SED 2022 REPORT

THE FUTURE IS HERE.

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EXECUTIVE SUMMARY

Sustainable Energy Days 2022, the maiden edition was organized by Sustainable Energy Days Africa, a platform for knowledge exchange, policy advocacy and stakeholder collaboration on everything sustainable energy technology in Africa.

The goal of the pioneering team was to inspire new thinking through knowledge sharing on six major sectors related to sustainable energy technology development in Africa namely; power, hydrogen, electric mobility, energy storage, financing energy and smart cities.

This industry event was initially planned to be an in-person event in Lagos, Nigeria. However, it went on to become a successful global virtual event bringing together more than 200 delegates from over 10 countries.

To drive the expert knowledge conversations, over 20 industry leaders were invited as guest speakers from Nigeria, South Africa, Norway, United States of America, Germany, India and the United Kingdom.

The report details a summary of the discussions from the forums and potential plans for next year, 2023.

ABOUT SEDA

Sustainable Energy Days Africa (SEDA) is a platform for knowledge exchange, policy advocacy and stakeholder collaboration on sustainable energy technology and related sectors in Africa bringing together sustainable energy experts, enthusiasts, companies, startups, investors, policy leaders and everyone working towards the energy transformation in Africa.

AIMS & OBJECTIVES

1. Become a platform for knowledge exchange and collaboration for sustainable energy technologies in Africa.
2. Be the go-to brand for Africa's energy transformation progress in multiple sectors.
3. Inspire indigenous innovation and encourage adoption of local solutions.

VISION

To be the most captivating, informative and collaborative platform to promote sustainable energy technology adoption in Africa.

MISSION

To organize and host annual sustainable energy technology events where action-provoking conversations and connections are made.

VALUES

Excellence, Partnership, Action.

STRATEGY

1. Invite leading sustainable energy technology companies, experts and enthusiasts across the globe.
2. Introduce trending technology and social topics as it relates to the energy transformation in Africa.
3. Create space for the showcase of latest technologies and innovations
4. Create a platform to bring together investors, startups, companies, regulators and policy makers in sustainable energy technology and related industries.
5. Sign up partners to execute successful programmes.

ABOUT SED 2022

Sustainable Energy Days 2022, the maiden edition was organized by Sustainable Energy Days Africa, a platform for knowledge exchange, policy advocacy and stakeholder collaboration on everything sustainable energy technology in Africa.
The goal of the pioneering team was to ***inspire new thinking*** through knowledge sharing on six major sectors related to sustainable energy technology development in Africa namely; power, hydrogen, electric mobility, energy storage, financing energy and smart cities.

MAJOR HIGHLIGHTS

- 🎤 20+ Speakers
- 🎟️ 100 Attendees
- 🏁 10+ Countries represented.
- 😃 6 Forums
- 🤝 3 Partners

THE FORUMS

Power Forum - November 2, 2022.

The Power forum brought together industry leaders from the renewable energy sector and called for practical policies to address energy poverty, close technical gaps in power generation, transmission and distribution value chain and to encourage youth engagement. The keynote speaker - Damilola Ashalaye of Ashdam Solar highlighted the role of renewable energy in powering rural electrification to drive economic activities in last mile communities using the case study of her company's work in powering coastal areas with solar mini-grids. Not least, the role of renewable power in delivering access to information and powering new jobs such as digital marketing, carbon accounting, graphic design, and technical jobs. She opined that youth must leverage the trends in technology such as Artificial Intelligence, blockchain and the internet of things to create new solutions. The keynote address was followed by a panel discussion where Tayo Oyinlola of Uwana Energy and Gift Muoneke of Greenera Technologies provided insights for improving the power sector in Nigeria. Tayo remarks that the technical gaps in power generation, transmission and distribution inhibit the integration of renewables into the grid since the current grid infrastructure is not fit to accommodate additional power from renewable sources. He compares Nigeria's 4000 MW generation for 200 million people to Norway's 36000 MW for only 4 million people, which clearly shows that Nigeria must prioritize power infrastructure as an emergency to be addressed if we are serious about transforming our power sector. More so, noting that the idea for the privatization of the generation and transmission arms of the power sector in Nigeria has been suggested but has been met with skepticism due to security concerns . Gift buttressed further that distribution and transmission losses contribute to the power challenges we face in Nigeria adding that blockchain technology can come in to enable distributed systems and power trading thereby reducing excess power generation losses. Tayo added that blockchain was useful in grid management to curb the incessant grid downtimes and breakdowns which Nigeria suffered many times in 2022. It was generally agreed that natural gas was key to ensuring power reliability in Nigeria.

Moderator: Favour Onyenma
Host: The Sunshine Oluoha.
Speakers: Damilola Ashalaye, Tayo Oyinlola, Gift Muoneke.

Electric Mobility Forum - November 2, 2022.

The Electric Mobility forum brought together experts across the sustainable transport industry with specialties in smart mobility, electric vehicles, academia, research and automobile assembly to discuss the future of electric mobility in Nigeria.
The keynote address by Glory Oguegbu of Renewable Energy Technology Training Institute (RETTI) highlighted that the transition to electric mobility in the global north is driving an unwanted wave of dumping used Internal Combustion Engine (ICE) cars in the global south and Nigeria being a huge market for used cars makes the country vulnerable to being a dumping ground for used cars which is not ideal for our development targets. The question is, where would all the ICE Vehicles in the world go should a full transition to electric mobility take place? Glory highlighted the role of renewable energy in powering electric vehicle transition and the importance of sensitization and awareness for the public to ensure a gradual cultural shift from the conventional ways of mobility. Affordability is a key factor to consider for the adoption of electric vehicles where 2-wheelers and 3-wheelers have a huge potential in the African EV market. In terms of infrastructure to power electric vehicles, Glory highlighted the chicken and egg problem for EV charging infrastructure and the penetration of electric vehicles where regulatory power can come in to address by offering incentives for private players and demanding governments to commit funds toward infrastructure development. Anazi Zote of Vuka Group, South Africa noted that price points for EVs have to come down and to increase options for mobility to include - rail systems, scooters, bicycles and electric vehicles which give citizens options to choose from. Muhammed of TKI, Germany gave policy suggestions to speed up electric mobility in Nigeria such as enforcing policies (who is responsible for this?), proactive investment by governments in electric mobility infrastructure to provide an alternative against fuel scarcities and grid locks. Byencit of Clean Technology Hub, Nigeria shared her views on the business models to democratize access to electric mobility which include Rent-to-Use, Battery Swapping and Investment crowding. Anazi pointed out a roadmap for electric mobility adoption using examples from South Africa where ICEs can be replaced by Hybrids and then Hybrids fully replaced by Battery Electric Vehicles. Private sector participation in electric mobility investments is key to driving implementation. We must find out what works in our context rather than replicating every trend we see across the world. We must look inward, not outward to drive electric mobility in Africa.

Moderator: Martin Okorowu
Speakers: Glory Oguegbu, Anazi Zote, Muhammed Musa, Byencit Duncan.

Energy Storage Forum - November 2, 2022.

The Energy Storage forum to our surprise was the most popular forum out of the six forums at SED 2022. The keynote address by Olugbenga Olubanjo of Reeddi, highlighted that for renewables to compete with fossil fuels competitively, then a better way to store energy must be discovered. Energy storage options such as mechanical storage, chemical battery storage(lithium ion batteries), liquid battery storage (flow batteries), thermal storage and hydrogen storage were mentioned. To drive energy storage adoption, the challenges of cost, storage potential, technology development status, commercialization and deployment models must be tackled for Africa to enjoy the benefits of energy storage. It was interesting to find out that it would cost Africa US $2.8 tn to reach a net-zero energy mix by 2050 with a large fraction going to storage (Olugbenga, 2022). Therefore, storage is a key component of the clean energy transition in Africa and beyond. To position Africa as a leader in energy storage, enhanced technical capacity is key. However, the focus should be on the technical fundamentals in primary, secondary and Universities to prepare the next generation of scientists, engineers and techies. Deborah Fadeyi of Vectar highlighted the role of recycling in securing supply chains of mineral resources as a way to prevent resource extraction and exploitation which could fuel insecurity in mineral rich areas on the continent. With insecurity, price points of batteries will increase and inhibit adoption of energy storage.

Moderator: Chiamaka Chigbata
Speakers: Olugbenga Olubanjo, Deborah Fadeyi.

Financing Energy Forum - November 3, 2022.

Without adequate financing, the energy transformation in Africa will remain a mirage. The Financing Energy forum started with a keynote address by Chinenye Ajayi of Olaniwun Ajayi LP which highlighted that Nigeria required about US$10 billion annually to finance energy investments. However, Africa attracts less than 5% of global energy investments and is spread unevenly across the continent. To secure financial flows, an enabling business environment, innovative financing structures and mechanisms that assure investors of returns, fiscal incentives and cost reflective tariffs have to be introduced. To address the expensive nature of renewable energy adoption, local manufacturing of renewable energy components, taking out importation duties and

taxes to reduce cost, tax incentives to consumers of renewable energy, denomination of investments in local currencies to allow developers to pay back, patient capital investments, pay-as-you-go options and renewable energy financing. Financial institutions also have a role to play to drive energy investments such as blended finance, sustainable and green bonds, guarantee mechanisms, insurance of projects and angel investments to support project developers and startups in the sector. To increase investor appetite in Africa, regulated transparent power agreements, specific clean energy/climate incentives, general business-friendly measures (ability to repatriate profits, no VAT on clean power sales, non-withholding taxes on profits, allow Foreign Direct Investments(FDI) by improving permitting process), innovative financing mechanisms (masala bonds) and early risk assumptions by governments are ideal. The priority areas for energy investments in Africa include strengthening and modernizing the grid, promoting energy access, de-risking private sector participation and innovative financing approaches such as local currency lending, results-based financing schemes or tailor made challenges funds. Financing energy will support the scale up of renewable energy adoption in Nigeria, support the scale up of startups and grow the economy of the nation at large. Blockchain technology in financing energy investments will ensure transparency and reliability by building layers of trust for power trading and free flow of financial transactions to power a sharing economy driven by prosumers (those who produce and consume their own energy) through tokenized energy units verified across the value chain. Not least, the role of blockchain technology in enabling incentives for carbon credit claims.

Moderator: Victor Mba
Speakers: Chinenye Ajayi, David Arinze, Femi Osidele (Phd.), Paschal Odinde,

Smart City Forum - November 3, 2022.

The soul of the city is its people. It is not just technology and infrastructure but the culture and behaviors of the people that make up a smart city. The Smart City Forum kicked off with a keynote address from Yomi Amoussa of Alaro City. How do we ensure that infrastructure is built to drive the ecosystem and support the smart people living in these cities? A massive brain drain is a threat to the future of our cities in Africa as a result of poor infrastructure that makes it impossible to support the creators, innovators and builders in our cities. Science, Technology, Engineering and Mathematics (STEM) education should be supported especially for young girls and women by breaking stereotypes and creating an enabling environment for STEM to thrive in Africa. The

panel discussions highlighted the role of smart grids to power cities and coordinate the complex interconnected systems of a smart city through decentralized systems.

Why smart cities? The global environment and urbanization problems due to migration, climate change, increasing population and depletion of resources as well as the rapid urbanization of developing nations calls for a review of how cities are developed. The factors influencing smart cities include the need for renewable energy, water and waste management solutions, social care and community, green living, transparency in governments, remote work and future of work and electric vehicles and unmanned autonomous vehicles. Cities are working to get smarter by adopting architectural innovation, electric vehicles, automated systems and connectivity. The major technologies of a smart city stated are datasets, artificial intelligence, Internet-of-things electronic network systems and clean energy being at the center of these technologies because without energy, there can be no smart cities. Smart cities are ideal for improved healthcare systems, clean water for all, affordable energy for all, decent and liveable cities, accessible transport systems and proper waste management for a clean environment and conservation of ecosystems.

Moderator: Adejoke Otuyelu

Speakers: Yomi Amoussa, Benedict Okpala, Cyril Azubuine, Francis Njoku.

Hydrogen Forum - November 3, 2022.

The Hydrogen forum at Sustainable Energy Days 2022 highlighted the role of oil and gas technologies and infrastructures in delivering the hydrogen economy for Africa. The major highlights are as follows;

- Oil and gas industry will be relevant for Africa's energy reliability and transition roadmap.
- Hydrogen adoption in all its forms - green, blue and gray will depend on the cost of technologies used for its production and storage.
- Enabling policies and frameworks should already be in place to enable the development of a hydrogen economy in Africa to position the continent as a major Hydrogen exporter by 2040.
- Case study presentation on the latest Hydrogen technologies by Dr. Senthil Siva, Head Institute industry interface program, Sharda Group of Institutions, India.

Moderator: Rume Efeduma

Speakers: Chigozie Nweke-Eze, Tekena George, Ayodeji Stephen, Dr. Senthil Siva

FY 2023

We are planning a series of webinars starting Q1, 2023 while we finalize the conceptualization of SED 2023 focus areas. We will keep all partners updated with our progress. Thank you for being part of the movement to inspire new thinking on the continent!

Appreciation

Thank you for being part of the movement to inspire new thinking on the continent!

Our Supporters in 2022

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