



## JOINT AMEU & SAIEE WEBINAR

# "THE DIGITAL MUNICIPAL Dx ELECTRICITY UTILITY OF THE FUTURE"



Webinar series dates on 10 - 25 August 2022 = 6 sessions - 10th (Wed), 12th (Fri) 16th (Tue), 18th (Thu), 23rd (Tue) & 25th (Thu). Webinar sessions still to be 3 hours from 10h00 to 13h00. Sessions to be CPD accredited.

# AMEU

Wed 10 Aug | 10h00- 13h00 Future proofing of a digital SA municipal DX electricity utility of the future

# 2

AMEU

Fri 12 Aug | 10h00- 13h00 The Just Energy Transition – exploring usecases for typical SA municipality distribution electricity utilities

Register Here

## 3

AMEU

Tue 16 Aug | 11h00-14h00 Evolving business models for a sustainable

SA municipality DX electricity utility

Register Here

**Register Here** 

## 5 SAIEE

Tues 23 Aug | 10h00- 13h00 Effective grid integration of embedded generation in a SA municipality DX

Register Here

electricity utility

# 4

SAIEE

Thu 18 Aug | 10h00- 13h00 Infrastructure asset management in a SA municipality DX electricity utility to sustain

Register Here

revenue flows



Thu 25 Aug | 10h00- 13h00

The impact of the 3 D's (digitization, decentralization and disruption) in a typical SA municipality DX electricity utility

Register Here

## PANELLISTS SESSION 1 : Future proofing of a digital SA municipal DX electricity utility of the future



#### Vally Padayachee - Vally Padayachee AMEU Strategic Adviser Professionally registered with ECSA, SACPCPM and IODSA.

Vally Padayachee is currently the Strategic Adviser, The Association of Municipal Electricity Utilities of Southern Africa ("AMEU"); Executive Officer, The Power Institute of Southern Africa ("PIESA") and Chairman, NRS Association of SA. Academically he has a MSc (Eng) and MBA qualifications. He is also professionally registered with ECSA, SACPCPM and IODSA. Vally has over 40 years' experience in the power and energy sectors. He is a seasoned power and energy executive, chartered director, corporate governance specialist, project risk and enterprise business risk management specialist and an engineering professional. Vally has also chaired and delivered papers, etc at a number of international and local power and energy related conferences. Vally started his career as a Trainee Engineer at Toyota SA Manufacturing and later continued his career in the petrochemical industry at Shell & BP Refineries and Mobil/Engen Refineries and AECI. He then moved into the power/electricity sector when he commenced employment at Eskom Generation Head Office rising to executive level manager (E-Band) responsible for Operational & Engineering aspects from a Generation Group Corporate perspective. He also served a stint (+- 20 Months) at Eskom's Lethabo Power Station (3600MW) as the Acting Power Station Manager and Engineering Manager. Vally was also then appointed Eskom Generation's first Senior Business Development Manager in the late 1990's with primary responsibility for promoting, marketing, and developing Eskom Generations' business into the rest of Africa at the time. Vally then spent the next approximately ten years at City Power JHB (Pty) Ltd and served in various executive level positions including Acting President and CEO and COO. In the private sector Vally also held Board/executive level positions at Gibb Consulting Engineers and Altron Power (Powertech Group). Vally was also the first "black" President of AMEU and served two terms as a Council/Exco member of ECSA.



#### Dr Willie De Beer - Independent Power/Electricity Energy Consultant Certificated electrical & mechanical engineer, he also holds a PhD, MBA, and various other managerial qualifications.

Dr Willie de Beer is an independent Power/Electricity Energy Consultant and a Director of Utility Coach. His wealth of experienced was gained over a period of more than 45 years through working directly in the power/electricity sector, extensive international exposure, leading and working in various related advisory groups, specialised assignments, and research. Dr De Beer is a registered certificated electrical & mechanical engineer, he also holds a PhD, MBA, and various other managerial qualifications. His extensive knowledge and experience includes strategy development, power sector reform, technology deployment, asset management, benchmarking, business turn-around, business efficiency improvement, business design, cost of supply studies, revenue management, programme management, stakeholder, and customer management. In acknowledgement for his outstanding sustained contribution to the South African energy environment he was awarded in 2016 with the SANEA Energy Award. He is an honorary member of the AMEU, registered with ECSA as a professional certificated engineer, and a senior member of the Institute of Certificated Mechanical and Electrical Engineers, South Africa.



#### Prof Wikus Van Niekerk - Dean, Faculty of Engineering, University of Stellenbosch

PhD from the University of California at Berkeley and an Executive MBA from the Graduate School of Business at the University of Cape Town. Prof Wikus van Niekerk is the Dean of Engineering at Stellenbosch University. He holds a PhD from the University of California at Berkeley and an Executive MBA from the Graduate School of Business at the University of Cape Town.

He completed his PhD on the active control of transient noise transmission in 1994. After holding the Sasol Chair in Vehicle Engineering at the University of Pretoria he moved to Stellenbosch University in January 2000. At Stellenbosch he has been Head of the Mechanics Division, Chair of the Department of Mechanical Engineering and Director of the Institute for Thermodynamics and Mechanics. He was the founding Director of the Centre for Renewable and Sustainable Energy Studies and played a leading role to establish research, education and training programmes in renewable energy and influence funding and policy priorities on the national level. He has a keen interest in solar and ocean energy. As Dean of the Faculty of Engineering he is responsible for six ECSA accredited engineering programmes with 3 000 undergraduate and 1 000 postgraduate students.

Prof van Niekerk is a registered professional engineer with the Engineering Council of South African and has been practising as a consultant to industry for 25 years. He is regularly consulted by industry on a variety of areas including renewable energy systems and technology; solar, wind and ocean energy; and energy policy and research strategy. He has published more than 35 articles in refereed international journals and presented many papers at international conferences.

Prof Van Niekerk is an honorary fellow of the South African Institution of Mechanical Engineering and a fellow of the South African Academy of Engineering and the Southern African Acoustics Institute. He is a member of the ASME and SESSA, and a Board Member of the South African Academy of Engineering and the Fraunhofer Chile Research Center for Solar Energy Technologies. He is also a Senior Advisor of the Fraunhofer Gesellschaft in Africa. In 2014 Prof Van Niekerk received the SANEA Energy Award.



#### **Thomas Garner - Chairperson, SAIPPA** *Mechanical Engineering degree from the University of Pretoria and an MBA for the University of*

Stellenbosch Business School. Thomas Garner holds a Mechanical Engineering degree from the University of Pretoria and an MBA for the University of Stellenbosch Business School. He has 28 years of experience in the mining and energy industries. In 2012, Tommy was the founding CEO of Cennergi, a 50/50 joint venture between Exxaro Resources and Tata Power focusing on clean energy. Cennergi commissioned two large wind farms in the Eastern Cape during 2016. Tommy is currently Business Development Executive of Earth and Wire, a privately owned energy company with the vision of supplying affordable, reliable and sustainable energy to

private customers and consumers. He is a registered professional engineer, a Fellow of the South African Academy of Engineering and Chairman of the South African Independent Power Producers Association. He



Rakesh Maharaj - CEO, Power Africa Solutions

is a regular media commentator on the Electricity Supply Industry.

Rakesh Maharaj is the CEO of Power Africa Solutions, a developer of solar, wind and battery energy storage projects in South Africa and across the African continent. He is an electrical engineer by profession with more than 25 years of energy related experience. He has worked across the energy value chain encompassing Eskom Generation and Distribution, City Power and Deloitte. Rakesh was also Technical Lead of SIP 10 within the PICC for a number of years focussing on Generation, Transmission and Distribution infrastructure projects. Consulting engagements in utilities, mining, local and national government and a range of C&I entities has enabled the incumbent to develop a deep insight across

multiple industries. Currently, his specific area of focus and expertise is in battery energy storage and takes a technology agnostic approach to energy storage solutions working with lithium, flow and thermal storage solutions. Power Africa Solutions is collaborating with a number of global partners and currently working on one of the largest hybrid projects in the world combing 90MW Thermal, 155MW PV, 90MW Wind and a 250MWh battery to provide a dispatchable energy solution to the client.



#### Prof Dr Pathmanathan Naidoo - Visiting Professor of Practice (UJ), Specialist Consultant (Pat Naidoo Consulting)

*BSc Eng, MSc Eng, Phd, MBA Pr. Eng, FSAAE, FSAIEE, SMIEEE, MIET, MCigre* Dr. Naidoo is Visiting Scholar in the Department of Mechanical Engineering Science and Professor of Practice in the Faculty of Engineering and the Built Environment, University of Johannesburg. He is a Fellow of the South African Academy of Engineers, a Fellow of the South African Institute of Electrical Engineers, a Senior Member of IEEE(USA), a Member of IET (UK) and Cigre (France). He is a registered professional engineer and a specialist consultant in electrical engineering, energy and power systems. His current research interests are in Sustainable Development as driven by the Green Economy and Industrial Revolution 4.0. Dr. Naidoo's four-decade industrial career was with the Electricity Supply Commission of South Africa, from Engineer in Training to Non-Executive Director. Dr Naidoo has vast experience on Corporate Boards; having served as the Founding Member of SADC's Southern African Power Pool, as Technical Director of the Mozambique Transmission Company, as Chief Executive of SADC's Western Power Corridor Company, as President and Chair of Council, SAIEE (2014 -2015), as Non-Executive Director of Eskom Holdings SOC Limited (2014 – 2018) and as Non-Executive Director of City of

## PANELLISTS SESSION 2 : The Just Energy Transition – exploring use-cases for typical SA municipality distribution electricity utilities

Johannesburg's Joburg Fresh Produce Market SOC Limited (2016 -2020).



#### Leila Mahomed Weideman – Director, Sustainable Energy Markets, City of Cape Town

Leila is currently the Director for Sustainable Energy Markets at the City of Cape Town. SEM is a new department set up in 2017, which aims to facilitate energy security and low carbon development in Cape Town. For 5 years till 2014, Leila was the Director of Development and Operations at Mainstream SA, a renewable energy development company based in Cape Town. Mainstream SA won 6 renewable energy tenders in the first 2 windows of the SA government's Renewable Energy Independent Power Producers Programme,

making it the most successful
company in the programme at the pioneering stages of the Programme in 2011-2013.
Leila has worked in the energy sector since 1998. Prior to joining Genesis Eco-Energy and Mainstream
SA she was an independent sustainable energy policy specialist and preceding that the Managing Director of Sustainable Energy Africa, a leading energy NGO in South Africa focusing on the energy, poverty and sustainability nexus.
Leila has a long association with NGOs, volunteer and activist groups in the environment and energy sector and has a passion for building capacity in people and organisations in the fields of sustainable development. Previous to her work in energy Leila worked for research organizations, local governments and consultancies in the land, environment and development field.
Leila studied environmental science, development studies and energy studies and was a Director of both

Leila studied environmental science, development studies and energy studies and was a Director of both Genesis Eco Energy and of Mainstream SA. Leila sat on the board of The South African Wind Energy Association, Sustainable Energy Africa, the Environmental Monitoring Group and the Sustainable Energy and Climate Change Partnership and The Cape Town Partnership.



## Megan Euston-Brown

Megan Euston-Brown is a Director of Sustainable Energy Africa, a Cape Town based not-for-profit organisation supporting urban sustainable energy transitions in South and Sub Saharan Africa. Megan has worked in the field of energy for development since 2003. Her work has focused on local government as a strategic point of delivery, but has involved close partnership with relevant national departments and private stakeholders. Her experience includes urban energy data and GHG emissions inventories, City climate and energy strategy planning across all sectors, implementation in relation to distribution utility business transition, small scale embedded generation, energy efficiency and net zero carbon building codes.



#### Shane Marcelo Prins Shane has more than 20years of experience in the energy industry, spanning across the electricity as well

as the oil and gas sectors. The early part of his career was spent at Eskom, where he fulfilled various roles in the power system planning and operations arena. These roles included those of network operations planning engineer (performing detailed technical analysis of the South African integrated power system) and Operations Control Center Manager (accountable for network operations spanning the northern part of South Africa). In addition, he fulfilled the role of Operations Planning Manager (leading a team of professionals performing detailed network simulations and contingency analysis to support the National Control Center and the Power System Planning Department).
In October 2020, Shane joined the City of Cape Town where he is currently tasked with the implementation of the Renewable Energy Program for the City, which includes a City-wide energy efficiency program as well as the development of new, renewable energy power generation assets. In addition, Shane is accountable for the rollout of the Independent Power Producers Procurement program for the City of Cape Town. Shane holds a BSc in Electrical Engineering from the University of Cape Town, and a Master in Business Leadership degree from the UNISA School of Business Leadership.



Steve Nicholls -Head of Mitigation - Presidential Climate Change Coordination Commission's



Thebe Mamakoko -DMRE



Chantal Naidoo -Presidential Climate Finance Task Team, Lead Researcher



Michael Nkos -Steve Tshwete Local Municipality



Parsmore Dongi -Garden Route District Municipality

Hendrick Rendani -City of Cape Town Municipality

> Panel Discussion Facilitator - Lauren Hermanus – Adapt / African Centre for Cities

Panellists

Nhlanhla Ngidi – SALGA

Megan Euston Brown – SEA
Vally Padayachee – AMEU

Leshan Moodlier – eThekwini Metro Municipality
 Paul Vermeulen – City of Johannesburg

PANELLISTS SESSION 3 : Evolving business models for a sustainable SA municipality DX electricity utility



At van der Merwe - Energy Utility Specialist At van der Merwe is a seasoned energy utility specialist with more than 40 years of experience in the SA ESI and EDI. He has manged electrical utilities for more than a quarter of a century in South African and Africa and have more than 15 years of energy management consultancy experience. He specialises in utility management, restructuring and transformation and private sector participation programs (PPP).

He is a past president of the association of Municipal Electrical utilities of Southern Africa (AMEU) and



during his career he has served on various Governmental Commissions, workgroups and task teams for the ESI & EDI restructuring and transformation, electrification forums, utility supply regulations updates and changes, Electricity act and Regulatory Act amendments, ESI wholesale market reform, and submitted inputs as President of the AMEU. He served as a board member of the Power Institute of East and Southern Africa (PIESA), served for a term on the board of the Engineering Council of South Africa (ECSA) and as an executive board member on the Professional Advisory Committee (PAC) for engineering. He is also a former chairman of various of the AMEU committees, a former member of the Apprentices Training Board for Local Authorities (ATBLA) Accreditation Committee, and a founding member of the Electricity Supply Liaison Committee (ESLC). Some of his legacy project contribution were the corporatisation of a Municipal Distribution Business creating CENTLEC Pty (Ltd), Financial Turnaround studies for the Worldbank in Tanzania and Malawi, a Feasibility study for the Central Energy Fund for a 5 GW Solar corridor (SA) in support of the IRP 2016, Energy business plans and forecasts for metros and larger municipal businesses, recently for Anglo America focussing supply availability against the 2019 IRP demand developing a procurement strategy for decarbonisation, Project Sponsor (Aurecon) for DOE for the IPPO office program in various of the programs meeting the IRP vision, including an ISMO roadmap for reform. COS studies for various metros in South Africa. He is a registered professional Electrical Engineer with a Masters in Business Economics and a Certificate of Competency(Factories)



#### Stephane Barbeau - xxx. Stephane has over 25 years of experience advising governments, regulatory agencies, and utilities on

power sector restructuring, national and regional competitive electricity markets and tariffs, as well as on commercial and financial aspects of IPP transactions and econ/financial analyses. Before joining CPCS, Stephane worked for IFC where he led various studies including a 2013 study with the Kenyan regulator to look at how to implement open access. He was a member of the World Bank Group's Scaling Solar programme and was in the IFC-World Bank working on the bankability of the Grand Inga project. He also created a detailed action plan for World Bank involvement in the development of the East Africa power pool (EAPP) and was involved in the development of the Tanzania-Zambia interconnector project. Since joining CPCS, he has been involved in the development of a road map and action plan for reforming the Burkina Faso power sector, and is currently advising MCC and Senegal on the development of a competitive electricity market with a scheduled market opening in 2024. Last year, he has been advising in Mauritius on the unbundling of CEB, the main utility and recommending initial market design. Over his career, Mr. Barbeau has also led numerous power reforms projects and has been involved in the development of multiple regional electricity markets: in Central America, Southeast Europe, Middle-East, Mekong, the EAPP and SAPP in Africa.



# Adriaan van Der Merwe - Senior Associate – Energy, Infrastructure and Resources.

Master of Laws, University of Stellenbosch, Bachelor of Commerce (Hons), Economics, University of Stellenbosch, Bachelor of Laws, University of the Free State, Bachelor of Commerce (Law), University of the Free State, Solicitor of the High Court of Australia, Solicitor of the Supreme Court of New South Wales, Notary of the High Court of South Africa, Attorney of the High Court of South Africa. Adriaan advises the public and private sector on infrastructure development, power projects, construction, regulatory matters and energy related disputes. He has extensive experience in advising on the technologies of wind, solar PV, CSP, hydrogen, landfill, biomass, gas, coal, nuclear and hydro. Adriaan's

Prior to joining Hamilton Locke, Adriaan worked at MinterEllison in Australia and Cliffe Dekker Hofmeyr Inc

other work includes transmission, distribution and procurement related assignments.



in South Africa.

HanMatt Baumgurtel - Partner – Energy, Infrastructure and Resources Bachelor of Economics, Monash University, Bachelor of Law, Monash University, Company Directors Course, Australian Institute of Company Directors, Masters in Applied Finance, Corporate Finance/ Advisory, FINSIA Financial Services Institute of Australasia, Corporate Finance/Advisory, Admitted to the Supreme Court of New South Wales. Matt has over 18 years' experience, particularly focused in the energy sector. Matt approaches his work with a one firm, one team philosophy. He strives to deliver creative solutions in all of his representations, providing proactive ways to add value to client's businesses and to help achieve successful outcomes. Matt's has considerable expertise in project development, construction, financing, joint ventures, and mergers and acquisitions transactions. He specialises in legal advice throughout the energy and infrastructure lifecycle, and acts for investors, developers, and constructors of solar, thermal, wind, hydrogen, electricity transmission, waste to energy and energy storage projects in Australia and the APAC region. Matt's expertise also includes drafting and negotiating project and finance agreements, EPC and O&M agreements, connection and access agreements, and power purchase agreements. Matt also has extensive experience managing non-recourse project financing, including parallel bank negotiations, due diligence and transaction documentation.

Prior to joining Hamilton Locke, Matt was a partner and co-lead of the energy, infrastructure and resources group at K&L Gates. He was also previously the General Counsel at Fotowatio Renewable Ventures (FRV) for eight years. Prior to this, he worked for a number of leading global and national law firms, including Gilbert + Tobin and Clifford Chance.



#### **Tony Woods - Commercial Director, Create Innovation Solutions Limited** (representing Ricardo Energy & Environment Tony is a utility management and financial professional with broad experience working both in a utility and as a consultant. He held positions for more than 30 years with EDF Energy (previously London Electricity and London Electricity Board) where he undertook many roles dealing with aspects of the commercial and financial activities of the electricity industry, including managing the commercial and financial teams for the EDF Energy distribution businesses. Tony was a senior manager in the utility during the privatisation of the electricity supply industry in the UK and the introduction of both generation and retail competition, participating in many aspects of the process. This has been followed by a substantial consultancy career where he has undertaken multiple projects both in the UK and internationally, mainly related to the electricity industry. In particular, he has worked on many projects with electricity regulators in the UK, Europe and several developing countries. Project locations have included Guyana, Jamaica, Bangladesh and Uganda. Most recently he has been undertaking a number of projects in South Africa focused on policy, market and legal development, tariffs and cost of supply studies

supply studies. As well as holding a degree from the University of Manchester, Tony is a Fellow of the Chartered Institute of Management Accountants and a Certified Global Management Accountant, and formerly a visiting professor at Imperial College, London



#### **Lesley Ferrando – Associate Director, Ricardo Energy & Environment** Lesley is an economist with over 30 years' experience in the energy industry, and holds a Commerce degree from the University of the Witwatersrand. She worked at Eskom, specialising in electricity pricing and tariffs, including load forecasting. She has presented tariff design training courses and spoken at national conferences. She moved to energy regulation with the South African energy regulator (NERSA), focusing on pricing and tariff regulation, multi-year price determination, formulating pricing policy,

introducing the free basic electricity programme, addressing electricity losses, and contributing to various industry reforms including the role of independent power producers (IPPs) and renewable energy sources. After moving to Ofgem (UK energy regulator) she worked on policy and business plan review for the Electricity Price Controls as well as distribution network and charging codes, connections charging, licensing and compliance for independent distribution networks, industry focus groups, energy storage regulation and innovation (Low Carbon Network Fund) projects. She later contributed to policy development for both the Ofwat multi-year water utility price control and the Gambling Commission's National Lottery Licence Competition. She joined Ricardo Energy and Environment to provide inputs to international and national electricity-related projects, with a particular focus on electricity pricing and regulation. She has been a leading member of the team working on the project "Enabling Enabling viable and resilient electricity distribution utilities in South Africa through cost of supply studies and pricing framework analyses" initiated in 2021 through the SA - German Energy Programme (SAGEN) funded by GIZ

## PANELLISTS SESSION 4 : Infrastructure asset management in a SA municipality DX electricity utility to sustain revenue flows



Tebogo Mokwana - Senior Consultant: Asset Strategy, Eskom Transmission. Chair: SAIEE Asset Management Chapter B Tech, MSc Tech Mgt, M.ECSA, M.Cigre, M.ICMEESA.

Tebogo Mokwana is a Senior Consultant (Asset Strategy) in Eskom Transmission. He has 19 years' experience on asset care regimes that includes the development of maintenance engineering processes and standards, asset health formulation and application, asset performance management and asset management system development. He has accumulated his experience from organizations that includes Spoornet Infrastructure Maintenance, Eskom Enterprises, Eskom Distribution, Eskom Group Technology and now in Eskom Transmission. He holds a Bachelor of Technology in Electrical Engineering from the Tshwane University of Technology, Master of Science in Technology Management from the University of Pretoria and an Electrical Engineer's Certificate of Competency. He is the Chairperson of the SAIEE Asset Management Chapter, a member of ECSA, Cigre and ICMEESA. He has published and presented several papers and articles on asset care regimes.



#### Amar (Archie) Jaykaran - Independent consultant. Chair: Asset Management WG, PIESA. NDT (Elec Eng), MBA, GCEE (Elec & factories), Prog in Asset Mgt.

In years prior to retirement, Archie acquired experience in various key roles such as Plant Management, Maintenance Engineering, Maintenance Management and Asset Management of physical infrastructure, within the Energy Industry (as well as Education). Presently he is a member of the Asset Management Chapter of the SAIEE and the Chairperson of the Asset Management Working Group of the Power Institute of East & Southern Africa. His objective is to use his expertise & experience to actively be involved in Skills Development, Auditing and Consulting, with the purpose of working with organizations or teams towards improving and achieving optimal service delivery. Archie started his career as a qualified Red Seal Electrician from Olifantsfontein. He has a National Technical Diploma, an MBA and 2 government tickets, one in electrical engineering and one in mechanical engineering for factories. He has also completed a programme in Asset and Maintenance management through the University of Pretoria.



#### **Teboho Ramorapeli - Manager: Maintenance Strategies, Asset Strategy, Eskom Transmission** *BTech Elec Eng, MSc Eng, PR Tech Eng.*

Teboho Ramorapeli is a Maintenance Strategies Manager in Asset Strategy department under Asset Management (Transmission), responsible for leading and directing Transmission asset lifecycle management plans. He has +20 years experience working in the Electrical Engineering industry in various roles with some of these outputs: Power Quality and Network Performance Management, Electrical Maintenance Planning and Execution, Safe Operating of EHV networks, Network and Plant Risk Management, Refurbishment and Strengthening Projects execution and commissioning, Safety Health Environmental and Quality Management; Technology Management. He holds BTech in Electrical Engineering from CUT, Master of Science in Engineering from WITS University and is registered with ECSA as Professonal Engineering Technologist. He has co-authored chapters in Eskom book titled Power Quality in Electrical Power Systems and presented a paper at Cigre Regional Conference.



Abdul Aziz Jacobs - Exec Director: Infrastructure Services, Cape Agulhas Municipality. Cllr: SAAMA. BTech Elec Eng, MBA, M.IoDSA, M.IWMSA, M.AMEU, M.SARPA.

Abdul Aziz Jacobs is the Executive Director: Infrastructure Services at Cape Agulhas Municipality, responsible for all engineering functions in the municipality, including Roads & Stormwater, Building Control, Water & Sanitation, Solid Waste Management, Electricity Services and the Project Management Unit. He is a qualified Red Seal Electrician from Olifantsfontein, has a Masters Wireman's Licence, holds a BTech in Electrical Engineering and also an MBA degree from the University of Stellenbosch. He has diverse experience in asset intensive environments such as the mining, aviation, education, nuclear

and municipal sectors locally and internationally. He is a seasoned infrastructure asset maintenance management specialist, ensuring specialised equipment and infrastructure is optimally maintained to

# industry best practices and Original Equipment Manufacturer (OEM) specifications with minimal impact to operations. Holistically managing assets through the asset management lifecycle (ISO5500X), mitigating risks and ensuring regulatory compliance. He has experience in two end to end CMMS – Computerised Maintenance Management System software implementations (including experience on Oracle eAM/SAP/ Maximo CMMS) and have strong leadership, stakeholder management and administrative management experience. He is currently a member and serves on the Council of the Southern African Asset Management Association (SAAMA), a member of the Institute of Directors of South Africa (IoDSA), the Institute for Waste Management South Africa (IWMSA), the Association of Municipal Electricity Utilities of Southern Africa (AMEU) and also the Southern Africa Revenue Protection Association (SARPA). He is currently embarking on a Doctoral journey Investigating the Role Executives have in Responsible Asset Stewardship whilst Achieving Organisational Objectives.

## PANELLISTS SESSION 5: Effective grid integration of embedded generation in a SA municipality DX electricity utility



#### Warrick Pierce – Head: Energy systems modelling, Energy Centre, CSIR. BSc Mech Eng, MSc Energy Economics Warrick is a qualified mechanical engineer and an energy economist. He specialises in techno-economic modelling and trans-disciplinary analysis, specifically energy system modelling. Warrick is a principle

researcher and the head of energy systems modelling at the CSIR's Energy Centre. He is dedicated to assist decision makers to make smarter decisions by providing the necessary information through robust analysis – the what-ifs and trade-offs. He has a solid and well-rounded understanding of the South African energy sector, including the emergence of disruptive technologies and procurement. Warrick has published in peer-reviewed, international journals, as well as local journals and popular media. With three Masters, including an MSc Energy Economics & Policy from the University of Surrey, UK, Warrick is active in driving sustainable development in the energy sector.



BSc Elec Eng, Msc Eng.

## Monique Leroux - Senior researcher: Energy Centre, CSIR.

Monique le Roux is a senior researcher and electrical engineer with the CSIR Energy Centre. She has over 16 years of experience in power systems engineering with a specific focus on the grid connection and operation of renewable energy. She started her career with Eskom as an Operations Engineer responsible for grid management and operations activities before being appointed as a Senior Engineer in Network Planning where she was responsible for the grid connection of all new renewable energy plants. Monique also worked in the private sector for several years where she oversaw the grid planning and grid connection of over 1GW of renewable energy plant. Her most recent research with the CSIR is focused on the grid integration and stability of large-scale variable renewable energy in South Africa. She holds a BEng in Electrical and Electronic Engineering from Stellenbosch University and a MSc in Electrical Engineering from the Uaniversity of Cape Town. She has presented research papers at various international conferences and was chosen to represent Eskom at IERE, EPRI and SIDA.



## Dr Sipho Mdluli (Energy planning: DME) TBA

Environmental Technology Station (UJ PEETS) Advisory Board.



#### Rabelani Tshikalanke - Director: Green Economy Programmes & Projects at the Department of Economic Development & Tourism Mr. Rabelani Tshikalanke is the Director: Green Economy Programmes & Projects at the Department of Economic Development & Tourism (DEDAT), Western Cape Government, a position he has been occupying since November 2021. Mr. Tshikalanke is currently leading the municipal procurement component, working with the Municipal Energy Resilience (MER) Team in DEDAT, supporting municipalities to embark on the journey to procure electricity from the Independent Power Producers (IPPs). Mr Tshikalanke has 17 years working experience in government. He has previously worked for the Department of Minerals & Energy in the Energy Efficiency & Environment Directorate, the Department of Environmental Affairs in the International Climate Change Negotiations under the UNFCCC and as well as

Climate Change Mitigation Implementation Director. He also worked for the City of Johannesburg as the Head of Climate Change & Resilience. Currently, Mr Tshikalanke is also serving on the University of Johannesburg's Process, Energy and



#### Prof Chandima Gomes- Director: Centre of Excellence on High Voltage Engineering, Wits. Chair: Energy Storage Chapter SAIEE. BSc hon Phys, PhD App Phys, Fellow SAIEE, CE, Pr Phys (SA), C. Phys(UK). Chandima is a Distinguished Professor of High Voltage Engineering the Chair, ESKOM Power Plant

Engineering Institute-HVAC and the Director, Centre of Excellence on High Voltage Engineering, at the University of the Witwatersrand. He is a Chartered Engineer (UK); Professional Physicist (SA); Chartered Physicist (UK, SL); Fellow, South African Institute of Electrical Engineers. At present he is the Chairman of the Energy Storage Chapter of SAIEE. Chandima obtained First Class Honors Degree (BSc) in Physics, University of Colombo, Sri Lanka and PhD in Applied Physics, Uppsala University, Sweden / University of Colombo. He is ranked among the 2% highest performing researchers in the world in the field of energies by the Stanford University, USA in 2020 and 2021 and also a B1 rated scientist, NRF, South Africa. Chandima has published over 350 international research publications that include 138 journal publications, 211 conference publications and 20 books/book chapters. His publications have an accumulated impact factor of over 250.

## PANELLISTS SESSION 6: The impact of the 3 D's (digitization, decentralization and disruption) in a typical SA municipality DX electricity utility



#### Prof Dr Pathmanathan Naidoo - Visiting Professor of Practice (UJ), Specialist Consultant (Pat Naidoo Consulting) BSc Eng, MSc Eng, Phd, MBA Pr. Eng, FSAAE, FSAIEE, SMIEEE, MIET, MCigre Dr. Naidoo is Visiting Professor of Practice, University of Johannesburg, and principal member, Pat Naidoo Consulting. Dr. Naidoo's four decade industrial career was with the Electricity Supply Commission of South

Africa; from Engineer in Training to Non-Executive Director. He is a Fellow of the South African Academy of Engineers, a Fellow of the South African Institute of Electrical Engineers, a senior member of IEEE and a member of IET and Cigre. He is a registered professional engineer and a specialist consultant in electrical energy and power systems. His current research interests are in Sustainable Development as driven by the Green Economy and Industrial Revolution 4.0. Pat is on IEEE Board of Directors, Member of Ad Hoc Committee on Climate Change, Past President Member of SAIEE Council, Exco Member South African Academy of Engineers, Exco Member Cigre Southern Africa, Co-Chair– Energy on Expert Panel, South African Academy of Engineers



# DAVID RICHARD NICHOLLS - Professor of Practice, EBE, UJ. Co-Chair: IAEA Technical Working Group, Nuclear Power Plant Operations. *Pr.Eng., C.Eng., FSAIEE, MINucE, BSc(Hons), Dip.Nuc.* Mr Nicholls started his career in the Royal Navy, joining at the age of 17 in 1971. He gained his engineering degree and post graduate nuclear qualifications before serving as an engineer officer in nuclear submarines. He left the navy in 1982 to manage a small family manufacturing company for two years

before emigrating to South Africa in 1984 to join Eskom.
He arrived in Eskom as the Koeberg nuclear reactors were being commissioned and started his Eskom career in the Safety and Licensing section of the Nuclear Engineering department at head office in Megawatt Park. During most of his 34 years in Eskom, up to his retirement in December 2018, he remained in the nuclear field. He retired from Eskom as the Chief Nuclear Officer, responsible for all nuclear activities in the company.
The major highlights of David's time in Eskom were the creation and management of the Pebble Bed Modular Reactor (PBMR) project, the establishment of the corporate nuclear safety oversight organization and the technical leadership of the program for nuclear new build from 2007.
Since retiring in 2018 he has been a seasonal lecturer in Nuclear Engineering at the University of Witwaterseand. He was appointed as the Chairperson of the Board of the South African Nuclear Energy Corporation (NECSA) in January 2020 and in October 2020 he was appointed as a Professor of Practice in the Faculty of Engineering and the Built Environment by University of Johannesburg.
Internationally he was the Chairman of the IAEA Technical Working Group on Light Water Reactors from



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Esrom Mahlatsi Malatji received Masters degree from the University of Pretoria, Pretoria, South Africa in 2013. He is currently pursuing the Ph.D. degree at University of Johannesburg, Johannesburg, South Africa and where he held a position of a lecturer at the same University. He is currently an advisor to South African government on energy efficiency projects. His research interests are in the fields of Power Systems Optimization, Smart Grids, Smart Cities, Smart Utilities, Stochastic Programming, Electricity Markets and Transactive Energy.



#### Hans-Arild Bredeson – CEO: Bredesen Consulting, Associate: Nord Pool Consulting, Board member: NODES BSc Comp Sci. Hans-Arild has a BSc in Computer Science and has extensive international experience from various power market design and trading arrangements since 1992 where he was involved in developing the first market

systems at Nord Pool. Hans-Arild has been working supporting the power industry with consultancy, advice, implementation and IT services connected to the establishment, design, implementation and operation of both national and regional power markets in more than 20 countries/regions stretching from China and Japan via India and the Gulf region to Eastern and Southern Africa. Based on the experience from the Nordic market bundled with a broad international experience, he is able to provide assistance to market operators, regulatory authorities and system operators on how to implement a power market based on sound economics taking into account the local conditions. He has a detailed insight in all EU market regulations, not only from a theoretical perspective, but also from an implementation and operational perspective.

Hans-Arild has been one of the key partners in the development of the Southern African Power Pool (SAPP) for the last fifteen years and has been assisting the development of the new trading platform for SAPP. He currently supporting Eskom in its current transformation. Hans-Arild is the CEO of Bredesen Consulting and is an associate of Nord Pool Consulting (where he recently was the CEO). He is also board member of NODES, the European marketplace for trading local flexibility.