



# TANZANIA RENEWABLE ENERGY ASSOCIATION (TAREA) ANNUAL REPORT IN THE PERIOD OF 1 JAN-31 DEC 2022

For a sustainable Future

# TAREA



Tanzania Renewable Energy Association



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For a sustainable future

# TAREA



Tanzania Renewable Energy Association



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## Abbreviations

<b>AC</b>	Advisory Committee
<b>ACCESS</b>	Alliance of Civil Society Organizations for Clean Energy Access
<b>AECF</b>	Africa Enterprise Challenge Fund
<b>AGM</b>	Annual General Meeting
<b>ARE</b>	Alliance for Rural Electrification
<b>ATC</b>	Arusha Technical College
<b>B2B</b>	Business to Business
<b>CSOAP</b>	Civil Society Organization Advisory Platform
<b>CTCN</b>	Climate Technology Centre Network
<b>DTP</b>	Deutsch Tansanische Partnerschaft Verein
<b>e.V</b>	Verein (association)
<b>EAC</b>	East African Community
<b>EAE</b>	Energy Access Explorer
<b>EAREF</b>	East Africa Renewable Energy Federation
<b>EC</b>	Executive Committee
<b>EE</b>	Energy Efficiency
<b>EELA</b>	Energy Efficient Lighting and Appliance
<b>ELCT-SD</b>	Evangelical Lutheran Church Tanzania-Southern Diocese
<b>EnDev</b>	Energizing Development
<b>ENERGIA</b>	International Network on Gender and Sustainable Energy
<b>EPZA</b>	Export Processing Zones Authority
<b>ESECA</b>	European Sustainable Energy Cluster partnership for Africa
<b>EWURA</b>	Energy and Water Utility Regulatory Authority
<b>FLnTF</b>	Five Loaves & Two Fish Corporation
<b>GIZ</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit
<b>GOGLA</b>	Global Off-Grid Lighting Association
<b>HA-ILE</b>	Haar-Ilembula
<b>Hivos</b>	Humanist Institute for Cooperation with Developing Countries
<b>KRETC</b>	Kikuletwa Renewable Energy Training and Research Centre
<b>KIUMA</b>	Kanisa la Upendo wa Kristo Masihi
<b>kWp</b>	Kilowatt peak

<b>LPG</b>	Liquified Petroleum Gas
<b>m<sup>2</sup></b>	Metre square
<b>m<sup>3</sup></b>	Metre cube
<b>NGO</b>	Non-Government Organization
<b>PUE</b>	Productive Use of Energy
<b>PV</b>	Photovoltaic
<b>RE</b>	Renewable Energy
<b>REEEP</b>	Renewable Energy and Energy Efficiency Partnership
<b>SIDO</b>	Small Industries Development Organization
<b>SDG</b>	Sustainable Development Goal
<b>SME</b>	Small and Medium Enterprise
<b>SOARING</b>	Southern African Renewable Investment and Growth
<b>TANESCO</b>	Tanzania Electricity Supply Company
<b>TAREA</b>	Tanzania Renewable Energy Association
<b>TASEA</b>	Tanzania Solar Energy Association
<b>TBS</b>	Tanzania Bureau of Standards
<b>UNDP</b>	United Nations Development Program
<b>USAID</b>	United States Agency for International Development
<b>VPO</b>	Vice President Office
<b>WRI</b>	World Resources Institute
<b>WWF</b>	World Wildlife Fund



## 1.0 Introduction

2022 had been the 21<sup>st</sup> year for Tanzania Renewable Energy Association (TAREA) since it was founded. TAREA is a non-profit making, member-based, non-government organization that brings together local and international stakeholders to promote the accessibility and use of renewable energy and energy efficiency in mainland Tanzania. It was established in 2000 and registered by the Ministry of Home Affairs on 7<sup>th</sup> May 2001 with Reg. No. SA10900. TAREA membership includes; corporate members (service providers/enterprises/NGOs); professional members (individuals), associate members (non-scientific individuals); dealer members (small enterprises/retailers); technician members (installation and maintenance artisans); and student members. To date, TAREA has a total of 190 active members (December 2022). Over the years, TAREA has been implementing promotional and capacity-building activities, research, knowledge exchange and sharing, awareness creation, quality control and advocacy/lobbying for a sound environment for the dissemination of renewable energy technologies. Also, it has been cooperating with local and international RE&EE players in implementing projects.

### **Vision of TAREA**

To be a reputable umbrella association, supporting and enabling the sustainable growth of the Renewable Energy sector throughout mainland Tanzania.

### **Mission of TAREA**

The mission of TAREA is to promote and advocate for the increased use of renewable energy by developing an effective network of members and stakeholders, emphasizing the need for quality and best practices throughout the sector.

### **Objective of TAREA**

The objective of TAREA is to promote the sustainable development of Renewable Energy Technologies in mainland Tanzania.

## 2.0 Management of the Association

### 2.1 Executive Committee

The Executive Committee (EC) continued with directing the implementation of TAREA activities through the Secretariat of the Association. The term of EC is three years. The term of the current Executive Committee is from 2021 to 2024.

The Executive Committee consists of:

- (1) Eng. Proper Magali (Chairperson);
- (2) Ms Brenda Kazimili (Vice-Chairperson);
- (3) Eng. Hamisi Mikate (Treasurer);
- (4) Prof.-Eng. Cuthbert Kimambo (Ex-Chairperson);
- (5) Prof.-Eng. Geoffrey Reuben John (Ex Chairperson);
- (6) Prof. Eng. Aminirabi Kweka (Ex Chairperson);
- (7) Dr.-Ing. Matthew Matimbwi (Executive Secretary);
- (8) Ms. Emma Laswai (Deputy Executive Secretary)
- (9) Mr Leonard Pesambili (Member);
- (10) Mr Godwin Msigwa (Member);
- (11) Eng. Lydia Mugarula (Member);
- (12) Eng. Restuta Kokushuliza (Member);
- (13) Eng. Daniel Ngwenya (Chairperson of Northern Zone Branch);
- (14) Eng. Ellison Malyi (Chairperson of Lake Victoria Zone Branch) and
- (15) Eng. Ngwisa Mpembe (Chairperson of Advisory Committee).

### 2.2 Advisory Committee

Advisory Committee (AC) has a term of three years. The term of the current Advisory Committee is from 2021 to 2024. The Advisory Committee consist of:

- (1) Eng. Ngwisa Mpembe Chairperson, Representing Mini-Grid Sector;
- (2) Dr Sara Ayeng'o Secretary, Cross-cutting renewable energy Sectors;
- (3) Eng. Arfaksad Ndilanha Member (Representing biomass technologies)
- (4) Eng. Burton Willilo Member (Representing hydro technologies)
- (5) Eng. Cynthia Eliceus Member (Representing geothermal and green hydrogen technologies)
- (6) Eng. Frank Tarimo Member (Representing wind power technologies)
- (7) Dr Gerd-Henning Vogel Technical Advisor

### 2.3 Staffing and Personnel

Daily implementations of activities were under the 6 full-time personnel and 2 volunteers. From time to time, TAREA Secretariat has made use of its members for implementing workshops/meetings/seminars, advisory services, and technical capacity-building activities depending on specific needs.



## **2.4 Office Space**

TAREA office is located at Mandela Road, Plot 1080 Mabibo External Area, and Export Processing Zones Authority-Shopping Arcade 17. The office floor is 70 m<sup>2</sup>. In the year 2021, the office space was extended from 35m<sup>2</sup> to 70m<sup>2</sup>.

## **2.5 Utilities and Equipment**

TAREA had managed to pay salaries, various fees, utilities, internet services, purchase of stationery, maintenance of vehicles, and equipment required for the smooth running of the office.

## **3.0 TAREA Activities 2022**

Underneath are the major activities that were implemented in the period of 1<sup>st</sup> January 2022 to 31<sup>st</sup> December 2022.

### **3.1 Volunteer Programs**

TAREA implemented one volunteer (internship) program. It implemented a volunteer program of Renewable Energy Volunteers.

It is a program that offers internships to Tanzanian young people to work at renewable energy organizations for one year. After completion of the internship, the intern can work independently. In the year 2022, one volunteer was placed at TAREA head office (Dar es Salaam) to practice renewable energy financing. The intern was a graduate of Financing and Banking at the Institute of Finance Management in Dar es Salaam. The program is financed by the City of Hamburg through Deutsch-Tansanische Partnerschaft e.V (DTP) of Hamburg in Germany.

This is an ongoing activity.

### **3.2 Dialogue on the Challenges of Mini-Grids**

TAREA continued dialoguing with the Ministry of Energy and Electricity and Water Regulatory Authority (EWURA) on the challenges of renewable energy mini-grids in mainland Tanzania.

The Government of Tanzania has resolved the challenge of the tariff by starting publishing costs reflective per developer/project. In August 2022. Three developers received cost-reflective tariffs and EWURA continues reviewing tariff applications of the other mini-grid schemes.

TAREA continues to dialogue with the Ministry of Energy, Rural Energy Agency and EWURA to resolve remaining challenges like the application of the regulations on the grid encroachment.

It is an ongoing activity.

### 3.3 Masasi-Enzkreis Solar PV Project

TAREA participated in providing technical support to the project of Masasi-Enzkreis which is implemented in the Masasi District. The project installs solar photovoltaic systems of a total 77kWp at 1 Folks Development College, 2 health facilities, 1 Environment Training Centre and 8 secondary schools. TAREA conducted a feasibility



Photo 1: Solar energy storage at Chiungutwa Health Centre, Masasi

study and developed the installation plan. After the installation works are completed, TAREA will conduct verification of the conformation to the technical specifications.

The project is funded by the Federal Ministry of Economic Cooperation and Development (Germany) through Engagement Global GmbH and Enzkreis Landratsamt.

It is an ongoing project.

### 3.4 HA-ILE Partnership Energy Feasibility Study in Ilembula

Haar-Ilembula Partnership (HA-ILE) is the partnership of the Germans and the Tanzanians working to support the development of Ilembula in the Njombe region. TAREA supported HA-ILE Partnership to conduct a feasibility study on the use of renewable energy for powering ELCT-SD Ilembula Lutheran Hospital, improve the power backup systems, and solar photovoltaic for pumping water at the hospital and the village of Mayale and the potential of introducing energy efficiency practices at the hospital.

The study aimed at ensuring reliable power supply to the hospital, reducing energy use and sustainably supplying water while reducing greenhouse emissions.

The activity was funded by HA-ILE Partnership.

The activity has been completed.

### 3.5 SchuPa RE Project at the Emmabergy Girls Secondary School

SchuPa is a German non-government organization that works with the ELCT-Southern Diocese to support secondary education within the Njombe region. SchuPa asked TAREA to conduct a feasibility study to introduce renewable energy for electricity power backup, pumping water, heating showering water and cooking.

The project aims at improving the living and learning environment of the girls, reducing greenhouse emissions and cutting down the school operation costs.

The activity was funded by SchuPa e.V

The activity has been completed.

### 3.6 Enabling the Employability of Young Women in Solar Technology in Masasi

Masasi district is one of the districts that experience high rates of school girls dropouts due to pregnancy and family poverty. Some girls are married underage making marriage a burden to them. Others end up being housemaids, barmaids and prostitutes to get daily bread.



Photo 2: Masasi girls undergoing training

Since there is a high potential for the solar photovoltaic market in Masasi District, TAREA initiated a project of enabling the livelihood of disadvantaged girls to become solar photovoltaic artisans that they can employ themselves. The project ran from 01.05.2021 to 30.04. 2022. The intervention included community awareness of the ability of girls to become solar artisans, and training girls on the theory and practice of solar photovoltaic technology at the level of solar home systems. Then followed by a two months internship working under experienced solar photovoltaic artisans. The girls were provided with an electrical toolbox that they could start working on after training.

A total of 18 girls graduated and were self-employed as solar photovoltaic artisans. The project was extended for three months until 31st August; 2022. The extension

phase included activities such as media and community sensitization in the radio stations in Newala and Masasi radio stations as well as the village sensitization events to introduce the artisans to their communities, a follow-up training to learn some of these trainees' experiences from the internship stage and the work experiences as well as providing the trainees with more appropriate protective gear.

The project was financed by Humanist Institute for Co-operation with Developing Countries (Hivos) through the International Network on Gender and Sustainable Energy (ENERGIA) of the Netherlands, Other funders were the Energising Development Strategic Partnership (Endev) and Modern Energy Cooking Services (MECS).

The project has been completed.

### **3.7 National Clean Cooking Conference**

The Ministry of Energy called for a National Clean Cooking Conference from the 1<sup>st</sup> to the 2<sup>nd</sup> of November 2022.



The meeting was dominated by the promotion of LPG as clean cooking energy. TAREA with members defined the meaning of “cleaning cooking” making authorities recognise other clean cooking technologies like biomass, electricity, biomass, and bioethanol cooking solutions. TAREA managed to make the authorities understand that “clean cooking” should be a mix of clean cooking solutions and not a single technology.

Ministry of Energy invited TAREA to provide input to the national clean cooking action plan in development.

The activity has been completed.

### **3.8 Net Metering Scheme 2018 Dialogue**

The Energy and Water Utility Regulatory Authority (EWURA) enacted the Tanzania Net Metering Scheme of 2018. Since it was enacted, it has not yet been used.

To catalyse the installation of solar photovoltaic systems of or equal to 1MW, TAREA initiated the dialogue with TANESCO in December 2021 to enable the realization of the scheme.

TAREA continued dialoguing with TANESCO, EWURA and the Ministry of Energy and agreed on the actions to be realized by each party toward the realization of the net-metering scheme.

The financial contribution was provided by the European Union.

It is an ongoing activity.

### **3.9 SOARING Training**

Renewables Academy (RENAC) of Berlin partnered with TAREA to implement a training program in Tanzania to build human capacity on financing renewable energy of the Southern African Renewable Investment and Growth (SOARING).

SOARING aims to launch a sustainable climate finance catalyst program for SMEs in Southern Africa, supporting countries in mobilizing and channelling climate and private finance to achieve their NDCs and SDG (7) goals. The project will assess supply, demand, and framework conditions for several SME-level clean energy alternatives in agricultural value chains, as well as off-grid power provision for rural and peri-urban areas.

SOARING is implemented by REEEP and RENAC.

The training activities have been completed.

### **3.10 Supporting LIFE Academy Capacity Building Program**

LIFE Academy of Sweden was implementing programs of Global Capacity Building on Renewable Energy and Uganda Capacity Building on Renewable Energy. The Global Capacity Building Program attracted experts from Ethiopia, Kenya, Mozambique, Rwanda, Tanzania, Zambia, Zimbabwe and Uganda. TAREA supported the training in the role of the regional mentor. The programs were financed by Sida.

The activity was completed.

### **3.11 Solar Water Pumping System-Preiswerk Girls Secondary School**

TAREA installed a solar photovoltaic system at the Preiswerk Girls Secondary School to supply water to the school sustainably. The pump delivers at a minimum of 20m<sup>3</sup> per day.

After the installation of the solar water pump, the students' health has improved and water is used for vegetable and tree growing.

The installation was financed by the URBIS Foundation of Germany.



Photo 3: Girls of the Preiswerk Girls Secondary School undergoing end-use education on the Solar Water Pumping System

The project has been completed.

### **3.12 Tanzania Renewable Energy Investment Forum**

TAREA partnered with the Alliance for Rural Electrification to conduct an event at the Tanzania Renewable Energy Investment Forum, in June 2022, to promote renewable energy business in Tanzania. This forum was attended by over 68 countries across the World where also TAREA members had the opportunity of holding B2B meetings with other representatives of companies from all around the World.

The forum was financed by the European Union.

The activity was completed.

### **3.13 Biomass Policy Dialogue**

The uptake of clean and efficient biomass cooking technologies is still very low in Tanzania. TAREA partnered with member SNV Netherlands to implement the program of biomass policy dialogue that aimed at creating an enabling environment that promotes efficient and clean biomass cooking technologies.

The activities implemented in the year 2022 were as follows.

- 1) Initiation of the indoor air pollution control establishment with the Ministry of Health
- 2) Continued advocating the CookFund Program to purchase an emission analyser for the Tanzania Bureau of Standards to enable testing of the biomass stoves.
- 3) Participate in the development of the Rural Energy Master Plan-Clean Cooking Energy Action Plan.

- 4) Managed to convince TIRDO to develop affordable charges for testing stoves. The new charges are not yet released.
- 5) Policy statement on Improved Cook Stoves: The Ministry of Energy announced on 2.11.2022 at the National Clean Cooking Conference that BEST will be reviewed.

The engagement is implemented through the financial contribution of GIZ through EnDev.

The activity is ongoing.

### **3.14 Introducing Solar Fishing Light on Lake Tanganyika**

After the successful introduction of the marketing of solar fishing lights on Lake Victoria, a shallow water lake, TAREA initiated the activity of replicating the success of Lake Victoria. The replication will be done on Lake Tanganyika. If the mission to Lake Tanganyika, with deep water, is successful the solar fishing light will be also introduced to Lake Nyasa which has also deep water.

In the year 2022, the second prototype was tested in Kigoma. The prototype is being finalized in South Korea.

The research work is conducted by the Five Loaves & Two Fish Corporation (FLnTF) of South Korea. The initiative is led by Dr Youngseo Kim.

The activity is ongoing.

### **3.15 Herrnhutter Missionhilfe e.V Project with Moravian Church**

Herrnhutter Missionhilfe e.V is a German NGO that works with the Moravian Church in Tanzania to implement education and training projects. Herrnhutter Missionhilfe e.V asked TAREA to support with planning of the establishment of the solar photovoltaic training at the Vocational Centres of Moravian Church in Kakozi (Tunduma), Songea and Namtumbo.

TAREA supported the installation of a solar photovoltaic system at Kakozi Vocational Training Centre to be used as a power backup system and demonstration to the students.

The activities are financed by Herrnhutter Missionhilfe e.V

The project is ongoing.

### **3.16 Review of the TAREA Constitution 2010**

In 2010 TAREA changed its constitution for the first time when the association changed its name from TASEA to TAREA. In the year 2021 members agreed to review the constitution to improve the association's governance and mainstream practised renewable energy technologies that are not covered by the constitution.

In 2022, Secretariat completed the exercise of collecting members' input and developed a draft document to be presented to the Executive Committee before it is presented to the members in the year 2023 for voting.

The activity is ongoing.

### **3.17 Dialogue with Banks on Renewable Energy Financing**

One of the challenges of the Tanzania renewable energy sector is limited access to finance. Tanzania banks are not offering financial products to the renewable energy business because of the lack of trust in the sector. TAREA partnered with Fraxen Consult Co, Ltd to implement the activity that aimed at raising awareness of the banks on the investment potential of renewable energy by visiting power plants and plantations that use renewable energy in the Iringa region and dialoguing in Dar es Salaam. The activity resulted in banks of CRDB, NBC and Mwalimu Commercial Bank developing an interest in financing the renewable energy sector while TIB Investment Bank and Maendeleo Bank are already doing.

The activity was financed by the Mott Foundation through Fraxen Consult Co Ltd.



Photo 4: Bank workers visiting Kibidula Farm, Mafinga

The activity has been completed.

### **3.18 Learning Event on the Excise Duty**

Ministry of Finance introduced Excise Duty on lead acid batteries with effect from 1.7.2022 The Excise Duty was imposed at 5% for the locally manufactured batteries and 10% for the imported ones. The imposed tax has affected the solar industry as it has limited access to solar technology reducing the number of solar systems installed.

TAREA initiated the advocacy for the removal of the Excise Duty. The activity started by involving Tanzania Revenue Authority-Consumer Education Department, to conduct a learning event that aimed at understanding the new tax.

The activity was financially supported by USAID through Shell Foundation and GOGLA.



The activity has been completed.

### **3.19 Youth Employability in Solar PV in Tanzania**

Employment for Tanzanian youth is very limited. TAREA initiated the project to enable youth employability in the regions of Geita, Manyara, Shinyanga and Simiyu to increase self-employment opportunities through the solar photovoltaic industry and

Tanzania Renewable Energy Association (TAREA) has received a grant through the GIZ Program of Employment and Skills for Development in Africa (E4D) to implement the project “Enabling Youth Employment in Solar Energy in Tanzania”. Finance has been co-funded by the Federal Ministry for Economic Cooperation and Development (BMZ) and the European Commission. It is implemented under VET Toolbox II by the E4D program and the Prime Minister’s Office - Labour, Youth, Employment and Persons with Disability (PMO-LYED).

The goal of the project is to enhance the employability and sustainable development of Tanzanian youth (male and female) through capacity building on solar photovoltaic skills and entrepreneurship.

The overall objective of the project is to enable more youth to improve the quality of their livelihoods through working in the solar photovoltaic sub-sector.

The expected project impacts are:

- 1) increased youth and women’s employability in green sectors;
- 2) increased use of quality solar equipment for the rural population saving money and the environment;
- 3) Reduction in the use of kerosene and wood as an alternative energy source that improves the environment; and
- 4) Reduced youth migrations; rural to urban areas; and country to country.

The project will benefit 200 youth from the regions of Geita, Manyara, Simiyu and Shinyanga.

The project will benefit members of TAREA who distribute solar technologies to extend the market in the benefiting regions.

The project is ongoing.

### **3.20 Development of PUE Directory**

One of the takeaways from the Public-Private Stakeholders’ Conference and Workshop “Climate Resilience: Mitigation and Adaptation through Renewable Energy” which was conducted by TAREA in cooperation with the European Union in Dodoma in December 2021 were to develop the Productive Use directory. TAREA partnered with SELCO Foundation to develop the directory. It is expected to finalize the activity in the year 2023 and it will be published for free access.

The activity is financed by the Global SDG7 Hubs.

The activity is ongoing.

### **3.21 Update and Training on the Use of EAE**

TAREA partnered with World Resources Institute (WRI) to update the Energy Access Explorer and train the renewable energy stakeholders on the use of the platform. TAREA and WRI develop the framework for ensuring the explorer updating.

The activity has been financed by Mott Foundation through WRI.

The project is ongoing.

### **3.22 Advocate EAC on Tax and Training Harmonization**

The application of taxes on renewable energy within the East African Community (EAC) is not harmonized hindering transboundary business. Either the certification of renewable energy artisans is not harmonized limiting the transboundary of the renewable energy artisans.

Members of the East Africa Renewable Energy Federation (EAREF) met with EAC Secretariat to initiate the dialogue on harmonizing tax applications and certification of the renewable energy artisans in the region.

The activity is financially supported by the WWF-Uganda.

The activity is ongoing.

### **3.23 Facilitation of the International Training**

TAREA Secretariat continued supporting members to access international training opportunities by providing information and recommendations.

One member graduated the training was conducted by LIFE Academy and financed by Sida.

3 members joined the Solar PV Master Degree course in New Delhi through the Ministry of Energy and were financed by the International Solar Alliance (ISA).

The activity is ongoing.

### **3.24 Training of Solar Artisans in Masasi**

TAREA trained 16 solar photovoltaic artisans who will be caring for the solar systems which are being installed at Masasi Folks Development College, Environment Training Centre, 2 medical facilities and 8 secondary schools. The trainees were provided with tools to help them self-employ and stay in their respective villages.

The training was financed by the Federal Ministry of Economic Cooperation and Development (Germany) through Engagement Global GmbH and Enzkreis Landratsamt.

The activity has been completed.

### **3.25 Feasibility Study of Solar Systems in Mwanza**

Mwanza-Würzburg Partnership installed 4 rooftop solar systems that were planned to be connected to the grid through a net-metering scheme. The equipment was installed and not working for more than 5 years as the net-metering scheme operation has been delayed. The partnership decided to change the installation to the island solar systems and use them as power backup systems. TAREA conducted the feasibility study of changing the installation of the solar systems from the grid-connected to the island solar photovoltaic systems.

The activity was financed by the Mwanza-Wuerzburg Partnership.

The activity has been completed.

### **3.26 TAREA Strategy 2023-2027**

TAREA decided to review the 2020-2024 Strategy to accommodate the changes that affect the sector positively. Some of the reasons are the energy transition from fossil to cleaner sources and the Tanzania Government's plan to increase the share of renewable energy in the energy mix. To achieve the enabling environment for renewable energy and energy efficiency businesses, TAREA developed a new strategy that is also an advocacy tool.

The activity is financed by USAID through Shell Foundation and GOGLA.

The activity is ongoing.

### **3.27 Stakeholder's Meeting on Clean Cooking Financing**

Clean Cooking is one of the agendas of the Ministry of Energy. TAREA facilitated the clean cooking stakeholders' engagement meeting that was conducted by Africa Enterprise Challenge Fund (AECF). AECF was developing a matching grant for Tanzania's clean cooking sector. AECF wanted to develop the grant in a participatory manner.

The fund is operational and it is financed by Sida.

The activity was completed.

### **3.28 Development of Association Policies and Guidelines**

TAREA developed additional policies and guidelines as follows.

- (1) Environmental policy;
- (2) Personal data security/protection policy;
- (3) Control on suppliers and partners regarding ethical aspects (Child labour, trafficking, discrimination, corruption etc.) policy;
- (4) e-waste management guideline;
- (5) Gender mainstreaming policy; and

(6) Comprehensive financial guidelines.

The activity is ongoing.

### **3.29 Customer Advisory Service**

TAREA continued providing free advisory services to customers who needed renewable energy services. TAREA referred to the service providers and helped clients who faced challenges with service providers.

The activity is ongoing.

### **3.30 Energy Feasibility Study at KIUMA**

TAREA conducted the feasibility study at the Kanisa la Upendo wa Kristo Masihi (KIUMA) at Matemanga village in Tunduru District. KIUMA has the installation of a 200kWp solar photovoltaic plant that is ready for the net-metering scheme. The study explored the potential of using solar installation at KIUMA as a learning site in the net-metering dialogue and opportunities for improving energy use for heating (cooking) and lighting. The study explored the opportunity of introducing renewable energy training at the KIUMA Vocational Training Centre.

The activity was completed.

### **3.31 Promotion of Solar Fishing Lights on Lake Victoria**

TAREA continued with the promotion of the use of solar fishing lights on Lake Victoria. The activity was implemented with financial support from the City of Wuerzburg through the City of Mwanza.

The activity was completed.

### **3.32 Awareness Raising on the Solar Fishing Lights Regulations**

TAREA cooperated with Mwanza Fishery Officers to raise the awareness of the fishermen regarding the environmental guidelines on the solar fishing lights during the Nane-Nane Event in Mwanza.

The activity is ongoing.

### **3.33 Training on the Lithium-Ion Battery Technology**

TAREA (Northern Zone Branch) in cooperation with Collective Energy Africa Ltd, trained 50 renewable energy stakeholders on the BYD Lithium-Ion Battery Technology at the Arusha Technical College.

The activity is complete.

### 3.34 Solar Training at the ATC Solar Training Centre

TAREA (Northern Zone) in cooperation with Arusha Technical College-Solar Training Centre, trained 5 solar photovoltaic artisans.

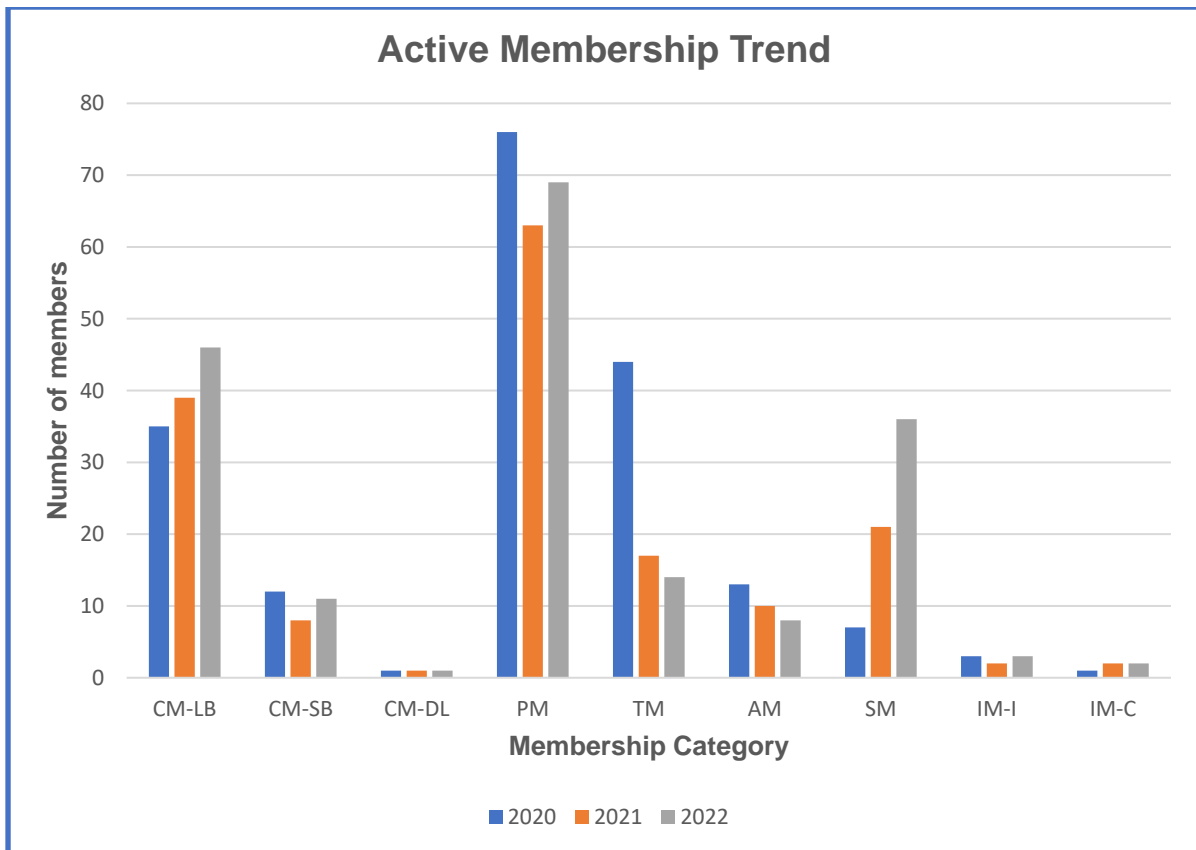
The activity is ongoing.

### 3.35 TAREA Membership Recruitment

TAREA has recruited 61 new members in the year 2022. The membership recruitment was at in-country and international levels. The number of active members increased from 163 in the year 2021 to 190 by 31 December 2022.

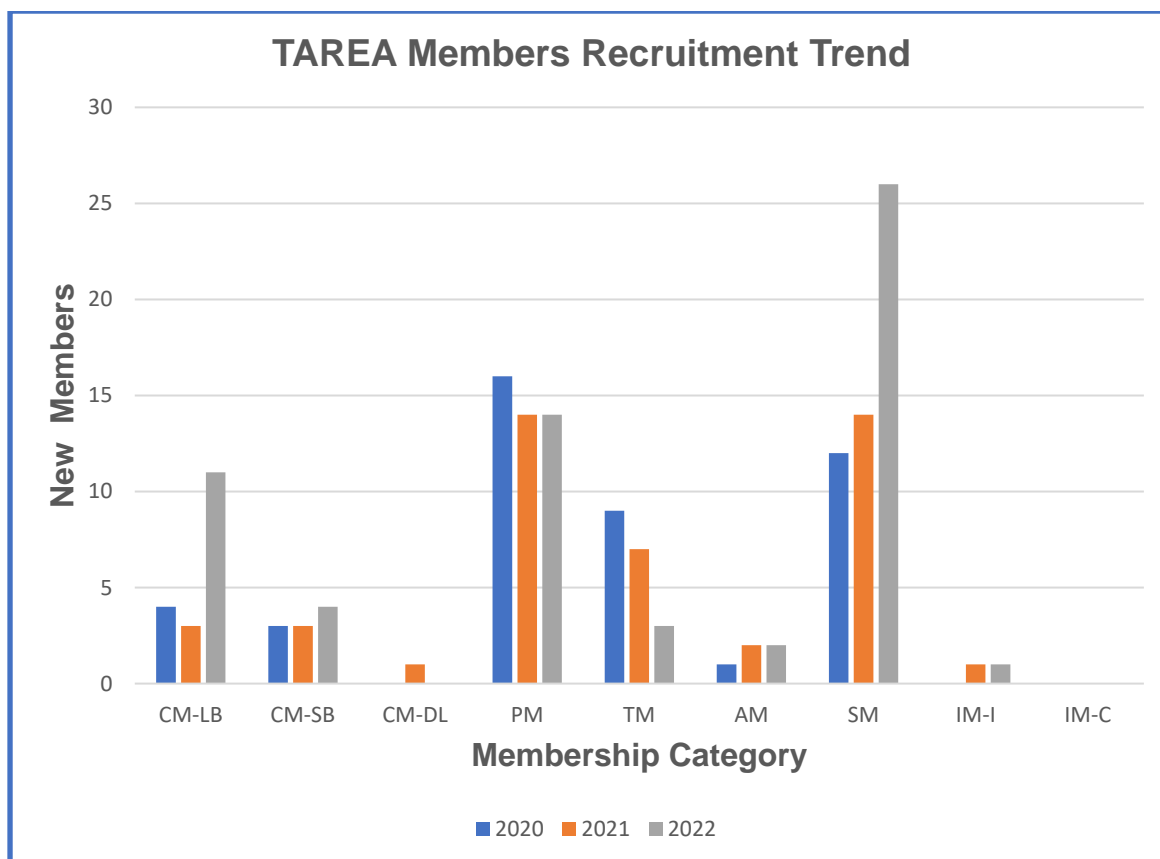
Member category	2020		2021		2022	
	New members	Active members	New members	Active members	New members	Active members
Corporate Member Large Business	4	35	3	39	11	46
Corporate Member Small Business	3	12	3	8	4	11
Corporate Member Dealer	0	1	1	1	0	1
Professional Member	16	76	14	63	14	69
Technician Member	9	44	7	17	3	14
Associate Member	1	13	2	10	2	8
Student Member	12	7	14	21	26	36
International Member Individual	0	3	1	2	1	3
International Member Corporate	0	1	0	2	0	2
<b>Total</b>	<b>45</b>	<b>192</b>	<b>45</b>	<b>163</b>	<b>61</b>	<b>190</b>

**Table 1: New members recruitment and active members 2020-2022**



- CM-LB Corporate Member – Larger Corporate
- CM-SB Corporate Member – Small Business
- CM-DL Corporate Member – Dealer
- PM Professional Member
- TM Technician Member
- AM Associate Member
- SM Student Member
- IM-I International Member – Individual
- IM-C International Member - Corporate

**Graph 1: TAREA active membership trend 2020-2022**



CM-LB	Corporate Member – Larger Corporate
CM-SB	Corporate Member – Small Business
CM-DL	Corporate Member – Dealer
PM	Professional Member
TM	Technician Member
AM	Associate Member
SM	Student Member
IM-I	International Member – Individual
IM-C	International Member - Corporate

**Graph 2: TAREA Membership Recruitment 2020-2022**

### 3.36 New Partnership

In 2022, TAREA forged new partnerships. The new partnerships were formed with:

- (1) Small Industries Development Organization (Sido), Tanzania, to support the clean cooking solutions producers to test their products with the Tanzania Bureau of Standards.
- (2) SELCO Foundation, India, to conduct a study on the solar market chain and develop the Tanzania directory of the Productive Use of Energy service providers and products.
- (3) Fraxen Co. Ltd, Tanzania to conduct the dialogue with the banks operating in Tanzania on renewable energy financing.
- (4) European Sustainable Energy Cluster partnership for Africa (ESECA) to develop renewable energy partnerships between European and Tanzania companies.

- (5) Norwegian-African Business Association (NABA) to promote the renewable energy business between Norway and Tanzania.
- (6) Shell Exploration and Production Tanzania Limited to install solar photovoltaic systems at Mbondo Secondary School.

### **3.37 Participation in the National and International Committees**

TAREA served the following national and international committees.

- (1) TBS Battery Standards Committee;
- (2) TBS Biomass Standards Committee;
- (3) TBS Biofuels Standards Committee;
- (4) TBS Electrical Energy Standards Committee;
- (5) TBS Electronics Standards Committee;
- (6) TBS Renewable Energy Standards;
- (7) UNDP National Small Projects Steering Committee;
- (8) KRETC Industrial Technical Committee; and
- (9) EELA Steering Committee.

The activity is ongoing.

## **4.0 Membership in the Forums and Networks**

TAREA is a member and participated in the following national and international forums and networks;

- (1) Alliance of Civil Society Organizations for Clean Energy Access (ACCESS);
- (2) Alliance for Rural Electrification (ARE) Energy Access Investment Forum
- (3) Climate Technology Centre and Network (CTCN);
- (4) Renewable Energy and Energy Efficiency Partnership (REEEP);
- (5) Wind Empowerment;
- (6) Spix e.V Netzkraft Movement;
- (7) Clean Cooking Alliance;
- (8) East Africa Renewable Energy Federation (EAREF);
- (9) Association of Association Executives;
- (10) UNDP CSO Advisory Platform (CSOAP); and
- (11) PREVENT Waste Alliance.

## **5.0 Partners**

In 2022, TAREA worked with the following partners.

- (1) Alliance for Rural Electrification (ARE)
- (2) Arusha Technical College (ATC)
- (3) Associazione Microfinanza e Sviluppo Onlus
- (4) City of Wuerzburg through the City of Mwanza
- (5) Deutsch-Tansanische Partnerschaft e.V (DTP)
- (6) Elekriker ohne Grenzen e.V (EoG)
- (7) Embassy of the Kingdom of the Netherlands
- (8) European Union Delegation to Tanzania
- (9) Fraxen Consult Co. Ltd
- (10) Global Off-grid Lighting Association (GOGLA);
- (11) Haar-Ilembula Partnership (HA-ILE)
- (12) Herrnhuter Missionshilfe e.V



- (13) Hivos
- (14) Landratsamt Enzkreis
- (15) LIFE Academy
- (16) Masasi District Council
- (17) Masasi Town Council
- (18) Offgrid Sun
- (19) Power4Africa e.V
- (20) Renewables Academy (RENAC)
- (21) SchuPa e.V
- (22) Shell Exploration and Production Tanzania Limited
- (23) SNV-Netherlands
- (24) URBIS Foundation
- (25) World Resources Institute (WRI)

## 6.0 Lessons Learned

The following lessons were learned from the implementation of the TAREA activities in 2022:

- (1) Public-Private Dialogue is strong in the private sector finding its role in the government development plans;
- (2) Gender mainstreaming in renewable energy should be strengthened;
- (3) TAREA should actively participate in the energy transition to ensure the decarbonization of the economy;
- (4) There is increased environmental concern, electronic wastes generated by the renewable energy industry being among the polluters;
- (5) Renewable energy-independent power producers should promote energy for productive uses to strengthen the purchasing power and contribute to the Human Development Index;
- (6) There is a huge potential for renewable energy powering economic activities such as agriculture through irrigation (pumps) hence increasing food production and food availability to the country as well as for export;
- (7) The Government of Tanzania has set the target of an increasing share of renewable energy in the energy mix. It is an opportunity for the private sector in increasing renewable electricity fed to the national grid; and
- (8) The Government of Tanzania is considering clean cooking technologies as important agenda. The private sector has to use this opportunity in scaling up the uptake of clean cooking solutions.

## 7.0 Future Perspectives

TAREA and the partners have the obligation of continuing to promote the use of renewable, energy-efficient and clean energy technologies as alternative sources of energy for Tanzanian Communities. Efficient energy use should be mainstreamed in all renewable energy programs. Environmental concerns due to electronic waste should be made a high-level agenda. TAREA and partners should increase the promotion of gender mainstreaming in the Continued RE&EE sectors. The awareness campaigns of renewable energy potentials among all the stakeholders from the decision-makers, and policymakers as well as the communities who are the consumers and beneficiaries of the clean renewable energy technologies should be scaled up.

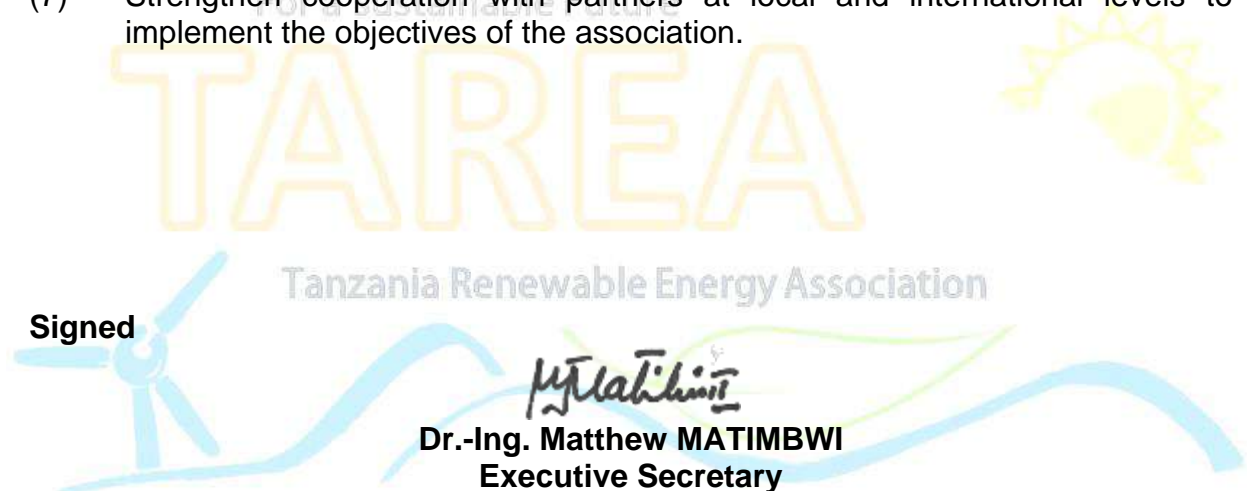
TAREA has to strengthen the networking of all renewable energy actors all over Tanzania to ensure the large population especially rural communities' access to modern renewable and clean energy technologies mainstreaming energy efficiency practices.

## 8.0 Conclusion and Recommendation

TAREA has well positioned itself in joining the initiatives of the energy transition.

TAREA will:

- (1) Continue with technical training and information dissemination on renewable energy technologies and services especially Productive Use of Energy (PUE);
- (2) Advocate energy efficiency technologies for buildings and appliances.
- (3) Advocate for the specific technology financial/tax incentives;
- (4) Promote geothermal, green hydrogen/ammonia, small-scale biofuel, biogas plants, wind generators, efficient biomass stoves and fuels, and mini-hydro;
- (5) Conduct the data collection to establish the development trend of RE technologies;
- (6) Ensure the updating of the Energy Access Explore;
- (7) Strengthen cooperation with partners at local and international levels to implement the objectives of the association.



Date:30<sup>th</sup> January 2023 Place: Dar es Salaam

# Appendix 1: Summary of Financial Report

## Statement of Comprehensive Income

	Notes	31.12.2022 TZS	31.12.2021 TZS
<b>INCOME</b>	10.0	<b>372,260,438</b>	<b>401,805,451</b>
Expenditure			
Members General Meeting		3,150,000	3,740,000
Executive committee Expenses		2,198,000	1,715,500
Volunteer Allowances		5,400,000	9,342,000
Seminars Energy Workshops		6,484,700	1,265,800
Projects Implementation Expenses		207,933,133	251,671,567
Consulting Fees Payments		1,500,000	900,000
Printing (TAREA Magazine Brochures)		2,119,500	2,355,944
Depreciation		3,663,441	12,141,662
Salaries		86,982,600	95,945,100
NSSF Pension Contributions		8,526,938	9,593,760
Workers Compensation Fund		452,127	831,018
Staff Transport Allowance		7,200,000	7,000,000
Office Rent		12,600,000	9,978,605
Equipment Maintenance		745,000	360,000
Communication Costs		8,190,000	7,970,000
Audit Fees		2,950,000	2,950,000
Bank charges		1,720,116	1,164,820
General Office Expenses		19,258,714	7,018,017
Motor Vehicle Repairs and Maintenance		8,794,900	3,331,000
Total Expenditure		<b>389,869,169</b>	<b>429,274,793</b>
Surplus/(Deficit) for the Year		<b>(17,608,731)</b>	<b>(27,469,342)</b>
Accumulated Surplus Brought Forward		<b>58,102,563</b>	<b>85,571,905</b>
Accumulated Surplus Carried Forward		<b>40,493,832</b>	<b>58,102,563</b>

Note 1 to 12 form an integral part of these accounts

Chairperson *Rasimeli* Date 19<sup>th</sup> JUNE, 2023 Executive Secretary *Haowab*

**SMW MANAGEMENT CONSULTANTS**  
(Auditors and Management Consultants)  
P. O. Box 63389  
TEL: 2119087/ 0715 516 405  
DAR-ES-SALAAM - TANZANIA

## 10 INCOME

Receipts - Membership Fees
Project Support operational cost
Grant Receipts
Advert on Web Page
Distribution of T-Shirts
Contributions Income
Exhibition Fees
Motor Vehicle running cost contribution
Total Income

TZS	TZS
31,793,554	21,770,579
72,535,339	40,626,528
656,194,844	325,118,344
800,000	800,000
836,000	0
1,650,000	6,490,000
0	2,000,000
5,000,000	5,000,000
<b>768,809,738</b>	<b>401,805,451</b>

### 10.1 DEFERRED GRANTS INCOME 2022 (In TZS)

S/N	NAME	MONEY RECEIVED	AMOUNT USED	DEFERRED INCOME
1	WRI	104,300,864.00	41,048,000.00	63,252,864.00
2	GIZ-E4D	307,443,276.00	10,229,000.00	297,214,276.00
3	ENZKREIS	73,585,000.00	65,463,900.00	8,121,100.00
4	DTP	10,819,450.00	6,804,000.00	4,015,450.00
5	HIVOS	46,317,355.00	39,250,000.00	7,067,355.00
6	SNV	33,692,273.00	32,248,017.00	1,444,256.00
	GOGLA	19,533,999.00	4,100,000.00	15,433,999.00
	<b>TOTAL</b>	<b>595,692,217.00</b>	<b>199,142,917.00</b>	<b>396,549,300.00</b>

The full audited report for the year ending 31.12.2022 can be requested from TAREA Secretariat via email [info@tarea-tz.org](mailto:info@tarea-tz.org)