

AMEU CONVENTION 2025

KEY TAKE AWAYS SUMMARY REPORT

A). INTRODUCTION

The AMEU Convention 2025 took place from 5 to 8 October 2025, in East London, South Africa. This pivotal event convened key Eskom and municipal officials, councilors, industry stakeholders, policymakers, and experts in the electricity energy sector to explore critical issues, innovations, and collaborative strategies that are relevant to South Africa's electricity landscape underpinned by a carefully selected core convention theme. This summary report aims to encapsulate at a reasonably high level the proceedings, including key announcements, panel discussions, and detailed presentations, whilst also highlighting the winners of various awards presented during the convention.

B). AMEU CONVENTION 2025 PROGRAMME OVERVIEW

- **Date:** 5 to 8 October 2025
- **Location:** East London, South Africa
- **Attendance:** +- 410 (in-person)

AMEU Convention 2025 core theme:

“Empowering South Africa’s Energy Future: Leveraging Artificial Intelligence (“AI”) and Smart Technologies for a Stable, Balanced, Just, and Sustainable Energy Transition in Electricity Utilities”

Key Events:

- **5 October:** Affiliates Sports Day and Dinner.
- **6 to 8 October:** Various papers and presentations were delivered, and panel discussions were held in the context of the theme and sub themes of the Convention related to AI, smart technologies and BJET.

- **6 October:** The opening ceremony featured keynote speeches (by their designated representatives) from the CoGTA and DEE Ministers and NERSA CEO, complemented by engaging discussions on the transformative role of AI and associated technologies in the electricity energy sector.
- **8 October:** Concluding sessions focused on actionable initiatives and community-based projects.

C). KEY ANNOUNCEMENTS

The convention commenced with crucial announcements and recognitions within the energy sector:

New AMEU Executive Council Key Members for the term 2025-2027:

- Incoming AMEU President: **Mr. Rob Ferrier (BCMM)**
- Incoming AMEU President Elect: **Mr. Siya Gqwede (CoCTN)**
- Incoming AMEU Vice President Elect: **Mr. Veer Ramnarain (eThekweni Metro)**
- Incoming AMEU Immediate Past President: **Mr. Tom Mutshidza (CoTshwane)**
- New Incoming AMEU Affiliates Chairperson: **Mr. Dave Turton**
- Eskom Dx representative: **Ms Al' Louise Van Deventer**

New Incoming AMEU Women in Electricity (WiE) Chairperson:

Ms. Fakazile Nkomiyahlaba

AMEU Honorary Award 2025: Mr. Veer Ramnarain

AMEU Awards 2025:

- Top Participating Metropolitan Municipality (Cat A) (no winner): **City Power Johannesburg**
- Top Municipality (Cat B/C) Winner: **Mossel Bay Municipality**

- Top Participating Municipality (Cat B/C): **Drakenstein Municipality**
- Top Women in Electricity (WiE) Winner: **Ms. Parma Maluleke**

AMEU Convention 2025 Best Papers Awards:

- Experienced Professional Category:
Dr. Mark Bedser & Aumkar Sukhoo, Eskom
- Academic Category:
Phathutshedzo Benedict Mathivha, University of Johannesburg
- CIGRE Technical Category:
Willie van Wyk, CT Lab

D). PRESENTATIONS/PAPERS

Also available on AMEU website www.ameu.co.za

1. High Voltage Cable System Testing using AC Resonant Test System
(*presentation/paper number (1) on the AMEU Convention Programme*)
2. Data Farming in Smart Low Voltage Distribution Systems (2)
3. Powering Tomorrow: AI-Driven Transformer Maintenance and Smart Metering for a Resilient and Just South African Energy Future (3)
4. Innovative Business Models for Scalable Smart Metering Implementation in Emerging Markets (4)
5. The Benefits of Using AI in Capacity Building and Skills Development in Utilities (5)
6. Equitable Energy Access in Grid Modernization: Frameworks for Justice-Centered Utility Transformation (6)
7. The Critical Role of Well-Governed and Balanced Electricity Wheeling Energy Security, Reliability, and Industry Sustainability (7)
8. Lessons Learned from Installing a 1.1 MW Rooftop Photovoltaic System and Strategies for Improvement (8)

9. SSEG and Service Connection Online App (9)
10. Machine Learning Model Development for Predictive Maintenance and Industrial Robotics (10)
11. The Critical Role of the Electricity Grid Stability: Intermittent Renewables vs. Dispatchables: "Sweet Spot Ratio" (11)
12. Using AI, Digitalization, and Analytics for Improved Service Delivery and Customer Relations (12)
13. Smart Substations for Smart Grids: Pioneering Digital Protection in Namibia
14. Mitigating Cybersecurity Threats in Smart Metering Infrastructure Through Standard Security Frameworks (14)
15. Towards a Self-Aware & Self-Healing Network (15)
16. Smart Grid Innovations: Real-Time Adaptive Protection for Evolving Networks (16)
17. Future Municipal Networks (17)
18. The Role of Municipalities in a Liberalised Electricity Sector: Challenges and Opportunities in South Africa's Wholesale Electricity Market (18)
19. Reflections on Co-Designing a Solar Public Lighting Pilot in Marikana Informal Settlement, Cape Town (19)
20. Eskom Distribution Agency Agreement (DAA) (20)
21. Collaborative Digital Innovation Ecosystems for Just Energy Transition (21)

E). DAY 1 PANEL DISCUSSION

Panel discussion topic: "Harnessing AI and Smart Technologies: Transforming Electricity Utilities for a Prudent Fit-For-Purpose Balanced Just Energy Transition"

Facilitator/Moderator: Professor Vally Padayachee, AMEU Strategic Advisor

Panelists:

1. **Silas Zimu:** Special Adviser to the Minister of Electricity and Energy & former Eskom and City Power Johannesburg
2. **Malcolm Van Harte:** Acting General Manager (Strategy & New Business Development), Eskom Distribution
3. **Prof Prathaban Moodley:** General Manager, SANEDI

4. **Ms Sy Gourrah**: Divisional CEO, Actom & former AMEU President

Panel concluding remarks:

The panel discussion sought to inspire dialogue among stakeholders and foster collaborative efforts to advance a balanced and equitable energy future for South Africa. The contributions of AI and smart technologies were recognized as foundational in navigating the complexities of modern electricity energy systems especially with respect to enhancing electricity grid stability, energy efficiency, data integrity and predictive maintenance.

F). DAY 2 WIE PANEL DISCUSSION

WiE Panel Discussion Topic: "AI as the Catalyst: Driving Utility Reform through Smart Technologies to Meet Critical KPIs in Billing Efficiency, Grid Reliability, and Customer Satisfaction"

Facilitator/Moderator: Ms Fakazile Nkomiyahlaba, Acting Director: Electrical Services, Nelson Mandela Bay Municipality

Panelists:

1. **Ms Mmaphuthi Nkwana**, GLS Consulting
2. **Ms Khanya Dingilizwe**, City of Cape Town
3. **Ms Happiness Mhlongo**, National Transmission Company, South Africa
4. **Ms Rezeka Mhosho**, eThekweni Municipality

Panel concluding remarks:

The WiE panel underscored the critical role of AI as a catalyst for electricity utility reform, accentuating the need for ongoing collaboration and dialogue among stakeholders to achieve a balanced and equitable energy future in South Africa. The discussions affirmed the importance of leveraging smart technologies to revolutionize operations, enhance customer relations, and maintain grid stability.

G). AMEU CONVENTION OVERALL CONCLUSION

The AMEU Convention 2025 marked a pivotal moment in South Africa's electricity energy discourse, engaging attendees and participants in robust discussions about the intersection of artificial intelligence (AI), data integrity and emerging smart technologies within the electricity energy sector. This event facilitated a comprehensive exploration of the innovations poised to revolutionize electricity energy management, tackle challenges such as electricity grid stability, digitisation of electricity utilities, energy efficiency, and address the pressing need for a sustainable energy future.

In-depth examination of innovations

The convention highlighted groundbreaking advancements in AI applications, such as predictive maintenance, smart grid management, and real-time energy consumption data analytics. These technologies not only optimize operational efficiencies but also empower electricity utilities to anticipate failures and manage resources better. Furthermore, discussions emphasized the relevance of machine learning algorithms in improving energy distribution, thus contributing to a more stable and reliable supply chain amidst fluctuating demand patterns.

Challenges and strategic directions

Delegates and participants confronted multiple challenges, including regulatory hurdles and the interoperability of various AI and smart technologies within the energy landscape. The need for a cohesive regulatory framework that complements technology adoption was a recurring theme. The strategic directions proposed include fostering partnerships between the public and private sectors to align innovation with policy, ensuring that investment and implementation are effectively synchronized with broader national goals.

Commitment to equity and inclusivity

The focus on equity and inclusivity reflected a commitment to accommodate diverse stakeholders, ensuring that vulnerable communities also benefit from technological advancements. This commitment aligns with global sustainability goals, as the energy sector in South Africa must transition towards more equitable practices that consider both environmental impact and social justice.

Ongoing engagement

The convention underscored that ongoing dialogue and engagement among stakeholders, including government entities, electricity utilities, private industry players, and community representatives, is paramount for successfully navigating the complexities associated with energy transitions. Stakeholder engagement creates a platform for sharing best practices and addressing local needs, which is critical for fostering resilience and adaptability in energy systems.

Foundation for future advancements

The insights gathered during the AMEU Convention 2025 lay a foundational framework that supports not only immediate operational fixes but also long-term sustainability objectives. This holistic approach is essential for addressing issues like climate change whilst taking tangible steps toward enhancing the electricity generation capacity and efficiency in alignment with international standards.

H). REPORT FINAL SUMMARY

The AMEU Convention 2025 transcended the traditional format of conferences by serving as a dynamic platform that converged multiple voices—each contributing to a collective understanding of the urgent challenges facing the South African electricity energy sector. The interactions exemplified a spirit of collaboration, where diverse stakeholders came together to share innovative strategies aimed at curbing issues such as energy poverty and resource depletion.

Convergence of ideas and strategies

Participants engaged in meaningful dialogues on how AI and smart technologies can revamp traditional frameworks in the electricity energy sector. Not only were there presentations detailing technological innovations, but there were also panel discussions that focused on practical applications and case studies, creating a rich tapestry of learning that extended beyond mere information dissemination. This collaborative spirit fostered a nurturing environment for brainstorming actionable solutions that stakeholders can readily implement.

Urgency for reform and clear pathways

The convention addressed an urgent need for reform in how electricity energy is produced, distributed, and consumed in South Africa. The call for integrating AI

and smart technologies highlights that innovative practices are not just optional but fundamental to coping with future electricity energy demands. The pathways established during discussions are critical for ensuring equitable access to energy resources, enabling communities to thrive irrespective of their socio-economic status.

Dialogue and collaboration

In summary, the AMEU Convention 2025 acted as a significant catalyst for fostering an inclusive dialogue that brings together various stakeholders in the electricity energy sector. The exchanges provided a conducive environment for empowering participants and generating actionable insights, which will resonate throughout the community. The collaborative efforts initiated during the conference will enable electricity utilities to adapt more readily to evolving energy market demands and cater to their customers' diverse needs effectively.

I). FUTURE PROSPECTS

The enthusiasm and commitment displayed at the AMEU Convention 2025 can be seen as a harbinger of a promising future for South Africa's electricity energy sector. The momentum generated from the convention we believe propels discussions about how AI and related technologies can spearhead reforms that are not only innovative but also inclusive and reflective of all community voices.

Prioritizing inclusivity

Moving forward, prioritizing inclusivity will be essential. This includes ensuring that marginalized voices are integrated into conversations about electricity energy innovation—enabling community-focused solutions that directly address local challenges. Stakeholders must engage with those communities to understand their needs and to design technological solutions that are efficient, cost-effective, and sustainable.

Continuous education and investment

In addition, continuous education and ongoing professional development for those in the electricity energy field will be vital. Investment in training programmes focused on AI and associated technologies will be necessary to bridge the skills gap, ensuring that the workforce is prepared to embrace and implement innovative solutions.

Coupled with meaningful investment in cutting-edge technologies, this will position the South African electricity energy sector for growth and adaptability.

Collaborative frameworks

Finally, the establishment of collaborative frameworks will serve as a cornerstone for successful technological integration. These frameworks must encourage innovation whilst aligning with national and global sustainability goals. By fostering partnerships between governments, private enterprises, and educational institutions, South Africa can create a robust ecosystem that nurtures innovation and drives the energy sector toward a sustainable future.

In conclusion, the AMEU Convention 2025 has set the stage for an energized dialogue and collaborative initiatives crucial for navigating the intricacies of the evolving electricity energy landscape in South Africa. The collective insights, strategies, and

commitments unveiled during this event are instrumental in laying the groundwork for a resilient and equitable energy future.

NOTE:

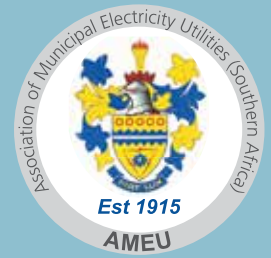
This report was compiled with due diligence and reasonable efforts by Prof Vally PADAYACHEE, AMEU Strategic Adviser, to minimise errors and omissions.

Attached: AMEU Convention 2025 Programme

71st AMEU Convention 2025

Empowering South Africa's Energy Future

Leveraging Artificial Intelligence 'AI' and Smart Technologies for a Stable, Balanced, Just, and Sustainable Energy Transition in Electricity Utilities



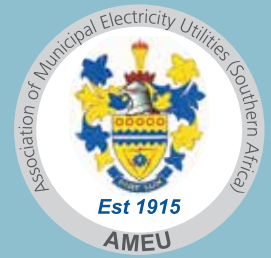
SUNDAY, 5 OCTOBER 2025			
Affiliates Sports Day			
10:30 – 13:00	Sports Day Activities	5 KM Hike @ Beacon Bay	
17:45 – 22:00	Sports Dinner	East London Golf Club	
MONDAY, 6 OCTOBER 2025			
07:00	Registration and refreshments		
09:00	Assembly & procession	5	EXCO & VIP
	National anthem	5	BCMM Choral Choir
	Prayer and scripture reading	5	Rev Pam Daweti
09:15	Welcome by the AMEU President	10	Mr Nndwamato Tom Mutshidza, AMEU President
09:30	Welcome by the Host, Buffalo City Metropolitan Municipality (BCMM)	15	The Executive Mayor Ms Princess Faku, Buffalo City Metropolitan Municipality
09:45	Keynote Address by The Minister of COGTA	30	The Honourable Minister Mr Velenkosini Hlabisa.
10:15	Keynote Address by The Minister of Electricity and Energy	30	The Honourable Minister Dr Kgosientsho Ramokgopa
10:45	Address by the CEO, NERSA	30	Adv Nomalanga Sithole
11:15	Announcement - Invitation for the AMEU Convention 2026 venue	15	AMEU Convention 2026 host
11:30	AMEU Honorary Membership Awards	20	Mr Jean Venter, AMEU General Secretary
11:50	Handover of AMEU Presidency chain/baton	10	Mr Jean Venter, AMEU General Secretary
12:00	Refreshment and exhibition viewing / Departure of spouses		
INTRODUCTION TO DAY 1			
Session Chair: Rob Ferrier, AMEU President			
12:30	<p>PANEL DISCUSSION: "Harnessing AI and Smart Technologies: Transforming Electricity Utilities for a Prudent Fit-For-Purpose Balanced Just Energy Transition"</p> <p>This panel session will explore the critical role of artificial intelligence and smart technologies in reshaping South Africa's energy landscape. The panel aims to inspire dialogue and collaboration among stakeholders to pave the way for a balanced and just energy future in South Africa.</p>	60	<p>Facilitator: Professor Vally Padayachee, AMEU Strategic Advisor</p> <p>Silas Zimu, Adviser to the Minister of Electricity and Energy and former Eskom and former City Power Jhb Prof Prathaban Moodley, General Manager, SANEDI formerly Research Manager, Eskom Malcolm Van Harte, Acting General Manager (Strategy & New Business development), Eskom Dx Sy Gourrah, Divisional CEO, Actom and former AMEU President and former Head Electricity, BCMM Josh Dippenaar, Manager Energy Markets, Mulilo Energy and currently PhD (Eng) Student, University of Stellenbosch</p>
13:00	Lunch and exhibition viewing		



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Leveraging Artificial Intelligence 'AI' and Smart Technologies for a Stable, Balanced, Just, and Sustainable Energy Transition in Electricity Utilities



Session Chair: Rob Ferrier, AMEU President & BCMM

Smart grid innovations

14:00	High Voltage Cable System Testing using AC Resonant Test System	30	Rendani Mutepe Aberdare Cables
14:30	Data Farming in a Smart Low Voltage Distribution System	30	Noah Fakude City of Tshwane
15:00	Powering tomorrow: AI-driven transformer maintenance and smart metering for a resilient and just South African energy future	30	Goodness Maziya & Wesley Vorster Actom Smart Technologies
15:30	Refreshments and exhibition viewing		

Session Chair: Refilwe Mokgosi, AMEU Past President & City of Ekurhuleni

Collaboration across the energy sector

16:00	Innovative Business Models for Scalable Smart Metering Implementation in Emerging Markets	30	Maruthi Mallealli Wirepas (Finland & India)
16:30	The Benefits of using AI in capacity building and skills development in utilities	30	Shamir Newalani & Portia Zulu Eskom Distribution
17:00	Day Adjournment		
17:15	Cocktail Function Hosted by The Executive Mayor of Buffalo City Municipality at the Exhibition Area		

TUESDAY, 7 OCTOBER 2025

07:30	Registration and Refreshments		
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INTRODUCTION TO DAY 2

Session Chair: Rob Ferrier, AMEU President

08:00	Women-in-Electricity (WiE) Programme	30	Sheila Cele AMEU WiE Chairperson
08:30	WiE Panel Discussion Topic: AI as the Catalyst: Driving utility reform through Smart Technologies to meet critical KPIs in billing Efficiency, grid reliability, and customer satisfaction	30	Panellists: Fakazile Nkomiyahlaba , Nelson Mandela Bay Municipality Mmaphuthi Nkwana , GLS Consulting Khanya Dingilizwe , City of Cape Town Happiness Mhlongo , National Transmission Company South Africa Fezeka Mhoshu , eThekweni Municipality
09:00	Equitable Energy Access in Grid Modernization: Frameworks for Justice-Centred Utility Transformation	30	Sindisiwe Shoji & Bhekani Hadebe eThekweni Municipality
09:30	Refreshments and exhibition viewing		

Session Chair: Siyabulela, GQWEDE, AMEU Deputy President

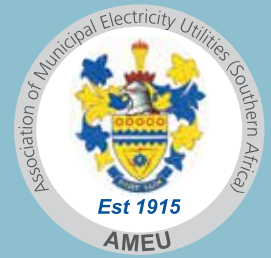
BJETfor electricity utilities

10:00	The critical role of well governed and balanced electricity wheeling in enabling energy security, reliability and industry sustainability.	30	Prof Vally Padayachee & Terry Njuguna AMEU Strategic Advisor & Eskom Dx
10:30	Exhibition Viewing		
11:00	Lessons learned from installing 1MW rooftop PV and how to improve the system.	30	Sy Gourrah Actom
11:30	SSEG and service connection online app	30	Ismail Jefferies City of Cape Town
12:00	Lunch and exhibition viewing		

71st AMEU Convention 2025

Empowering South Africa's Energy Future

Leveraging Artificial Intelligence 'AI' and Smart Technologies for a Stable, Balanced, Just, and Sustainable Energy Transition in Electricity Utilities



Session Chair: Veer RAMNARIAN, AMEU EXCO and SAIEE PRESIDENT

Data-driven decision making

13:00	Machine Learning Model Development for Predictive Maintenance in Industrial Robotics	30	Phathutshedzo Benedict Mathivha University of JHB
13:30	The critical role of the electricity grid stability renewables to non-renewables "sweet spot ratio" in ensuring the reliability and resilience of the national electricity grid to prevent it from going into total grid collapse and total blackout	30	Prof Vally Padayachee AMEU Strategic Advisor
14:30	Using AI, digitalization and analytics for improved service delivery and customer relations opportunities in South Africa's wholesale electricity market	30	Dr Mark Bedser & Aumkar Sukhoo Eskom
15:00	Smart substations for smart grids: pioneering digital protection in Namibia	30	Herman Mare Actom
15:30	Day Adjournment		
18:00	Gala Dinner Hosted by the Buffalo City Metropolitan Municipality (BCMM)		

WEDNESDAY, 8 OCTOBER 2025

08:00	Registration and exhibition viewing		
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INTRODUCTION TO DAY 3

Session Chair: Ms Leila Mahomed Weideman, Chairperson AMEU JET Committee

Cost-effective AI and cybersecurity solutions in smart energy systems

8:30	Mitigating Cybersecurity Threats in Smart Metering Infrastructure Through Standard Security Frameworks	30	Shawn Papi Eskom Research, Testing & Development Business Unit
9:00	Towards a Self-Aware & Self-Healing Network	30	Willie van Wyk CT Lab
9:30	Smart Grid Innovations: Real-Time adaptive protection for evolving networks	30	Kobus Wilken George Municipality
10:00	Future municipal networks	30	Geeven Moodley Digsilent Buyisa
10:30	The Role of Municipalities in a Liberalised Electricity Sector: Challenges and Opportunities in South Africa's Wholesale Electricity Market	30	Mmaphuthi Nkwana GLS Consulting
11:00	Refreshments and exhibition viewing		

Session Chair: Ms Keseree Rajoo, Chairperson, AMEU Affiliates

Service delivery and customer relations

11:30	Reflections on co-designing a solar public lighting pilot in Marikana informal settlement, Cape Town	30	Thandeka Tshabalala City of Cape Town
12:00	Eskom Distribution Agency Agreement (DAA)	30	Mpumelelo Mnyani Eskom
12:30	Collaborative Digital Innovation Ecosystems for Just Energy Transition	30	Phatudi Malepe University of the Witwatersrand
13:00	Lunch		

Session Chair: Rob Ferrier, AMEU PRESIDENT

Convention forum: All delegates invited

14:00	Closing session AMEU best paper award CIGRE best technical paper award Thank you message from the AMEU Affiliates Chair message Thank you message from the partners Closing address from the AMEU President		
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