

South African Energy Storage Association (SAESA) Annual General Meeting (AGM)



AGM and Board of Directors' report

7 December 2022

Contact: secretariat@saesa.org.za
www.saesa.org.za

Agenda for today's AGM

- 1) Welcome**
- 2) Introduction of attendees**
- 3) Chairpersons' report on 2022**
- 4) Financial and Treasurer's report**
- 5) Spokesperson's report and feedback**
- 6) Election / re-election of Board members**
- 7) 2023 Priorities**
- 8) Opportunity for any member to table new business**
- 9) Next steps and wrap-up**

Regulatory compliance

The South African Energy Storage Association (SAESA) is committed to strict compliance with all laws and regulations, and to the highest ethical standards in the way we conduct our operations. This includes strict compliance with antitrust laws, to protect and enhance our country's free, competitive economy.

Compliance with the antitrust laws is a serious business. Antitrust violations may result in heavy fines for corporations, and in fines and imprisonment for individuals. While SAESA may provide guidance on antitrust matters, you bear the ultimate responsibility for assuring that your actions comply with the antitrust laws. You must avoid any discussions or conduct that might violate or even appear to violate the antitrust laws. The following guidelines will help you do that.

Information which companies must not exchange at Association meetings includes but is not limited to:

- Information or agreements on prices, price components, discounts, pricing strategies or price calculations or planned price changes;
- Terms of delivery or payment and any other contractual provisions in contracts with customers/suppliers provided they have competitive implications;
- Information on business strategies or on current or future market behaviour ("signaling");
- Information not yet lawfully published concerning current business developments or business expectations (in particular sales/turnover figures), even if such information provides no indication of the market position of individual products;
- Information on profits, profit margins, market shares or planned investments which is not in the public domain;
- Information on internal research and development projects;
- Information allowing coordinated action vis-à-vis players on the other side of the market (customers or suppliers), in particular relating to offers to third parties (for example, if parties respond to a call for tenders: which lot to tender for; degree of interest in winning the contract);
- The division of geographic or labour markets or sources and express or implied agreements on supply, purchase or other boycotts of specific companies.
- Demands from customers or suppliers including the company's own response to these or the response of competitors;
- Verification of information received from a customer or supplier;
- The joint discussion and analysis of statistics permitted pursuant to item a) above, in particular the disaggregation of aggregated data.

1. SAESA seeks to guide policy to allow for the accessibility of storage projects and advocate and advance the energy storage industry in SA

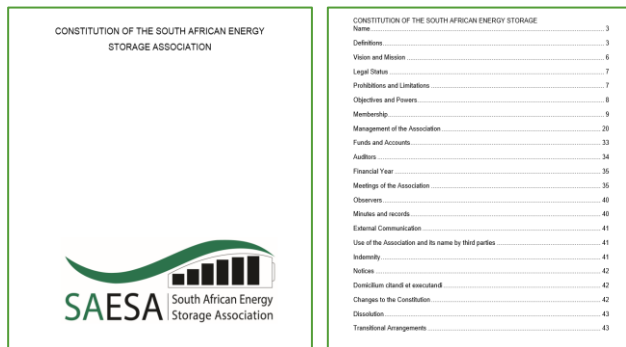
SAESA's mission and vision are supported by its constitution

The SAESA Vision:

1. Guide policy to allow for the accessibility of storage projects;
2. Advocate and advance the energy storage industry in SA.

SAESA's Mission:

3. Create a more resilient, accessible, efficient, sustainable, and affordable energy system in Africa.
4. Educate stakeholders, advocate for public policies, accelerate energy storage growth, and add value to the energy storage industry.



Objectives and Powers under SAESA Constitutions

The Association aims to promote Energy Storage in South Africa and Africa and to assist its Members in their business development in these markets by:

- Representing the Energy Storage Industry before political institutions in all forums within South Africa and assisting in an advisory role within the Southern African Development Community region and other African regions when requested to do so;
- Informing its Members on the latest legislative developments;
- anticipating legislation having a potential impact on the sector;
- Advising key decision makers on the most adequate policies to develop a sustainable Energy Storage Market;
- Mobilising the sector by way of working groups and workshops to define clear positions representing the views of the majority of the industry on political, technical and economic issues;
- Promoting a higher usage of the technology in the public and private sectors;
- Facilitating business-to-business contacts among industry stakeholders;
- Supporting national organisations in achieving their local objectives;
- Coordinating with other energy industry groups on increasing awareness and proactive interventions from government stakeholders around common issues; and
- Organising conferences where energy storage has strong potential and requires additional support.
- Liaising with energy storage organisations from other geographies to both export and import best practices in terms of policy, standards and market engagement;
- In pursuing its objectives, the Association shall have such powers as are normally associated with an *universitas personarum* under the common law of South Africa.

2. Introductions

Could all the participants on the AGM identify themselves and whom they represent, please?

3. First, I would like to thank the current Board for its efforts during the past year, with up to three seats up for (re)election at this AGM



Avesh Padyachee



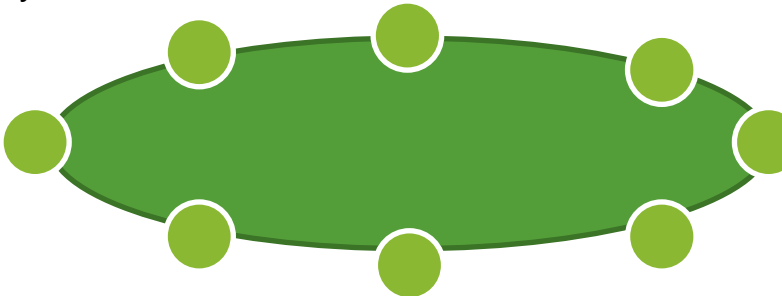
Hiten Parmar



Sherwin Harris



Chairperson:
Mikhail Nikomarov



Theo Fischer

**Communication
Officer:** Jo Dean



Treasurer: Davin
Chown



Paul Vermeulen



3. Also, I would like to acknowledge our growing association of 151 members (1/2)

SAESA membership overview:

- 151 current members, primary in Gauteng and Western Cape;
- 49 Full members; 44 Ordinary member; and 58 non-voting Associate members;
- Members are quite diverse, including municipal power utilities, large multinational corporations, South African firms and private individuals;
- Membership is open to everyone.

Full Members

Bushveld Energy
GE Power
RH (Pty) Ltd
2ia
City Power
Sinotech
Solareff (Pty) LTd
Engie
Eskom Holdings SOC Ltd
TAM Holdings (Pty) Ltd
DNV-GL South frica (Pty) Ltd
Touch Point Energy
Juwi Renewable Energy (PTY) LTD
Mbhe African Power (PTY)LTD
Alcon Marepha (PTY)Ltd
Enerj Carbon Management
First National Battery (Pty) Ltd
B & W Spig South Africa (Pty) Ltd
Journey 2 Green (Pty) Ltd
Grupo Gransolar SL
Aviant DCM (Pty) Ltd T/a ZPN Sub-Sahara Africa
Solar S SA (Pty) Ltd
Fuel Fusions (Pty) Ltd
ESESG (Electrical and Solar Energy Solutions Group

G7 Energies
Infinite Cabling (Pty) Ltd
ESESG - Electrical and Solar Energy storage solutions group
G7 Energies
Off Grid Europe
Arena Group (Pty) Ltd
Skylar Gray Construction and engineering Solutions (Pty) Ltd
Sai Tech Industries and control systems (Pty) Ltd
Jendustries CC
Chase Tech Pty Ltd
NX Industrial (Pty) Ltd
Rivoni Matimba (Pty) Ltd
MK Solar
BNK Solar (Pty) Ltd
Barloworld Power (Barloworld South Africa)
Aqora (Pty) Ltd
NECSA
L C Handyman CC
Amperehour solar Technology Private Limited
Green revolution energy
Evagifted Projects (Pty) Ltd
GEC Power projects T/A Global engineering and consulting (Pty) Ltd
ZettaJoule Energy Storage (Pty) Ltd
BTE Renewables

As of November 2022

3. Also, I would like to acknowledge our growing association of 151 members (2/2)

Ordinary Members

Age Tech	Tara Jaan Designs CC
Shanti Solutions	ARB electrical wholesalers (Pty) Ltd
Fibron	Acirbe Euloge Madzou
EScience	Equitech Solar (Pty) Ltd
TMEC	Nkululeko Skunana (Eskom)
Static Power	Balla Masemola
New Earth Energy	HIS Markit
Sola Build (Pty) Ltd	Catalyst Energy
Sizana Solutions (Pty) Ltd	Change Metrics
Reclite SA (Pty) Ltd	Singenile Group (Pty) Ltd
Uyilo emobility Programme	Delta Electric
TNEI Africa (Pty) Ltd	Lamocorp (Pty) Ltd
Altum Energy	Lebel Tribe (Pty) Ltd
BASF South Africa (Pty) Ltd	Solar Energy Professionals Corporation
Oryx Renewables	Worklife Consulting CC
Harmattan Renewables (Pty) Ltd	IPD Electronics
UL VS South Africa (Pty) Ltd	Boom Organix (Pty) Ltd
Effectual Energy Consultants (Pty) Ltd	Paulus Tangeni Tjakula
Mmalewane Modibedi	Martin Calitz
KayaBona Trading (PTY) Ltd.	AOT Consulting
Green Hydrogen Solutions (Pty) Ltd	Mulilo renewabe project developments (Pty) Ltd
Torinet (Pty) Ltd	LiFePO ₄ WER

Associate Members

Clyde Mallinson	Clean Horizon Consulting
AIM	Renew-e Gas and Power Projects (Pty) Ltd
World Bank	Trans-Africa Projects (Pty) Ltd
Gcali	Jason Crawford
Trenex	Mars Energy (Pty) Ltd
Mathew	Inkanyezi Facilities Management (Pty) Ltd
Mpho Moiane	Green Dome Capital (Pty) Ltd
Green Cape	Ms. DM Rasodi
Sterling & Wilson	Lindon Corporation (Pty) Ltd
Archer Kilpatrick	Sastrugi Business Consulting (Pty) Ltd
Max Maximum Group	Oloff Marais
Badisang Bakwena	HCS Solar Solutions (Pty) Ltd
Sakisa Energy and Technology Group	Peniel Impact CC
Solar Rais (PTY) Ltd	Roypow Technology co Ltd
Grupo Cobra South Africa	Leafy Space
Rhyno Herman Lemmer	Roypow Tech nology Co Ltd
Solarium Energy (Pty) Ltd	Thulaganyo Tshugane
The Big Battery Company CC	Blackdot Energy (Pty) Ltd
Tala Solar Enterprise (Pty) Ltd	Hivolt Consult (Pty) Ltd
AutoX (Pty) Ltd	Peter Mwesiga
Ewaste Africa (Baclan Energy (Pty) Ltd)	Hyosung Heavy Industries Corporation
Soweto Solar Shop (Pty) Ltd	Zest Weg Electric (Pty) Ltd
City Power	Swazi Projects (Pty) Ltd
Abosede Alao	Nedbank
Altgen	Black pool Energy
Silolile (Pty) Ltd	Xcede Group Enterprise
Moore renewable energy project (Pty) Ltd	Gen Sun Power (Pty) Ltd
Shenzhen Clou Electronics Co. Ltd	Kibo Energy
Divergent Softsolutions (Pty) Ltd	Solar 8

As of November 2022

3. Next, I would like to talk about the ESS market, along three segments

- A. Residential**
- B. Commercial & Industrial**
- C. Utility**

3A. South Africa's unique combination of great sunlight, significant economic activity and deteriorating fossil fuel power grid is creating a massive need for energy storage

Challenges

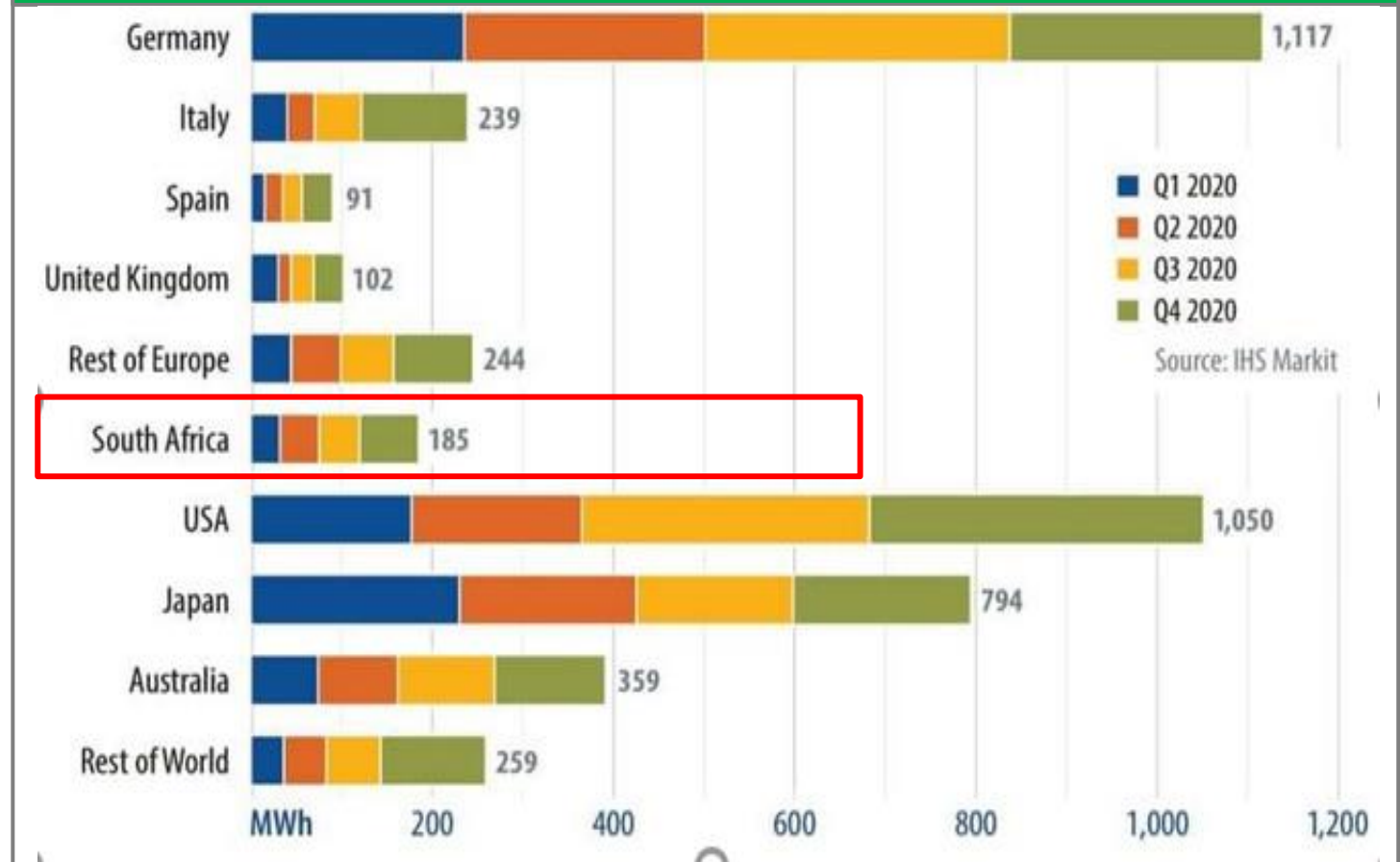
- Deteriorating power grid, leading to rotating forced load curtailment
- Coal dominated power system that will need to transition to renewables

Opportunities

- Some of the best primary solar and wind resources in the world
- Significant economic activity, especially in mining
- Easing regulatory environment, including unbundling of power monopoly, IPP procurement and removal of limits on generation

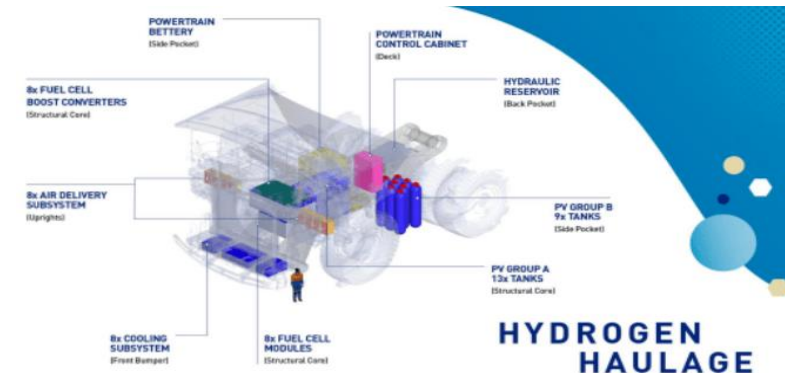
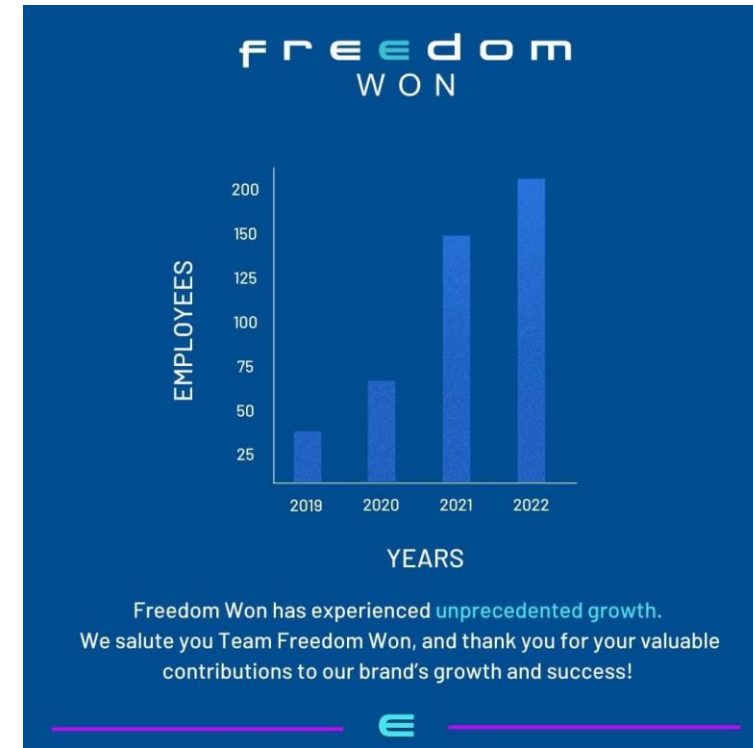
In 2020, South Africa was the 6th largest residential battery market

Quarterly residential energy storage shipments, MWh, 2020



3A. This is leading to some success in local assembly and manufacturing

- Companies are also taking advantage of some of the market opportunities for investment and development along the integrated battery value chain (upstream and downstream) – not just in the deployment of the technology
- These include
 - SolarMD,
 - Freedom Won,
 - Blue Nova
 - AngloAmerican
 - Bushveld Energy



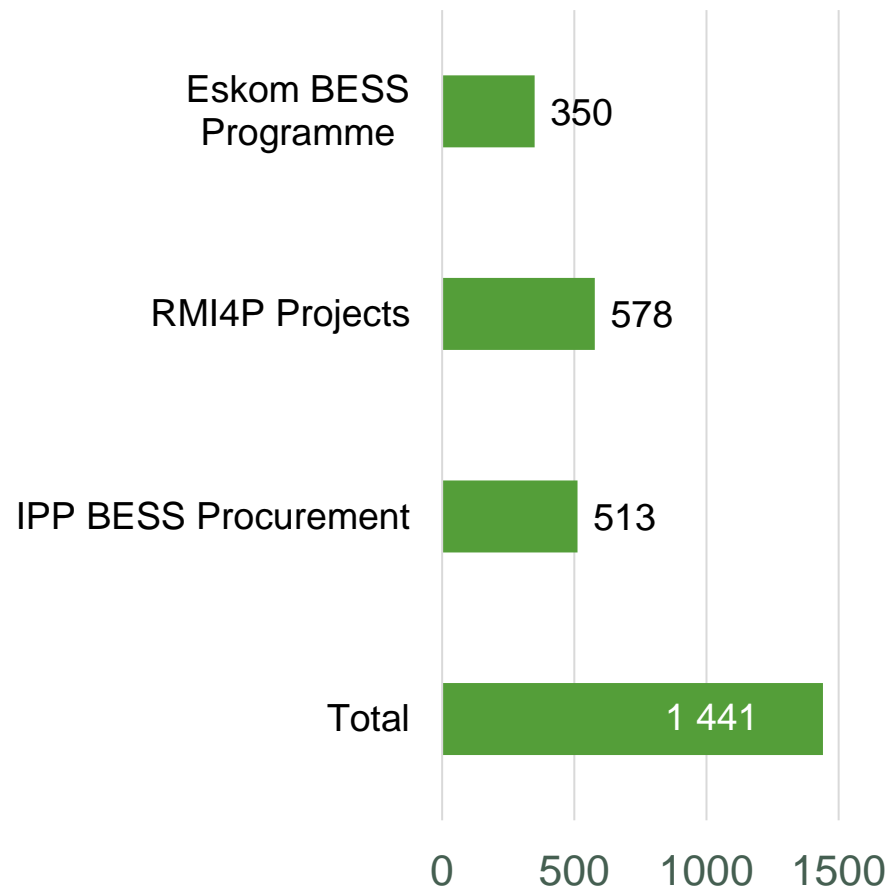
3B. The SA C&I sector has lagged but is poised to growth due to less regulation

The C&I ESS sector is poised to explode in the next 2-5 years for multiple reasons

- Grid supply issues and cost increases have led every electricity consumer to consider self supply options (especially solar PV), with storage being the next logical step;
- A time of use tariff exists and features 5 hours of peak time tariffs spread over a 3-hour period in the morning and 2-hour period in the evening;
- Regulatory change:
 - Until recently, C&I customers unable to deploy sizable self-generation or BESS due to a 1MW generation license cap that applied to storage. The cap has been increased to 100MW already and is planned to removed altogether;
 - The national utility, Eskom, is being unbundled into three entities: Generation, Transmission (including the ISO) and Distribution;
 - A framework for wheeling has already been approved at the national / transmission level and is being developed at the municipal / distribution level;
 - The gird code for BESS was recently drafted.

3C. The utility ESS market is already taking off, however

Expected or existing utility scale storage procurement in South Africa during 2021-2022, MW



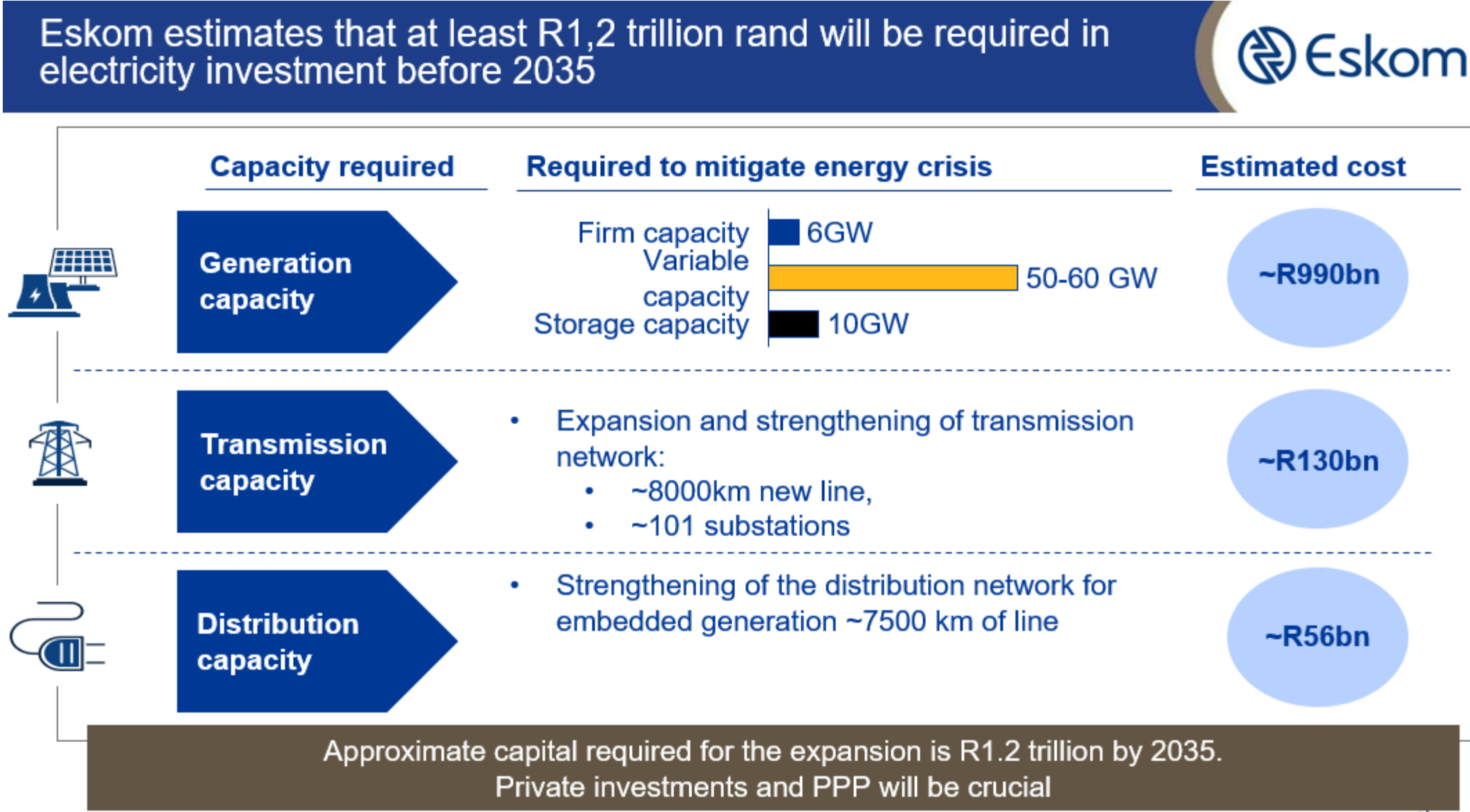
- SA utility ESKOM awarded in April 2021 for 163 MW / 787MWh as part of a World bank funded BESS programme;
- A further ~180 MW is expected in late 2022 / early 2023
- 7 projects featuring a total of 578MW in battery storage co-located with Gx assets were awarded
- 3 have been signed with over 1,140MWh of LFP storage
- ESS-specific IPP round announced, originally expected in H2 2023 by Department for Mineral Resources for 513MW
- Duration of BESS unknown
- A total of over 1400 MW of utility scale storage is could be contracted in SA alone in 2022 – 2023
- Most is likely to be installed during 2023 - 2025

Excludes the significant untapped need for ESS by municipal networks

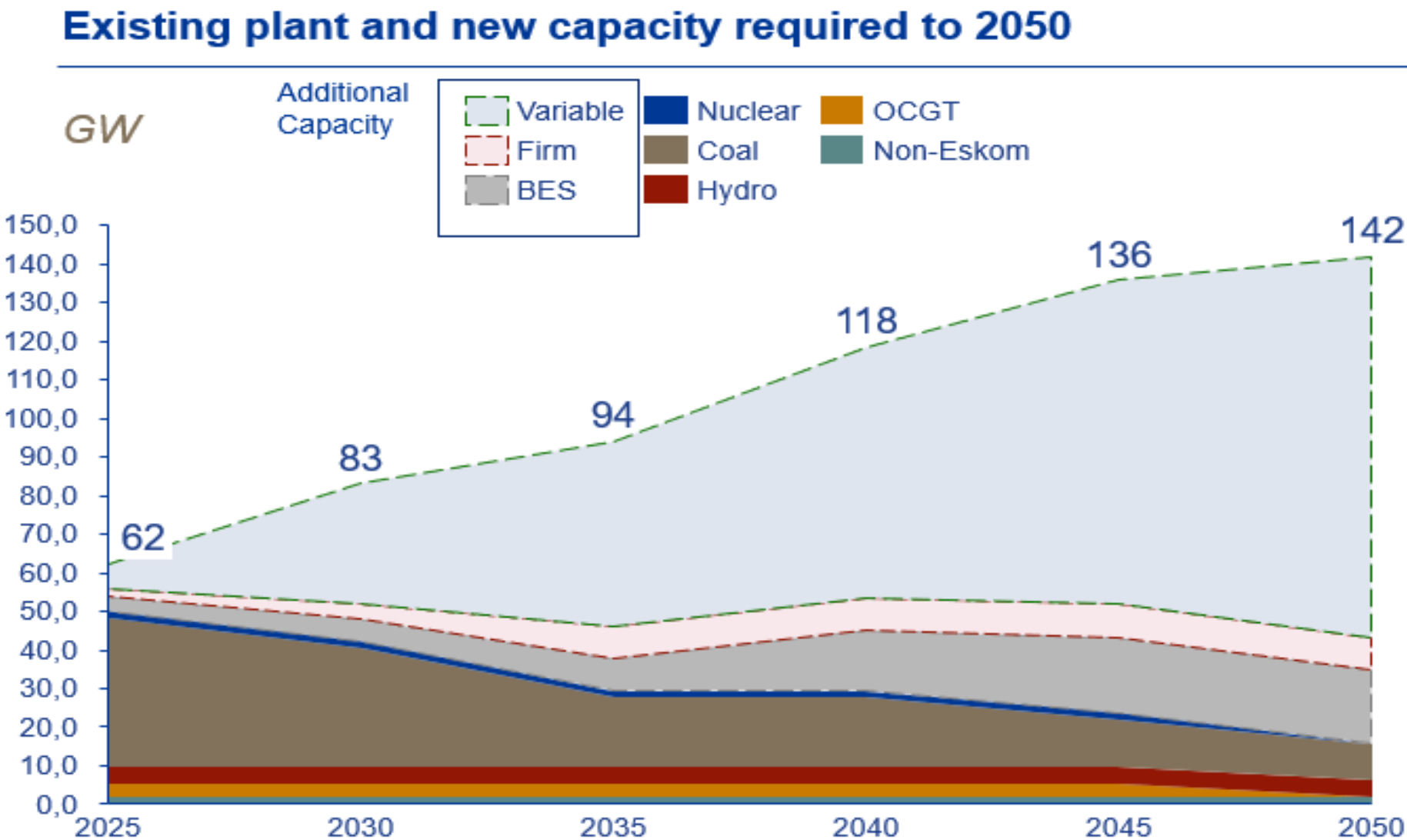
3C. While Eskom has already awarded ~163MW it still to tender for 180MW of BESS ranging from 4 to 5 hours in duration



3C. Eskom is noting a storage requirement of 10GW by 2035



3C. By 2050, Eskom estimates it will need 20GW of battery storage m is noting a storage requirement of 10GW by 2035

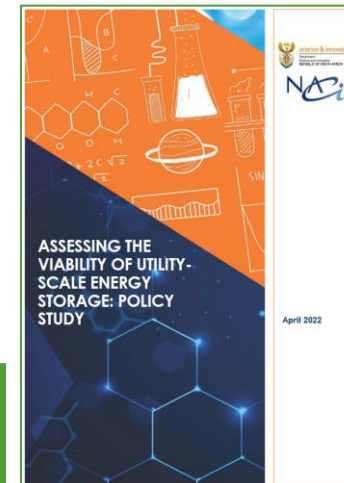
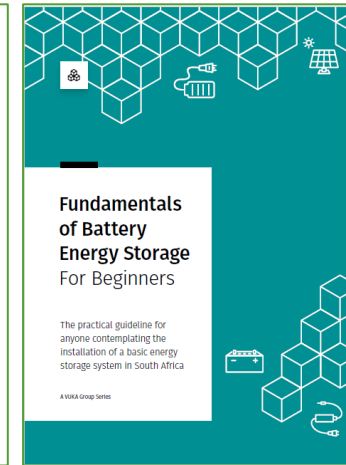
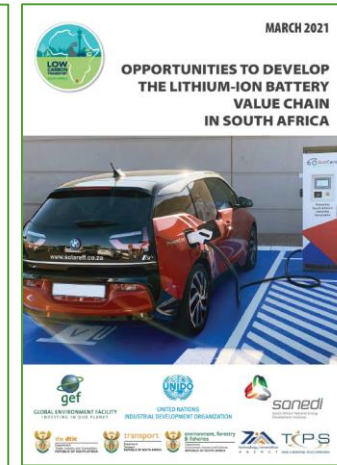
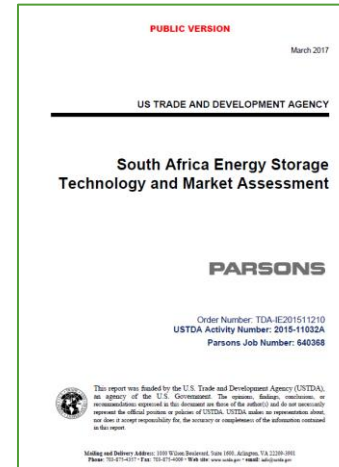


3. More information and studies on ESS in South Africa exist, although these still trail what is available for PV or wind

Reports on ESS in South Africa

- 2017: IDC and USTDA funded “South Africa Energy Storage Technology and Market Assessment”
- 2021: TIPS study on “Opportunities to Develop the Lithium-ion Battery Value Chain in South Africa
- 2022: National Advisory Council on Innovation did a report on storage but this has not yet been made public
- 2022: Fundamentals of Battery Energy Storage
- 2022?: World Bank has funded a study on “Battery Value Chain Development” in South Africa, but it is still not made public
- 2023?: TIPS has been engaged by DTIC to do an assessment on vanadium-based energy storage in South Africa; however, it is not completed

Gaps remain in being able to communicate to SA decision-makers the social and economic value of ESS



3. The treatment of ESS in the IRP2019 was imperfect and is a focus area for SAESA with DMRE

- The IRP is envisioned as an evolving document, and **the IRP must be updated every 18 to 24 months**. This is especially important for energy storage, whose **improvement in costs and technical performance are more rapid** than other electrical energy technologies.
- When the next iteration of the IRP is developed, several additional factors must be considered:
 - The **IRP needs to value more benefits of storage** than it currently does. This could be done by expanding the capability of the IRP model to include spatial modelling for low and middle voltage networks or by commission a study of the benefits of storage beyond system balancing and capacity support. Specific examples of currently unaccounted benefits of storage include:
 - a. **Offset or optimisation of transmission infrastructure costs**, including network stability and expansion deferral;
 - b. Stability, lowered technical losses and expansion **deferral** within Eskom and municipal **distribution networks**;
 - Energy storage should be treated and modelled as **its own class type and not as generation**. Storage is a net consumer, not a net producer of electrical energy. This requires capacity planning for storage to **include both power (MW) and energy (MWh) capacity metrics**;
 - With over **3 million South Africans without access to grid-based** electricity, the role of storage should be highlighted as a means to **provide “round-the-clock” energy access** by strengthening and expanding off-grid and micro-grid options;
 - More **storage technologies should be included among the areas for further “Research and Development,”** with only hydrogen mentioned in the 2019 IRP. This will enable South Africa to compete in the global opportunity for storage technologies, grow new industries and **support a Just Energy Transition**.

3. We are still seeing some unrealistic approaches to storage in policy discussions

South African Renewable Energy Masterplan

- Needing a plan for energy storage, the DTIC added it to the scope of SAREM after the SAREM process had already started, creating a much lighter touch on ESS in SAREM than for solar and wind technologies
- A plan focusing on renewable energy is not ideal for ESS because
 - Storage supports and benefits all Gx technologies, as well as Tx and Dx
 - Essential interfaces were missing for ESS, including the automotive sector, mining and hydrogen planning
- The limited data in SA on ESS and the nascency of the sector overall also reduced the ability of SAREM to have the same level of granularity as it did for wind and solar

**South African
Renewable Energy
Masterplan (SAREM)**

NPC proposal for 5GW of ESS in 2 years

- “NPC has proposed that the country declare an “energy emergency” to enable the swift construction of 10,000MW of generating capacity and 5,000MW of energy storage to end load-shedding within two years.”
 - 5,000MW of energy storage is a lot. It is equivalent to 42% of global energy storage installation from 2021.
 - For comparison, the 10 GW target for new generation is 3.6% of all 2021 global PV and wind installations.
- The plan would put a nearly insurmountable pressure on supply chains globally (not just locally)



3. In reviewing 2022, I want to note a few other achievements

- Membership growth of over 100% since last year
- Remained involved in the energy sector development and policy dialogues in our country, with presence in all the major forums, including one of the three associations participating in the SAREM (although added late)
- Joined the Energy Council of South Africa
- Continued and deepened our partnerships in the sector, such as storage day at the Enlit Conference and supporting the creation of a “The practical guideline for anyone contemplating the installation of a basic energy storage system in South Africa.” We are still part of the World Bank Energy Storage Partnership.
- Relaunched the SAESA website
- Dedicated significant time and attention to improving some of our internal processes, which is not easy for an organisation with a minimal budget and supported primarily by volunteers

If you or anyone in your organisation has some capacity and desire to support the SAESA efforts, please let us know

4. SAESA budget and financial status (1/2)

2021/22 Key Observations & Challenges

1. General economic uncertainty & slow recovery in Government energy procurement BUT private market uptake growing – funding opportunities to demonstrate success stories
2. Value proposition for an association membership – need more motivation (do we increase fees to ensure we achieve our objectives – conversely can we afford not to?)
3. Funding fatigue - yet clear understanding that more capacity needed in associations
4. Donors / funders more demanding in terms of levels of engagement, reporting, understanding of outcomes that need to be achieved (means we need more long term funding sources)
5. Lack of capacity in government in the area of storage knowledge means more engagement, more consistently = more funding for these activities = MORE IMPACT FOR MEMBERS
6. Low capacity means we need to draw off more volunteer resources to make the impact we need e.g. SAREM process & need for better research and ongoing engagement BUT we need to fund the programmes in order to have more impact

4. SAESA budget and financial status (2/2)

Key Expenses for FY 2022/23

- Balance as @ 31 November: R 118 823.10
- Outstanding fees owed to SAESA: R 214 563.18
- Outstanding Payments (2022): R 158 317.25
 - BUSA - R100 000.00
 - Admin - R 46 460.00
 - Domain - R 1 857.25
 - Refund R 10 000.00
- Current membership: 151 members
- Fee Projections 2023 based on paid-up :
 - 48 full members @ 5500.00: R 264 000.00
 - 44 Ordinary members @ 1800.00: R 79 200.00
 - Fee recovery @50% R 108 000.00

Provision for costs (2023)

- Bank charges (pa): R 1 200.00
- Admin & secretariat costs (pa): R 85 000.00
- Computer , internet, IT R 3 500.00
- Programme officer R 280 000.00
- BUSA / EC R 100 000.00
- Education, lobbying R 150 000.00

Priorities

1. Recover outstanding fees
2. Sign up new members
 - a. 15 full members
 - b. 25 ordinary members
3. Secure corporate anchor sponsors
4. Fund core programmes – information dissemination / education; research to support legislative change, localization work, SAREM updates – use of core funding institutions allocations/provisions/partnerships
5. Support legislative reform via sector partnerships (BUSA, Energy Council)
6. Build internal capacity: (a) finance / admin / accounting & (b) organizational capacity building, programme officer (P/T)
7. Based on current provisional programme and needs we will need approx. R 700 000.00 minimum

5. Spokesperson's feedback

There is a new horizon for Energy Storage that is now clearly in South African Sights and it's a very attractive one. With the anticipated liberalisation of the South African power industry, the new BESS Grid Code is a prime signal to all industry players that the market for BESS is open.

The drive to ensure that overall stability and long term sustainability of the power system can be maintained and coordinated is on. and Energy Storage is now a key player in the SA Energy Solution Mix.

The energy landscape in South Africa is transitioning and new green and renewable energy technologies will have a key role to play. Enabling a sound and fair regulation and acceptance of these new technologies, such as energy storage solutions, is indispensable to the market from a supply and demand focus.

SAESA is driven now to create this interaction space off our platform. From our stakeholder engagement to unlock policy and legislation to overcome hurdles to enable the Industry.

How are we going to effectively optimise this in 2023 for the benefit all members and other role-players ?

The sheer driver is that Storage is now centre stage in SA minds and no longer in the wings, and we need you to come join us to unlock this further. The following have been committed and secured for SAESA:

- A seat on the SAGC
- A larger contribution role in SAREM and also on the Oversight Committee
- Seat on the committees from BUSA and related organisations allowing us representation at NEDLAC
- Representation on the technical working group of Presidential Climate Change
- Representation on the Presidential Working Group for Woman in Energy, with a stream focussed on Storage Sector
- Partnership with Ren power for all initiatives , shows and Webinars for 2023 and main anchor for the Storage Show
- A full day at Solar Power Africa in Feb dedicated to Storage
- Partnership with Milla for the launch of the Energy Storage Shows
- Our big partnership with Vuka for the Enlit show, representation in ESI and a myriad of offers

This is merely the tip of the ice berg as we catapult into 2023 as a force to be reckoned with, and take our place as leaders in the power sector.

6. Election of Board Members

1. Available board member positions

- 3 (three) board positions are available on the Management Committee
- The term of office for each board member is 2 years
- The following board members are eligible for re-election to the Management Committee
 - Mikhail Nikomarov
 - Jo Dean
 - Sherwin Harris

2. SAESA nomination process of board members

- On 25 November 2022, SAESA called for nominations from its members to consider new board members
- Other than the 3 existing board members, one other written nominations was received: Jamila Ally Kombe
- The 3 existing board members have agreed to be considered for re-election

3. Voting Procedure

- Outcome of the votes are determined by simply majority of the SAESA members
 - Please send an email to secretariat@saesa.org.za by 16 January 2023 Please include your Name, Company name and confirmation that you have paid your fees to SAESA.
 - Outcomes of the voting process will be circulated to all SAESA members by 27 January 2023.
- Full members (2 votes/member) and Ordinary members (1 vote/member)

7. Proposed 2023 Priorities

- a. Continue success of stakeholder engagement
- b. Fund a full-time resource
- c. Grow SAESA membership and catch up on existing financials
- d. Help develop ESS Environmental Policy
- e. Ramp up education and dissemination at tradeshow and forums
- f. Revitalise activity of technical sub-committee
- g. Build database of ESS case studies in South Africa
- h. Expand offering on website content and SEO

Are there any additional ideas and priorities from members?



8. Any other business

Would any participant like to table any other topic for discussion today?



Thank you for your participation in the AGM



Contacts

Secretariat (all queries, communications) - secretariat@saesa.org.za

Mikhail Nikomarov, Chairperson – mikhail.nikomarov@bushveldminerals.com

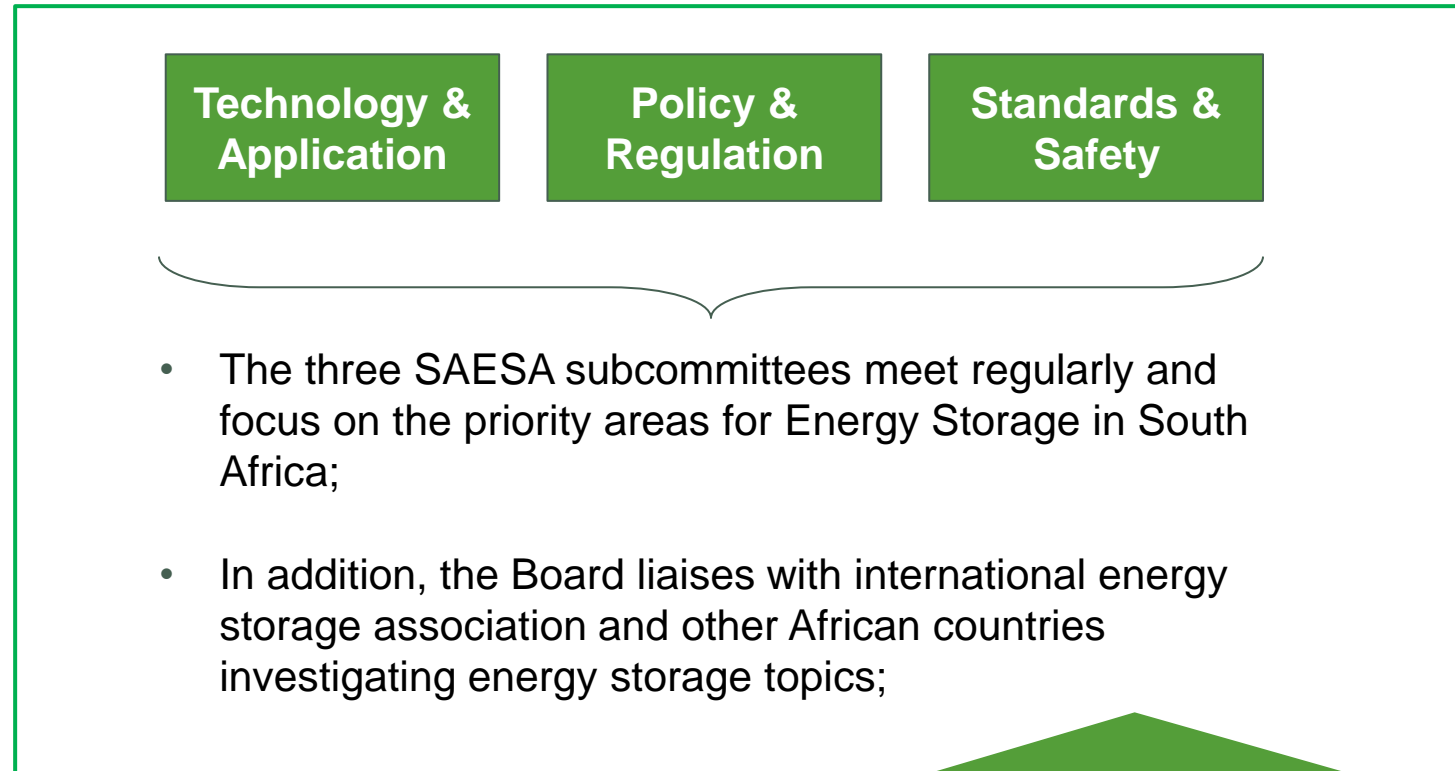
Jo Dean, Deputy Chairperson – joanne@enerj.co.za

Davin Chown, Treasurer – davin@genesis-eco.com

www.saesa.org.za

Appendix

1. Our activates are driven through three sub-committees



Partnerships

- World Bank – SAESA is a founding member of the World Bank Energy Storage Partnership (ESP) and one of only three members in Africa.
- SAREM – SAESA is one of three participating associations in the DTIC's South African Renewable Energy Master plan process (with SAWEA and SAPVIA), although SAESA believes storage impacts more than just renewable energy.
- Business Unity South Africa (BUSA) – SAESA is on multiple subcommittees, including Energy and Trade

If you know of others interested in joining our efforts, there are multiple options

Description of membership types as per SAESA constitution

Full member

- Financial contributor to the Association – 2021 annual fees of R5500
 - Carry the most voting weight in decision-making process of the Association
-

Ordinary member

- Contribute financially a lesser amount than a FM to the Association – only R1,650 for 2021;
 - Meet all other eligibility criteria for membership as a full member;
 - Ordinary Members' votes shall carry less weight than Full member votes
-

Associate

- Participate in and stimulate any discussions or debates that arise in any meetings of the Association
 - Do not contribute financially to the Association
 - Do not vote, or otherwise participate, in any decision-making process;
 - Do not have seats on the Management Committee;
-

Observer

- Open to all individuals who have an interest in the activities of the Association;
- Have limitations in terms of no voting rights, limited access to information, limited opportunities to participate in and stimulate discussions or debates that may arise in any meeting of the Association, and have no seats in the Management Committee;
- Do not contribute financially to the Association