

PIESA 2022 ANNUAL REPORT

Balanced JET (Just Energy Transition)

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PIESA Events 2022

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Power Institute for East and Southern Africa (PIESA)

The Power Institute for East and Southern Africa (PIESA) is a regional power utility association established in 1998 to improve electrification in East and Southern Africa through sharing information, research, technology, skills, and experiences for the benefit of customers and suppliers in the electricity distribution industry.

PIESA aims to achieve economies of scale with local manufacturers within the region and to be the catalyst for sustainable regional technological cooperation in expanding the Electricity Distribution Industry and stimulating electrification for regional growth and development.

The association's main objectives include broadening membership, developing strategic alliances and partnerships, facilitating dialogue, being flexible to the evolving industry, promoting applied research, fostering a culture of skills development and technology transfer, maintaining an integrated information system, promoting energy efficiency, encouraging localisation, and minimizing the impact on the environment.

"PIESA aims to achieve economies of scale with local manufacturers within the region and to be the catalyst for sustainable regional technological cooperation in expanding the Electricity Distribution Industry and stimulating electrification for regional growth and development."



PIESA Board



Mr Mohlomi Seitlheko Lesotho Electricity Corporation Chairman



Mr Patrick Mwila ZESCO Director



Mr Simbiso Chimbima UMEME LTD Director



Ms Jayshree Pershad AMEU Director



Ms Sophia Mgonja Tanzania Electric Supply Company Limited Director



Mr Harold Hayes Landis+Gyr (Pty) Ltd Director



Dr Titus MatheEskom Holdings SOC Ltd
Director



Mr Vally PadayacheeExecutive Officer
PIESA





Chairman's review

Mr Mohlomi Seitlheko, BSc (Elect), MBA, Chairperson of The PIESA Board

The past year has been very eventful for PIESA. In response to climate change imperatives and geopolitical tensions, current Global Energy trends include a move to distributed energy systems, and increased use of hydropower and renewables, specifically solar and wind.

We had already seen significant changes in the regional industry landscape for PIESA members, with disruptions from COVID diverting funding from electrification and maintenance activities to support COVID 19 control initiatives. The subsequent economic fallout forced a shift towards renewable resources. In the past year a number of PIESA members have seen some improvement in the economic recovery due to the lifting of lockdown restrictions and hence some increase in the energy consumption. The increase in consumption brought about some strain in the already aging electricity networks leading to reduced electricity availability.

The combined impact of global and local influences on South and East Africa, is leading to a more competitive and dynamic energy market, with a growing number of players and new business models. Utility companies will need to adapt and evolve to remain competitive and meet the changing needs of their customers.

PIESA responded to these changes by increasing collaboration this year, with energy related organizations in the region, such as AMEU, SAIEE, SARPA, STS, and SAIPPA.

PIESA members were invited to participate in relevant webinars and workshops discussing latest technologies, to explore alternative viewpoints on and experience with, these solutions. In April members visited Eskom Research and Innovation Centre at Rosherville to broaden the conversation and expand exposure to implementation examples.

"PIESA members were invited to participate in relevant webinars and workshops discussing latest technologies, to explore alternative viewpoints on and experience with, these solutions."

As the Chairman of PIESA I wish South Africa and ESKOM all the absolute best in addressing the challenges associated with its current electricity crisis and I hope load shedding will stop soon.

I would also like to thank my fellow Board members and the Secretariat for their support and commitment on this journey towards improved electrification in Southern and East Africa.

Mr Mohlomi Seithefo

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From the

desk of the Executive Officer

Vally Padayachee, PIESA Executive Officer

The Covid pandemic and the global energy crisis triggered by Russia's invasion of Ukraine last year is expected to have a profound and long-lasting impact on the global energy industry. Based on geopolitical and economic concerns, the crisis has led to energy supply constraints and increased pressure on oil and gas supplies. Many governments are now taking steps to address the challenges by increasing or diversifying their energy sources and accelerating structural changes in their energy systems to ensure their respective sovereign energy security.

For South and East Africa, the new focus on distributed energy systems, such as mini-grids and off-grid systems, low carbon technologies will affect PIESA Utility Members. These systems are typically owned and operated by smaller, specialized companies, which are competing with traditional utilities for customers in remote and underserved communities.

Regional discoveries of new gas deposits are leading to the development of new gas-fired power plants and the expansion of existing ones, which will have significant implications for the utilities companies that operate them.

Renewable energy sources, such as solar and wind power is seen as an untapped source of energy, and this is leading to the emergence of new players in the energy market, including independent power producers (IPPs) and smaller, specialized companies focused on renewable energy. These companies are competing with traditional utility companies and putting pressure on them to adapt and evolve.

The pace of change varies across the region, and there are challenges to be addressed, such as lack of transmission infrastructure and regulatory frameworks that are not supportive of renewable energy development.

In addition to supporting members with potential new technology advances, PIESA will continue to pay attention to existing issues associated with increasing technical and non-technical losses, as well as theft and vandalism. Together the Revenue Protection Advisory Group and the Asset Management Advisory group will interact on the wider implications and long-term planning around the joint infrastructure onslaught.

"The PIESA member countries should take note of the learnings of the challenges experienced by Eskom and the associated solutions in the context of the current electricity crisis to avoid a similar situation in their respective countries."



In essence the PIESA Executive Officer, is of the view that Eskom is "suffering from chronic poverty" including

- · poverty of leadership
- · poverty of energy capacity
- · poverty of electrons
- · poverty of money
- · poverty of a resilient and reliable grid
- · poverty of the soul

Poverty is man made hence it can be solved – therefore the PIESA Executive Officer is of the view that the Eskom electricity crisis is also man made and can be solved.

South Africa is currently in the midst of an electricity crisis evidenced by significant load shedding and the associated hardships, inconvenience, etc experienced by many stakeholders including municipalies and end user customers.

Energy security is the uninterrupted provision of vital energy services which is a priority for every country (includes electricity supply) Energy security can be further unpacked from three different perspectives i.e.

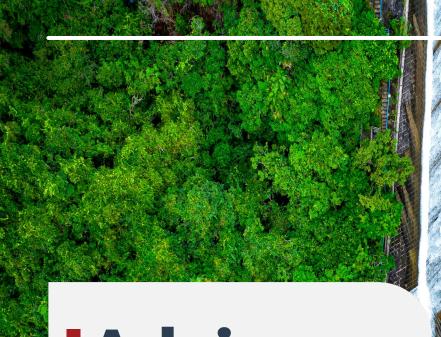
- a) Robustness sufficiency of resources, reliability of infrastructure, stable and affordable prices.
- b) Sovereignty protection from potential threats from external agents
- c) Resilience ability to withstand diverse disruptions and bounce back

The PIESA member countries should take note of the learnings of the challenges experienced by Eskom and the associated solutions in the context of the current electricity crisis to avoid a similar situation in their respective countries.

PIESA continues to support a Just Energy Transition (JET). I would like to thank the PIESA members and the PIESA Secretariat for their support in facilitating regional energy collaboration towards a better, more sustainable energy system as fair and 'just' as possible.









PIESA Advisory Work Groups function as forums where PIESA members and technology partners and affiliates meet and discuss pertinent issues and agree on regional strategies and actions.

The following five advisory work groups have been established:

- 1 Asset Management
- **2** Revenue Protection (Non-technical loss reduction)
- **3** Sustainability (Previously Environmental and Safety Management)
- 4 Standardisation
- 5 Electrification



Asset Management Advisory Work Group (AMAWG)

The Asset Management Advisory Group (AMAWG) recently updated their action plan matrix spreadsheet with the latest feedback from the group. The main takeaways from discussions are as follows:

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- The member utilities within the working group will be required to conduct assessments using a questionnaire that will be provided once it is available.
- The assessments should not only be a checkbox exercise, but there should also be an understanding of Asset Management principles and collaboration between different departments within the organization. The goal should be to strive for best practices, as compliance will follow.
- The assessment questionnaire should not be completed by a single individual, but by a group with similar backgrounds and objectives.
- Asset Management should be approached with a top-down and bottom-up approach, meaning that it is important for senior management to set up the necessary structures.
- The team will review their 3-5 year work plan in the new year.





The Revenue Protection Working Group (RPWG)

The Revenue Protection Working Group (RPWG) was established to deal with the increase in revenue losses within utilities in the region.

The RPWG aims to identify the reasons and extent of these losses, determine necessary actions to prevent or minimize them, and develop processes to recover lost revenue and prevent future losses. The group will be made up of members nominated by PIESA board members, and will focus on issues related to revenue protection and infrastructure, including minimizing no-technical losses, recovery of lost revenue, analyzing data, and combatting infrastructure crimes.

The RPWG will work to develop policies, training and awareness programs, and provide advisory services to PIESA members. The group works to develop a 3-year strategic plan to be submitted to the PIESA board.



The Environmental Management and Safety Working Group (EM&SWG)

This advisory group was established to address environmental and safety issues that are common among PIESA members.

Reflecting the workgroup's broadened focus over the past year, it was decided to change the name to the **Sustainability Advisory Working Group**.

The aim is to enhance skills development through sharing information and technologies, as well as keeping abreast of international developments and trends that could influence or benefit the region.

The workgroup will be responsible for identifying energy sustainability and safety issues of common interest to PIESA members and will contribute to business efficiency, environmental, and safety performance by developing programs to facilitate policy development, training and skills development, research, and communication.



The Standardisation Advisory Working Group (SAWG) will focus on:

- a. Harmonizing with existing standards
- b. Integrating recommendations from PIESA into utilities' practices
- c. Sharing lessons learned among members.
- d. Collaborating with and providing input to other African standards bodies
- e. Using PIESA as a reference for standards in the award of tenders in the region
- f. Facilitating cross-border trade
- g. Working with the regulator to implement standards
- h. Providing a centralized location for accessing information seamlessly
- i. Communicating standards to all member countries on a regular basis, using communication means to be defined
- j. Monitoring and reporting on developments in member utilities k. Identifying new standardization needs.



The Electrification Advisory Working Group (EAWG) will continue to:

- a. Share strategies and information from other groups on the document portal
- b. Survey members on their current level of electrification and review the definition of access to electrical energy
- c. Assist member countries in rapidly rolling out electrification infrastructure and securing funding
- d. Explore alternative business models and incorporate cost-effective renewable energy technologies
- e. Formalize a partnership with POWER AFRICA and investigate the use of smart technologies and smart grids to improve service delivery
- f. Prioritize training, development, and mentoring initiatives, with a focus on upskilling technical, engineering, and leadership personnel.



Membership Categories and eligibility



Membership of PIESA is open to the electricity industry. The number of members from time to time shall not be limited but shall at no time be less than five (5). Membership may not be assigned or transferred to any other person, company, or concern.

Membership is obtained by paying the prescribed contributions as stipulated in Article 14.2 following the acceptance by the PIESA Board of the application for membership.

PIESA has the following two categories of membership:

Full Members are organisations which:

- a) Generate, transmit, distribute, or buy and sell electricity; or
- b) Represent an organisation contemplated in (a).
- Coordinate with like-minded organisations e.g., SADCSTAN, UPDEA towards the common goal of harmonised standards
- · Participate in training activities, exchange programmes and development projects
- Participate in regional workshops and conferences, and network with strategic decision-makers in the electricity industry
- Provide opportunities for market growth and economies of scale for regional manufacturers and suppliers of equipment and services.

Affiliate Members are organisations or individuals with an allied interest to PIESA, and would include:

- · manufacturers and suppliers of services or equipment to the electricity distribution industry,
- · researchers,
- · consultants
- · financiers.





Benefits to members include:

Access to and participation in the development of standards for the electricity distribution sector

Sharing of information, technology, skills and, in particular, experiences gained from pilot projects and implementation of new technologies, local solutions to recurrent problems experienced in the region

Network with like-minded organisations, joint research activities and access to information from international research organisations e.g., IERE, EPRI, SAPURA

Influence the development of standard Specifications appropriate for the region through active involvement in the Advisory Committee

Utility members 2022

- · LEC Lesotho Electricity Corporation
- ESKOM Holdings SOC Ltd South African electricity supply company
- · AMEU Association of Municipal Electricity Utilities of Southern Africa
- TANESCO Tanzania Electric Supply Authority
- UMEME LTD Umeme Company Limited
- ZESA Zimbabwe Electricity Supply Authority
- ZESCO Zambia Electricity Supply Corporation Limited
- · SNEL Societe nationale d'Electricite
- ESCOM LTD Electricity Supply Commission of Malawi

Affiliate members 2022

- · Circuit Breaker Industries
- · Landis + Gyr (Pty) Ltd
- · Lucy Electric South Africa
- · Hitachi Energy South Africa
- · Schneider Electric

Financial Statements

The Power Institute for East and Southern Africa (Association not for gain)



	2022		2021
	Notes	R	R
ACCETC			
ASSETS			
Current assets			
Trade and other receivables	2	357 112	348 183
Cash and cash equivalents	3	26 147	866 353
TOTAL ASSETS		383 259	1 214 536
RESERVES AND LIABILITIES			
Reserves			
Retained income		197 465	1 066 545
Current liabilities			
Trade and other payables	4	185 794	147 991
TOTAL RESERVES AND LIABILITIES		383 259	1 214 536



STATEMENT OF COMPREHENSIVE INCOME FOR THE YEAR ENDED 28 February 2022

		2022	2021
	Notes	R	R
Revenue			
Conference revenue		-	(11 565)
Conference costs		-	-
		-	(11 565)
Membership dues		240 632	1 654 706
		240 632	1 643 141
Other income			
Interest received		13 010	14 087
Total income		253 642	1 657 228
Expenditure			
Annual report		5 174	5 800
Auditors' remuneration		18 970	17 613
Bank charges		4 018	4 604
Membership meeting costs		-	-
Printing and stationery		3 683	5 074
Secretariat fees		1 056 000	1 056 000
Subscriptions		22 627	52 621
Website and communication costs		12 250	10 769
Workshop - facilitation & venue costs		<u>-</u>	75 268
		1 122 722	1 227 749
Net profit/ (loss) for the year		(869 080)	429 478
Retained income from prior year		1 066 545	637 067
Retained income at the end of the year		197 465	1 066 545



2021

2022

185 794

NOTES TO THE ANNUAL FINANCIAL STATEMENTS FOR THE YEAR ENDED 28 February 2022

	R	R
2. Trade and other receivables		
Accrued Membership Fees Aberdare and LEC	142 253	142 253
Value Added Tax due	214 859	205 930
	357 112	348 183
Value Added Tax – The Revenue authorities in South Africa reflect that no fu This matter is disputed and subject to ongoing correspondence by the Asso		ì.
3. Cash and cash equivalents		
ABSA Call account	3 376	22 463
ABSA Money Market account	22 771	43 890
	26 147	866 353
The Money Market account earns interest at 3.0%		
4. Trade and other payables		
Harris Dowden & Fontaine	18 500	18 030
VdW & Co retainer	40 337	3 005
IERE Event Funding - refer to note 5 below	94 153	94 153
Education fund	32 804	32 804

5. IERE Event Funding

Closing balance	94 153	94 153
Expensed - Utility Coach		(80 000)
Funding received	-	174 153
Opening balance	94 153	-

6. Taxation

No taxation is provided as the Association is at present exempt from tax in terms of Section 10(1)(d)(iii) of the Income Tax Act.



147 992



PIESA Meetings and Events during 2022

Asset Management WG - Initiation Meeting	18 January
Annual General Meeting 20 Jan 2022	20 January
PIESA BOARD MEETING 20 Jan 2022	20 January
PIESA/ESKOM Strategic Meeting	31 January
Asset Management WG Meeting	23 February
Visit to ESKOM Research and Innovation Centre, Rosherville	11 April
Asset Management WG Meeting	26 April
Asset Management WG Meeting	24 May
Advisory Workgroup Meetings	05 June
PIESA BOARD MEETING	06 June
PIESA Asset Management WG Meeting	28 June
PIESA Revenue Protection Advisory WG Meeting	10 August



PIESA visit to Eskom Research and Innovation Centre on 11 APRIL 2022

PIESA delegation visiting Eskom Research and Innovation Centre in Rosherville, South Africa and had the opportunity to see/view first hand world class research initiatives related to renewable energy and smart technologies being demonstrated. Many thanks to Dr Titus Mathe, Prof Dr Moodley and rest of the Eskom team for putting together this visit at short notice.

The following areas were visited on the day

- · Situational Visualisation Laboratory
- · Smart Metering Laboratory
- Smart Home
- · Containerized Microgrid
- Battery Storage
- · PV Solar Plant
- · Tower Test Facility

We had 19 attendees, from the following organisations:

- · City Power (1)
- ESKOM (6)
- · Landis+Gyr (1)
- · Lesotho Electricity Corporation (4)
- PIESA (3)
- REA Zimbabwe (1)
- USAID (3)

PIESA membership allowed access to partner organisation events during 2022

SARPA Basic Revenue Protection Course 12 February SARPA Advanced Revenue Protection Course 21 - 25 March DMRE/DHS/AMEU Virtual Electrification Workshop 24 May SARPA Convention - Are we SMART enough? 26 - 27 May SARPA TID Rollover Challenges and Best Practices 23 June SARPA TID Rollover follow-up session 5 July AMEU Women in Electricity Virtual Webinar 4 August AMEU/SAIEE Joint Webinar Series 10 - 25 August AMEU Convention - A Just Energy Transition for SA 2-5 October SARPA Highveld Branch Meeting including Presentations 20 October IERE Webinar - Toward Enhanced Resilience for Electric Power Systems 10 November SAIPPA Webinar - The role of Gas in the Energy Mix in SA 15 November

