
| | political institutions |

| | |
|---|---|
| Labour Market | job searchers |
| | employers |

| | |
|---|---|
| Clients | Government |
| | Institutions |
| | Individuals |
| | Councils |
| | Municipals |
| | Non-State Organizations |
| | … |

| | | |
|---|---|---|
| Government | NEMC | TANESCO |
| | EWURA | REA |
| | RALGA | TBS |
| | FCC | TFS |
| Ministries | Industries | Fishing |
| | | Tourism |
| | Health | Agriculture |
| | | Finance |
| | Education | Science |
| | Communication | Water |
| | Works | Environment |
| | Infrastructure | Water |

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| | | |
|---|---|---|
| Employees | Current Secretariat<br>public relations<br>fundraiser<br>accountant | |

| | | |
|---|---|---|
| Partners | media<br>academia<br>government<br>development<br>partners<br>NGOs<br>private sector<br>parastatal organizations<br>government<br>agencies | local/central<br><br><br><br><br><br><br>REA EWURA<br>TBS<br>NSSF |

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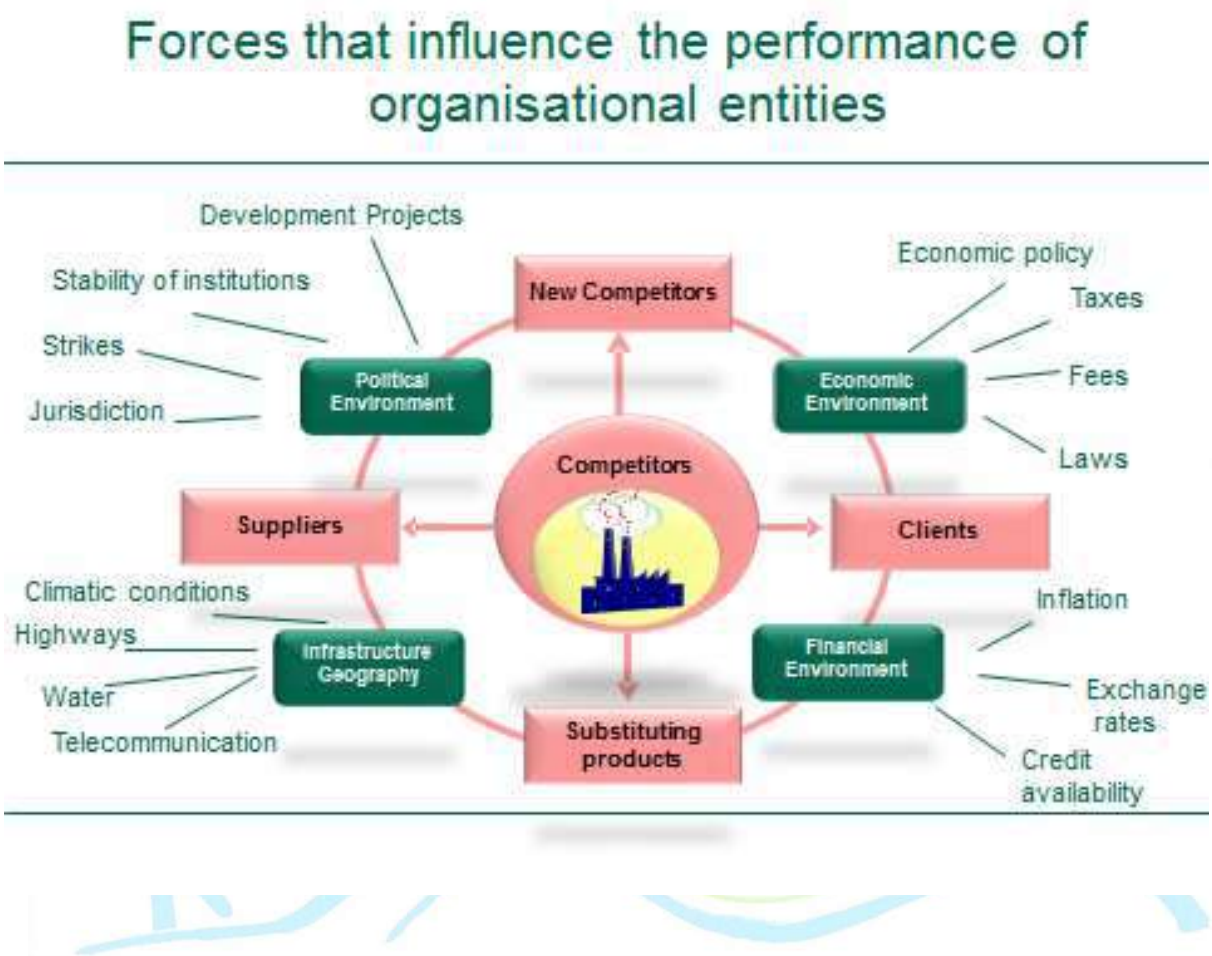
# Appendix 3: Organisational Environment

The following figure shows the investigative approach and an overview of TAREA's organizational environment.



# Appendix 4: Guidelines & By-laws

By-laws, rules and regulations, policies and guidelines.

1.0 By-laws: These are internal rules or laws of TAREA applying to its Members. By-laws are approved by the Annual General Meeting.

2.0 Rules & Regulations: This is legislation that applies to TAREA's staff. Rules and regulations are approved by the Executive Committee.

3.0 Guidelines: These are issued and used by TAREA to make the actions of its employees or divisions more predictable, and presumably of higher quality. Guidelines are approved by the Executive Committee.

TAREA had been audited by the GIZ and EWB-SE. The audits showed the missing policies, guidelines and regulations. The reports made TAREA develop underneath documents.

1.0 Scheme of Service

2.0 Policies, regulations, guidelines, acts and strategies.

1) Branch Operational Guidelines
2) Brand policy
3) By-law on disciplinary action
4) By-law on membership
5) By-law on annual fees and subscription
6) By-law on pro-rata annual fees and subscriptions for new members
7) Communication policy
8) Computer policy
9) Conflict of interest policy
10) Conflict management policy
11) Consultancy and advisory policy
12) Equal employment policy
13) Environmental Policy
14) Finance policy
15) Fixed asset policy
16) Guidelines on Rates and Travel Allowances
17) Human resource information system policy
18) Human resource management policy
19) Member code of conduct
20) Occupational health and safety
21) Performance evaluation and skill training policy
22) Policy for bookkeeping and record maintenance
23) Policy on leadership and succession plan
24) Procurement policy
25) Settling grievances policy
26) Staff recruitment policy
27) Student Division Guidelines

# Appendix 5: Policies, Strategies, Goals and Initiatives

Underneath are the policies, strategies, goals and initiatives mainstreamed in the process of revising TAREA Strategic Plan 2023-2027.

1.0 Tanzania National Energy Policy, 2015
2.0 Tanzania National Environment Policy, 2021
3.0 Tanzania Five-Year Development Plan 2021/22-2025/26
4.0 United Nations Sustainable Energy for All Initiatives (SE4ALL) by 2030
5.0 Tanzania's SE4ALL Action Agenda, 2015
6.0 Tanzania's SE4ALL Investment Prospectus, 2015
7.0 Sustainable Development Goals (SDGs) by 2030
8.0 Rural Energy Master Plan, 2022
9.0 List of 10 priority EAC renewable energy challenges, 2019
10.0 National Gender Policy, 2000
11.0 National Gender Strategy, 2008
12.0 Tanzania Irrigation Master plan, 2018
13.0 Tanzania Agricultural Policy, 2013
14.0 SE4ALL Gender Action Plan 2018
15.0 MoU between TAREA and NABA
17.0 Tanzania Forestry Policy, 1998
18.0 NationallyDetermined Contributions, 2021
19.0 National Climate Change Response Strategy 2021-2026, 2021
20.0 Finance Act 2022
21.0 VAT Act 2014
22.0 The Fisheries Act (Cap 279), the Fisheries (Amendments) Regulations 2020
23.0 Carbon trading regulations, 2022
24.0 The Electricity (Net-Metering) Rules, 2018
25.0 The Electricity (Development of Small Power Projects) Rules, 2020
26.0 Swedish Government Strategy for Development Cooperation with Tanzania
27.0 Norwegian Government Development Cooperation with Tanzania
28.0 Germany and Tanzania Bilateral Relations
29.0 GIZ in Tanzania
30.0 USAID Tanzania Strategy 2020 – 2025
31.0 KOICA Mid-term Sectoral Strategy(2021-2025)
32.0 Japan-Tanzania Relations: Economic Cooperation
33.0 JICA's Mission, Vision & Actions
34.0 Finland's country strategy for Tanzania 2021–2024
35.0 Swiss Cooperation Programme for Tanzania 2021–2025
36.0 Development cooperation: the Netherlands and Tanzania
37.0 Water, climate and energy: the Netherlands and Tanzania
38.0 The European Union and Tanzania 27.07.2021
39.0 Denmark and Tanzania: Strategies and Priorities
40.0 AFD and the Energy Sector in Tanzania January 2021
41.0 AFD East Africa 2020-2024 Regional Strategy February 2021
42.0 Italy-Tanzania Development Cooperation
43.0 UK-Tanzania Relations
44.0 Spain Focus on Africa 2023' Strategic Plan