

# ENERGY STORAGE SYSTEMS



AFRICA CONFERENCE

24-25th NOVEMBER 2022

CTICC Cape Town, South Africa

BUILDING GRID RESILIENCE AND  
SUSTAINABILITY THROUGH  
INNOVATIVE BATTERY ENERGY  
STORAGE TECHNOLOGIES

IN PARTNERSHIP WITH



Many countries in Africa are looking for new solutions for achieving their green electrification goals and creating more resilience in the grid. Developing energy storage systems in the region could help these efforts, particularly by optimising the use of intermittent wind and solar power.

Energy storage is an integral part of reducing imbalances between energy demand and energy production. Energy storage involves converting energy from forms that are difficult to store to more convenient or economically storable forms.

## GLOBAL TRENDS IN ENERGY STORAGE



Energy storage is gaining traction around the world and could fundamentally change the electricity market dynamics. To understand these shifting dynamics, this conference will peer beneath the aggregate growth projections to examine how some of the more active nations in renewable development and grid modernisation are now approaching it. While the conference particularly focuses on battery storage, which is presently the leading technology, we also examine the motivation and the push for energy storage in these nations and what utilities and policymakers should be doing to define battery storage, develop storage markets, and support ongoing deployment.

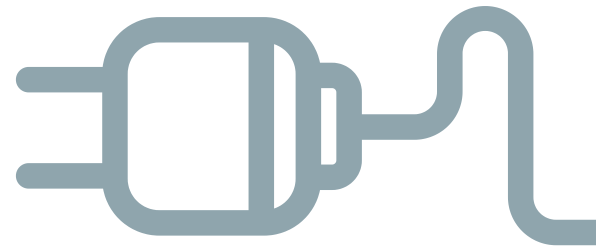
## BENEFITS OF ATTENDING

- **The conference will engage chemical engineers and researchers working in the fields of energy storage and conversion technologies to identify, communicate and explore current advancements in technology design.**
- **Gain insight into government and industry support for battery energy storage and plans to develop the technology further to increase grid flexibility.**
- **Discuss current and future demand for energy storage in Africa and battery energy storage's role in future energy systems in order to plan your energy storage strategies.**
- **Learn about the cutting-edge developments in stationary battery energy storage chemistries and materials to increase capacities and capabilities of your own systems.**
- **Hear global lessons learned from the latest battery energy storage projects and applications to take back to your organisation.**
- **Be a part of a discussion around the future of energy storage covering supply chain, investment and capacity challenges.**

# WHO SHOULD ATTEND?

The agenda will provide insights and innovations from energy industry leaders and facility managers of campuses and schools, commercial buildings, data centers, light industrial facilities, military bases, microgrids, critical facilities and other buildings and complexes.

- **Certified energy managers**
- **Facility managers**
- **Physical plant administrators**
- **Consulting-specifying engineers**
- **Institutional and corporate sustainability officers**
- **Policymakers**
- **Energy and building engineers**
- **Service providers**
- **Equipment manufacturers and distributors**
- **Business owners and other decision-makers**
- **Industry executives and researchers**
- **Power producers and resellers**
- **Power Utility Companies**
- **Investment and infrastructure banks**



## Brought to you by :





**Joanne Dean**  
**Board Member & Spokesperson | SAESA**

Joanne is a Board Member and spokesperson for SAESA, SAEED; Vice Chair SAIEE (Energy Storage Chapter) and Vice Chair of SAREC; Member of numerous Energy and Carbon Committees with Government on Renewable Energy, Storage, Decarbonization and GHG Targets and technical commission to Climate Change - all flowing into the Just Energy Transition. Jo has 18 years' experience in design and construction of process and flow control plants in the Mining Sector. In 2000, inspired by Attenborough, Bloomberg, Ban Ki-Moon and Figueres together with her intrinsic need to make a difference to the world, she joined the Chamber of Commerce overseeing government relationships and LED development, while furthering her studies in environmental engineering, specialising in waste, water and energy disciplines coupled to Carbon Reduction Project Development (Illinois & GHG Protocol). Armed with "practical experience and knowledge", the once "wannabe activist", evolved into a strategist in developing carbon reduction projects in the waste and energy spaces. She is currently driving decarbonisation project development, mainly in South Africa and the SADC Region. From the energy sector she is championing a nascent disruptor, Energy Storage in Africa, which has the greatest potential for unlocking value chains and localisation for Africa.



**Norman Moyo**  
**Group CEO | Distributed Power Africa**

Norman is currently the Group CEO of Distributed Power Africa, a pan African renewable energy and technology group. Having begun his career journey at Standard Chartered Bank, he moved into the telecommunications industry when GSM Technology was introduced in Africa by being part of Econet Wireless Zimbabwe team. Thereafter he moved to Celtel International as Commercial Director in Zambia before landing the job of Chief Marketing Officer in Nigeria. Norman is very passionate about impacting positive change in the African continent through sharing lessons that he has learnt throughout his career. This is evident in his book "Rumble in The Jungle, Leadership from an African Perspective" (2015), that gives vital business leadership insights drawn largely from his experiences.



**Dominic Goncalves**  
**Senior Associate | Cresco Group**

Dominic joined Cresco Project Finance in December 2021 to lead and develop Cresco's Net Zero strategy and Decarbonization Business Development and Consulting Services, and to lead the company's expansion into Europe. He has 12 years' experience in the clean energy sector, with an analyst and management consulting background and extensive experience working in EPC, IPP, project development and technology development. Dominic's former role at Abengoa, as Global VP for Decarbonization Solutions, gave him a strong focus on the commercialization and deployment of new clean energy and energy storage technologies to address climate change resilience and key experience in supporting global companies to reduce reliance on fossil fuels.



 **NORTON ROSE FULBRIGHT**

**Matthew Ash**  
**Head of Energy | Norton Rose Fulbright South Africa Inc**

Matt is head of the firm's energy group for Sub-Saharan Africa, whose focus is the energy transition to renewable and alternative energy sources, including hydrogen. Matt's key experience is in energy project structuring and implementation across all energy sectors and work streams, with extensive experience in project fuel supply (gas, coal, diesel, biomass, uranium), negotiation and conclusion of private corporate Power Purchase Agreements across various sectors, negotiation and conclusion of EPC and O&M agreements in renewable energy projects (all technologies), and waste-to-energy, thermal coal, gas, and nuclear power projects, PPP and private procurement of battery energy storage solutions, substation and transmission line construction agreements, and energy project compliance with the complex regulatory frameworks operating in the Southern African, East African, and West African regions.



**Marlize André**  
**Corporate Specialist | Eskom**

Marlize qualified as a mechanical engineer in South Africa in 2002 and is registered as a Professional Engineer with the Engineering Council of South Africa. Marlize's role within the South African Power Utility Eskom has advanced over 18 years to her current key role as a Corporate Specialist in Fire System Engineering. One of her key responsibilities for Eskom's portfolio which comprises of multiple power generating utilities and other commercial assets is to provide direction in relation to fire protection services, fire risk management and ensuring on going fire design governance is continually maintained to best industry practice within Eskom.



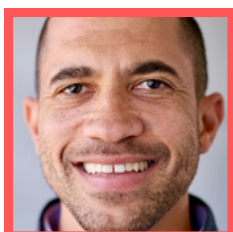
**Aamina Saloojee**  
**Renewable Energy Engineer | Zutari**

Aamina is a renewable energy engineer with a background in mechanical engineering. She has assisted in several renewable energy pre-feasibility projects, where tasks comprised of site prospection and layouts for solar PV plants and wind generation farms. She has conducted failure investigations and design reviews of solar PV trackers. She has most recently carried out market and technology research for utility-scale BESS applications and has assisted in site prospecting for BESS placement. Aamina is registered with ECSA as a candidate engineer.



**Florian Kroeber**  
**CEO | 3Energy Renewables**

Florian is the founder and Managing Director of 3Energy Renewables South Africa. In this position he is responsible for the management, operations and maintenance of over 800MW installed solar, wind, storage and hydro capacity. 3Energy has been operating in the South African renewable energy market since 2009. Florian has in-depth knowledge of all commercial and technical aspects of power plant operations.



**Victor Mallet**  
**Founder & Principal | Catalyst Energy**

Victor obtained his Bachelor of Science in Chemical Engineering from MIT and his MBA from the Stanford Graduate School of Business. He has over 12 years experience developing power projects in sub-Saharan Africa. Victor has been involved in the development of a pipeline of over 500MW of gas and renewable power across countries such as Mozambique, Malawi, Zimbabwe, DRC, Ghana and Nigeria. Over the course of his career Victor has helped close and bring into operation approximately 100MW of power projects. Prior to starting Catalyst Victor was Sales Director, Sub-Saharan Africa for APR Energy (world's largest mobile turbine provider) and prior to that was Aggreko's Mozambique Commercial Manager - overseeing over 270MW of cross-border power exports to South Africa, Namibia and Zambia. Since 2017 Victor has been developing renewable energy power projects in Malawi, including what would have been Malawi's first ethanol-to-power plant, and most recently the 21MW Nkhotakota Solar PV project on behalf of client Serengeti Energy.



**Frank Spencer**  
**Head of Deployments | Bushveld Energy**

Frank Spencer is a well-known Renewable Energy personality in the Southern African Renewable Energy Space. He currently is the Head of Deployment at Bushveld Energy, a vertically integrated Vanadium Redox Flow Battery (VRFB) company. He has a master's Engineering degree in Electrical Engineering as well as a Philosophy degree in Sustainable development. He is passionate about addressing the multi-faceted challenges of Climate Change, Rural Electrification and Poverty in Africa. He built his first solar project while still at school, and his first commercial grid-tied solar project in 2002. Since then, he has been active across all aspects of Renewables projects, from manufacturing to project EPC, to finance and business development, across the African continent. He now is working to promote deeper integration of Renewables into power systems using VRFB's.





**Barry MacColl**  
**Snr. Regional Manager | EPRI**

Covering Africa, Southeast Asia and Oceania, Barry is responsible for ensuring EPRI value is grown and embedded in the utilities and countries under his oversight. EPRI is focused on international growth and outreach in developing countries and the application of member as well as public funding streams to worthy projects. Barry joined EPRI from Eskom Holdings SOC Ltd., where he worked for 26 years where he finished his career as General Manager of the Research, Testing and Development Business Unit, the last position he held before joining EPRI in 2017.



**Gabriel Kroes**  
**Head of Engineering | Impower**

Gabriel is the Head of Engineer at IMPOWER, which provides Solar PV and Battery solutions of up to 30MW as distributed and embedded generation predominantly to the C&I markets. Gabriel holds over a decades' worth of experience within the broader energy space based in Cape Town. Gabriel has led several teams working on numerous asset management and engineering projects, energy efficiency projects and renewable energy and energy storage (battery) projects in Southern Africa and abroad. Gabriel led energy market research projects for the CTCN (UNDP) across 10 Southern African countries and was intricately involved in the sizing, site evaluation and modelling of the ESKOM battery project.

**07:30 Registration & Networking**

**08:50 Opening Remarks: Conference Chairperson**

**09:00 Florian Kroeber | CEO | 3Energy Renewables (30mins)**

Topic: South Africa's Readiness to operate and maintain distributed energy storage systems

- The planning, installation, and operation of this fleet of power plants
- Ability to maintain the infrastructure
- Measures to develop and service industry

**09:30 Joanne Dean | Board Member & Spokesperson | SAESA (45 mins)**

Topic: Wheeling and Battery Storage - Unlocking the Grid

- Grid implications of electricity generation
- Does the legal framework allow private generation and grid access
- What are the regulatory implications for Eskom, Municipalities, NERSA, Treasury, generators, distributors, traders and customers
- How does the generator create a bankable project and finance the generation facility
- Applicable rules regarding the conclusion of Wheeling arrangements and electricity reticulation

**10:15 Dominic Goncalves | Senior Associate | Cresco Group (45 mins)**

Topic: The impact of long duration storage and new storage technologies on achieving Net Zero targets

- Impact
- Duration
- Technologies

**11:00 Networking Tea Break**

**11:30 Matthew Ash | Head of Energy | Norton Rose Fulbright South Africa Inc (45 mins)**

Topic: Energy Policy, Economics, and Innovation

- Policy and procurement innovations
- Implementation of BESS projects, arising from lessons learned through the Risk Mitigation Programme.
- Lessons learned through the Risk Mitigation Programme

**12:15 Barry MacColl | Snr. Regional Manager | EPRI (45 mins)**

Topic Eskom BESS Assessment Case Study

- Analysis approach and methodology entailed a detailed technical assessment using actual system data and circuit models.
- An understanding of the configuration, control, operation, and the cost benefit of a BESS installed at identified substations.
- Short overview of alternate energy storage technologies EPRI is tracking.
- A free resource - The EPRI Energy Storage Integration Council (ESIC)

**13:00 Networking Lunch**

**14:00 Marlize André | Corporate Specialist | Eskom (30 mins)**

Topic: Battery Energy Storage Systems (BESS) Fire Prevention and Mitigation

- Fire Risk Management Considerations
- BESS Systems (Li-ion Batteries) and related Fires
- BESS Fire Codes and Standards
- Energy Storage Integration Council (ESIC) Energy Storage Reference Fire Hazard Mitigation Analysis

**14:30 Panel Session**

Panellists:

- Florian Kroeber | CEO | 3Energy Renewables
- Matthew Ash | Head of Energy | Norton Rose Fulbright South Africa Inc
- Dominic Goncalves | Senior Associate | Cresco Group
- Marlize André | Corporate Specialist | Eskom
- Joanne Dean | Board Member & Spokesperson | SAESA
- Barry MacColl | Snr. Regional Manager | EPRI

**15:15 End of Day 1**



**08:00 Registration & Networking**

**08:50 Opening Remarks: Conference Chairperson**

**09:00 Norman Moyo | Group CEO | Distributed Power Africa (30 mins)**

Topic TBC

**09:30 Aamina Saloojee | Renewable Energy Engineer | Zutari (45 mins)**

Topic: BESS technology readiness for utility-scale applications

- Versatile and large-scale energy storage
- BESS implementation is through the diversification of technologies
- Highlight of technologies considered "ready for use" in the South African utility-scale context.

**10:15 Victor Mallet | Founder & Principal | Catalyst Energy (45 mins)**

Topic: Battery storage assets integration

- Sub-Saharan case study
- Some potential models

**11:00 Networking Tea Break**

**11:30 Gabriel Kroes | Head of Engineering | Impower (45 mins)**

Topic: Case Study on two hybrid solar and battery projects

- Battery for off-grid farm
- Battery for head office of commercial bank
- Similarities
- Differences

**12:15 Frank Spencer | Head of Deployments | Bushveld Energy (45 mins)**

Topic: Introduction to Vanadium Redox Flow Battery (VRFB) technology

- VRFB use cases and South Africa Applications.
- SA Case Study: Vametco mingrid (3.5 MW PV + 1 MW/4MWh VRFB).
- Bushveld Energy's activities in localizing the VRFB supply chain.

**13:00 Networking Lunch**

**14:00 Panel Session (75mins)**

Panellists:

- Norman Moyo | Group CEO | Distributed Power Africa
- Aamina Saloojee | Renewable Energy Engineer | Zutari
- Victor K. Mallet | Founder & Principal | Catalyst Energy
- Gabriel Kroes | Head of Engineering | Impower
- Frank Spencer | Head of Deployments | Bushveld Energy

**15:15 Closing remarks & end of conference**

# REGISTRATION FORM

Company Name: \_\_\_\_\_  
Physical Address: \_\_\_\_\_  
Tel: \_\_\_\_\_ Fax: \_\_\_\_\_  
Post Code: \_\_\_\_\_ Country: \_\_\_\_\_  
Organization's main line of business: \_\_\_\_\_  
VAT Registration Number: \_\_\_\_\_  
Contact Person(Invoice): \_\_\_\_\_  
Position: \_\_\_\_\_  
Tel: \_\_\_\_\_ Cell: \_\_\_\_\_  
Email: \_\_\_\_\_

## AUTHORISATION

Full Name: \_\_\_\_\_  
Position: \_\_\_\_\_  
Tel: \_\_\_\_\_ Fax: \_\_\_\_\_  
Email Address: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Date: \_\_\_\_\_

**Please note that this registration is invalid without a signature.**

## Delegates Details 1

Full Name: \_\_\_\_\_  
Position: \_\_\_\_\_  
Tel: \_\_\_\_\_ Cell: \_\_\_\_\_  
Email: \_\_\_\_\_

## Delegates Details 2

Full Name: \_\_\_\_\_  
Position: \_\_\_\_\_  
Tel: \_\_\_\_\_ Cell: \_\_\_\_\_  
Email: \_\_\_\_\_

## Delegates Details 3

Full Name: \_\_\_\_\_  
Position: \_\_\_\_\_  
Tel: \_\_\_\_\_ Cell: \_\_\_\_\_  
Email: \_\_\_\_\_

Please re-print this form when registering more than 3 delegates

## REGISTRATION FEE

R 8 990.00 vat exclusive

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Bank Transfers must state conference name  
Standard Bank: Milnerton Branch  
Account Name: MILLA SA  
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ALL PAYMENTS TO REFLECT INVOICE NUMBER  
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