



# RENEWABLE ENERGY CONFERENCE 2023 AND EXPO (REC23&EXPO) REPORT



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## 1. EXECUTIVE SUMMARY

The Ministry of Energy and Mineral Development held its 19<sup>th</sup> Energy and Minerals Week at Speke Resort and Conference Centre, Munyonyo, Kampala from 13<sup>th</sup> November to 18<sup>th</sup> November, 2023. As part of the year's Energy and Minerals Week, the National Renewable Energy platform - NREP held its third annual conference, dubbed the Renewable Energy Conference 2023 and Expo (REC23 & Expo) from 16<sup>th</sup> to 18<sup>th</sup> November. REC23 & Expo ran under the theme, "A Clean Energy Future for All".

REC23 & Expo event was highly attended with a representation of participants from over 33 countries around the world, namely, Uganda, Kenya, Tanzania, Mozambique, Ethiopia, Guinea, Rwanda, Chad, Nigeria, South Africa, Cameroon, Democratic Republic of Congo, Egypt, Mauritius, Somalia, South Sudan, Sudan, China, Israel, India, Nepal, South Korea, Sri Lanka, Thailand, Turkey, United Arab Emirates, United Kingdom, Germany, Spain, Belgium, Austria, Norway, Russia and Sweden. The event attracted stakeholders representing central government (ministries, departments & agencies), local government, development partners, foreign missions, investors, religious institutions, financing institutions, cultural institutions, private sector, civil society organizations, media, researchers, academicians and all levels of energy users, from local and international spectrum.

The conference sessions addressed pressing issues in the energy sector under thematic areas, namely, Technology Development and Deployment; Access to Finance; Information and Knowledge

Management; Training, Research & Communities of Practice; and Policy, Planning, Standards, Quality, Institutions and Markets. The conference had 63 sessions in total that ran in parallel over the three days with 315 speakers.

The conference section was highly attended with a daily average physical participation of about 1,786 people and virtual participation of about 467 people. The official opening session of the conference was attended by 1,839 people while the official closing session of the conference was attended by 1,794 people. The Expo section had 148 energy companies in attendance that exhibited E-mobility, Solar, Clean Cooking and Nuclear Technologies as well as Energy Financing Institutions and locally made art craft.

This document, therefore, provides an account of what transpired at REC23 & Expo by thematic area and its respective sessions therein. For every session, the moderator and panellists, topics of discussion, highlights and recommendations made are noted. Each thematic area discussion is presented with cross cutting recommendations made in the sessions. Additionally, the document provides some of the highlights of REC23 & Expo. The document also recognizes the sponsors of REC23 & Expo in a special way.

## 2. REC22 & EXPO ACTIVITIES

### 2.1. Opening Ceremony

*Session Chair: Hon. Daudi Migereko* – Former Minister, Government of Uganda

#### 2.1.1 Conference Opening Speech

*Speaker: Prof. Lawrence Coreta Muganga* – Vice Chancellor, Victoria University

Speaking about transforming the education systems to harness and support the energy transition, he remaindered the conference attendees that they were not just participants in a conference, but architects of the future where clean and renewable energy must be the cornerstone of the local and global community. Noted that at the heart of this kind of transformation definitely lies education. Alluded to the fact that education is the most powerful tool available to change communities, families, countries and world at large. Further noted that even within the renewable energy space, it is education that must play this pivotal role and the actors include everyone that was in attendance.

Highlighted the critical role of renewable energy in academic excellence, citing examples such as students having to walk 20 km to school and the use of kerosene lamps which pose fire risks for grass-thatched houses, along with contributing to household air pollution (HAP), issues that can be remedied by renewable energy solutions. Emphasized the need to comprehend renewable energy both locally and

globally, acknowledging its indispensable role in the fight against climate change. Called upon participants not to renewable energy view as an option but as an imperative, presenting an opportunity to leapfrog over traditional energy sources to sustainable energy sources. Revealed that Uganda has utilized a mere 10% or less of its renewable energy potential, indicating a substantial opportunity for further development.

Alluded to the fact that education is the bridge that connects ideas to implementation, noting that with the integration of renewable energy concepts into the curriculum would prepare students to be active agents of change and not just passive consumers. Disclosed that Victoria University already included environment and energy economics into the curriculum. Further commented that advancements in innovation do not just shape the energy systems, but also redefine the skills and knowledge required in tomorrow's energy sector and economy. Noting that adapting to these energy systems calls for a corresponding



adaptation of the education sector to match them.

He emphasized the need to revamp the education systems to actively support the energy transition. Noted that education, as the most potent catalyst for change, holds the key to transforming not just our communities and families, but also our entire world. Pointed out that by integrating education about clean energy into the community, we would not only spread awareness but also cultivate a culture of sustainability and environmental responsibility. He recommended that education should not be confined in what we know as ivory

towers, but rather should be somewhere in the community, in the organizations. Noting that organizations should be the classrooms where education happens. Emphasizing that renewable energy is not just illuminating homes, but igniting hopes and people's dreams. He concluded by noting that we have a part to play to make sure that these dreams and hopes are achieved. Urged the participants to apply the knowledge obtained from the conference into their respective fields of practice, underscoring the importance of collective action to the creation of a legacy of sustainability, innovation and hope.



## 2.1.2 Ministry Welcoming Speech

***Speaker: Eng. Irene Pauline Bateebe – Permanent Secretary, MEMD***

Appreciated and welcomed the participants, both national and international, from far and near, to the Renewable Energy Conference and Expo 2023. Noted that REC23 is in its second year running at a bigger scale as part of the broader Energy and Minerals Week under the Ministry of Energy and Mineral Development.

Appreciated the participants for the large turn up at the conference and thanked the development partners and private sector for working with MEMD.

Pointed out that REC23 was quite innovative and inclusive, with sessions on key activities for the special interest groups i.e., youth, women, cultural leaders and religious leaders. Emphasized that bringing on board religious leaders was quite creative and considerate since they have a large platform to talk about clean energy.

Noted that the energy sector continues to focus on generation, transmission,

and distribution to address aspects of the energy transition, climate change, and energy access, presently stands at 57%, with a target to achieve universal access by 2030 and hinted that about \$ 5 billion is needed to achieve this target.

Indicated that there is urgent need to address barriers to the clean energy transition like mobilizing patient and affordable financing, technical capacity gaps both in government and the private sector, and strengthening electricity grid system to make it SMART through digitalization.

Concluded by informed the participants that regulations on biofuels to support the deployment of biofuels in the bioenergy space had been developed. Also, clean cooking interventions and LPG development are underway with various partners. Also noted that the Ministry is working on the removal of barriers to ensure easy investment by the private sector within the given timeframe.



### 2.1.3 Conference Main Partners Speech

**Speaker: *Phillipe Groueix*** – Country

Chair TotalEnergies & TotalEnergies EP Uganda

Thanked the organizers of the conference for continuously working and partnering with TotalEnergies. Recognized all the participants and partners that supported the conference and expo. Pointed out that in 2022, at REC22 and Expo, a Memorandum of Understanding was signed between the Ministry of Energy and Mineral Development and TotalEnergies allowing TotalEnergies to develop one Gigawatt Renewable Energy capacity in Uganda by 2030. Assured the participants that TotalEnergies is still trying to deliver this objective.

Highlighted that TotalEnergies is studying the expansion of the Soroti solar plant coupled with batteries to address the issue of intensity and soon presenting it to the Ministry. Also mentioned that a feasibility study on a 120 MW possible project was done and its report is almost completed and will be presented to the Ministry by the end of the 1<sup>st</sup> quarter of the year 2024 as a possible concrete project proposal.

Indicated that the ambition of developing a one Gigawatt by 2030 is mainly based on the development of large solar PV plants and medium-sized hydropower plants. Noted that about hydro power,



TotalEnergies has been active in screening all project opportunities within the country, which is to contribute to the development of one Gigawatt by 2030.

Emphasized that the development of renewable energy should be associated with electrification and electrification means transmission from the production point to the consumers. Congratulated the Ministry of Energy and Mineral Development on its efforts to install transmission lines across the country. Noted that the country needs a robust transmission backbone to supply reliable power from the production point to the final consumer.

Indicated that at Tilenga project, TotalEnergies is working hard to deliver oil by 2025. Highlighted that TotalEnergies included a 15 MW solar plant to minimize the use of gas and oil. Also informed the participants that s project to develop 200 MW watts of solar energy

within the perimeter wall lies ahead. Emphasizing that TotalEnergies has already solarized its various Total stations.

Appreciated the Ministry for developing regulations on the use of biofuels. Indicated that TotalEnergies will start with bioethanol and it is currently getting in touch with the suppliers. Assured the participants that TotalEnergies will be able to commercialize bioethanol before the end of 2024 while for bio-diesel, it will take until the end of 2025. Also indicated that a new home solar product had been developed and will be sold at the various service stations and noted that the price will be as low as

**Speaker: *H.E Kate Airey*** – British High Commissioner

Congratulated the Ministry upon a successfully organized event. Assured attendees of robust physical presence of her delegation led by development director, Mr. Philip Smith, members of the department for business and commerce, and climate and energy team. Expressed the UK's delight in sponsoring the Renewable Energy Conference 2023 and Expo.

Thanked the Minister of Energy and Mineral Development and NREP for another successful conference, noting its continuous improvement and timeline in the run-up to COP28 is remarkable. Highlighted that one of the COP28's themes as cleaner energy, with the UAE leading in developing a clean energy pledge set to triple the investment in

expressed confidence that renewable energy presents a viable solution to meet the escalating demand.

possible, with a target of about 8,000 per year to provide solutions for those who cannot be connected to the grid.

Concluded by noted that e-mobility is mainly for Kampala and that TotalEnergies plans to install charging points in 30 stations following a study on where to install these stations. Further indicated that TotalEnergies will produce a significant quantity of LPG which is 5 times more than what is got from Kenya in the international market. Once again thanked the participants for being part of the conference and expo.

renewables and double energy efficiency to a record 1.8 trillion USD in 2023 alone. Expressed confidence in Uganda's strategic position to capitalize on this climate mitigation opportunity.

Pointed out that the UK's pivotal role in supporting Uganda's renewable energy sector since the early 2000s through the backing of electricity sector reforms and investments in private sector distribution despite the associated risks. Emphasized that over the last two decades, Uganda has evolved into a global leader, with over 90% of its electricity derived from renewables, primarily hydro, followed by solar and pending wind prospects. In light of a projected population doubling by 2050,

Underscoring the crucial role of the private sector in supporting Uganda's energy transition, highlighted that emphasis was placed on attracting private sector investment through de-risking mechanisms, exemplified by the successful GET-FiT project that is contributing 11% of Uganda's renewable energy production. Referenced the Climate Financing Accelerator, inaugurated on October 2023, that seeks to align business-ready investors to support green growth in Uganda.

Expressing excitement about innovation in the Renewable Energy Space, highlighted partnerships between the British government and companies with Uganda's government and private sector, citing examples such as Zembo Electric Bodas,

#### **2.1.4 Guest of Honor Speech**

**Guest of Honor: *Hon. Dr. Ruth***

***Nankabirwa Ssentamu*** – Minister of  
Energy and Mineral Development

Thank the participants for turning up in big numbers for such a noble event that focuses on discussing energy aspects in the country and beyond. Noted that the participants presence was a testament to a shared commitment for a sustainable and clean energy future, extending beyond environmental considerations to include economic growth, job creation, universal energy access, and improved quality of life.

Nexus Green, and Modern Energy Cooking Services that are supported by the UK to enable cheaper rural transport, reduced pollution, water supply, health center electrification and clean cooking. Encouraged the conference participants to engage with the UK companies leading breakthroughs in the renewable energy sector, noting that several UK companies were present at the conference and willing to share valuable experiences.

In conclusion, call for collaborative discussions on the potential of innovative renewable energy technologies, fostering connections, building networks, and shared learning. Wished the participant the best of the conference and expo.



Underscored the urgent need for an equitable energy transition through investments in clean and renewable energy, along with integrating diverse energy resources for rural empowerment.

Affirmed the importance of every individual in achieving a clean energy future, emphasizing the importance of ending cultural barriers that hindering the adoption of clean cooking technologies in the country. Advocated for income-generating opportunities, highlighting their crucial role in combating energy poverty.

Emphasized the need to propel Uganda towards a future with universally available clean energy. Urged to have critical discussions and collaborative efforts at the conference and beyond to ensure that Uganda achieves its energy access goals. Disclosed Uganda's participation in COP28, where achievements in the country's energy sector were to be showcased.

Highlighted Uganda's significant strides in harnessing clean energy sources, from which over 95% of the electricity supply is from renewables. However, underscored the importance of an integrated approach to the development and exploitation of all available energy resources to ensure energy security, access, sustainability and affordability.

Alluded to initiatives beyond the Energy Policy, aiming to propel Uganda towards set energy and climate action goals, that is, increasing generation capacity from 2000MW to 52,000MW by 2040 for an e-mobility and electricity-led transition. Noted that the plan target 50% renewable energy, 40% nuclear energy,

and with 80% connected to the main grid, and surplus from distributed renewables. Revealed that a \$638 million USD loan from the World Bank had been secured to facilitate one million electricity connections across the country.

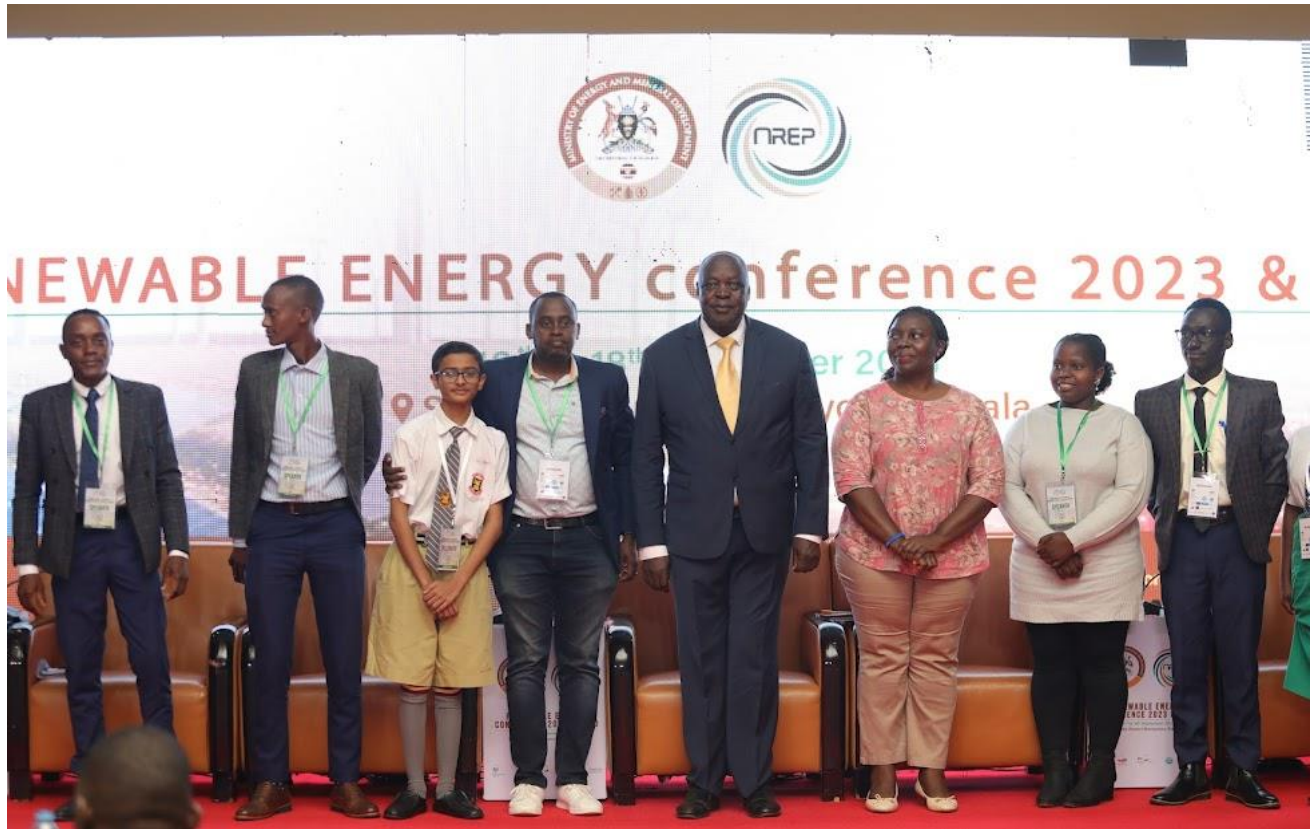
Regarding Uganda's prospects, highlighted progressive improvement in low electricity consumption, plans to reduce distribution network losses to single-digit figures by 2040, and increase clean cooking technology adoption to 95%. Other sectoral plans include a national biofuel blending program to achieve a 5% mandatory blending ratio by 2040, and enforcing a 1% mandatory biofuels blend with petroleum as a start.

Announced the intentions to extend clean cooking sector exhibitions to the Parliament of Uganda, aimed at sensitizing nationwide constituency representatives. Called for the growth of the renewable energy forum to pave the way for sensitization. Affirmed that the government's commitment to developing and implementing policies, legal frameworks, and reforms to enhance sector efficiency, attract investment, and promote private sector and local content participation for Uganda's just energy transition.

In conclusion, made revelation of the plan to table the Energy Efficiency and Conservation Bill to Cabinet, which is



aimed at improving Uganda's energy landscape. Once again thanked the partners and participants their support towards the energy sectors and officially declared the conference and expo opened.





## 2.2 Technology Development and Deployment

### 2.2.1 High-Level Round-table Discussion: A Clean Energy Future for All

**Session Chair:** *Eng. Irene Pauline Bateebe*, Permanent Secretary, MEMD

**Discussants:** *H.E Kate Airey* – British High Commissioner (represented by *Mr. Philip Smith* – Development Director, BHC); *H.E Maria Hakansson* – Ambassador of Sweden; *H.E Mathias Schauer* – Ambassador Germany; *H.E Anne Kristin Hermansen* – Ambassador of Norway; *H.E Jan Sadek* – Head of the European Union; and *H.E. Monzer Selim* – Ambassador of Egypt

Noted that globally, it is inevitable to discuss and commit resources to clean energy. Pointed out that it is currently every mission's area of interest and several projects are already ongoing and others are in the pipeline to support the delivery of clean energy in the country. Acknowledged the existent conducive working partnership they have with the government of Uganda that has enabled their missions to encourage investors to explore the Ugandan market. Further noted that several of the companies supported through their projects were part of the conference and expo, both as participants and exhibitors. Reminded the participants that they are still committed to supporting Uganda to achieve its clean energy access targets. Also called upon participants to attend the different sessions organized by their projects and partners that were to share more about the running support for the energy sector.

Noted that working on the enabling environment for the transition to clean energy i.e., robust policy, transferring

process, and public support on the technologies is important. Further emphasized that capacity building, policies, right partners, knowledge and technology transfer and investments, decentralizing the energy solutions are key in delivering clean energy. Emphasized that it is important to develop proper financial models, no loans but rather working within the national budgets to support the transition.

Indicated that about 100 million Euros had been invested in the last 5 years in support of the energy transition. Further noted that in the coming programs, about 250 million Euros is earmarked to support infrastructure development, stronger engagement with the private sector and the government of Uganda to provide a conducive environment for investments. Also pointed out that a new climate investment fund was established recently in 2022 to reduce gas emissions by investing in the renewable energy sector in developing countries in the coming 5 years. Hinted that this fund will

be capitalized with \$ 200 million per year.

Emphasized that pooling financial resources as well as developing a long-lasting energy plan to rely on the country's energy resources is crucial. Pointed out that every country should have a transition plan to guide it. To this, appreciated the Ministry for having developed the Energy Transition Plan and noted that they look forward to supporting the Ministry in its implementation. Noted that several initiatives to enhance clean energy have so far been deployed. However, so much more needs to be done to accelerate the transition. Highlighted the commitment of developed economies to continue support to developing countries, particularly Uganda, in advancing their energy transition. Emphasized that the transition will take different forms for

different countries, but the main goal is achieving a just energy transition.

Also, called on the stakeholder to pay attention to climate change. Hinted that energy and climate change are inseparable and affect each other in several ways. Reminded participants to enable energy efficient and clean technologies for the sake of their environment. Noted that one of the main causes of climate change is the energy sector, either directly or indirectly.

In conclusion, highlighted that investments in renewable energy remain a big challenge in Africa. Recommended that investments by the private sector to enhance the transition to clean energy deployment is crucial. Emphasized that the time for a solid commitment to sustainable energy is now. Further recommended engaging in partnerships for a collective solution.



Discussed some of the lessons that developing countries could benchmark on to quick-start their energy security, how countries could balance the need for energy security with the urgent requirement to meet their Nationally Determined Contribution (NDC) targets. Also shared some of the initiatives their organisations have put in place to support energy security and climate change mitigation/adaptation in developing countries.

Highlighted some of the key energy projects their respective organizations have implemented in the recent years. Appreciated the government, particularly the Ministry of Energy and Mineral Development, for a sustained good working relationship as well as spearheading the transition to clean energy. Pointed out that the Uganda Energy Policy 2023 is indicative of the Ministry's commitment to its mandate of ensuring every Uganda has access to clean and affordable energy across the country. Also noted that such annual gatherings like the renewable energy conference have become an avenue for sharing lessons, stock taking and devising solution to the sector's challenges, calling on the Ministry to keep it up!

Recognized the abundant renewable energy resource that Uganda is endowed with, but unfortunately has not been fully exploited for energy generation. Pointed out that the prevailing high dependence on

traditional biomass for cooking is unsustainable and will have lasting impacts on the country's climate if not urgently addressed. Alluded to the fact that the country has lost significant forest cover due to the search for biomass for cooking mostly. Noted that although alternative clean cooking fuels are available on market, not many people know about them.

Discussed greenhouse gas emissions, water-energy-food nexus, climate change, energy planning and deployment from the development partner's perspective. Pointed out some of their ongoing projects on productive use of energy that support solar irrigation systems, result-based financing for clean cooking, among others. Noted that awareness levels amongst Ugandans about clean energy and its applications is still low. Emphasized that coordination of water, energy and food nexus is key in dealing with the effects of climate change and should be prioritized. Highlighted strategies that Uganda could adopt to improve energy security while advancing the transition to a low-carbon economy. Called on all stakeholders to be the champions of the change their desire in their communities and country at large. Noting that everyone has a role to play and it is not only the government and its development partners to deliver the transition. Called upon other development partners to support local clean cooking company.

Recommended that going forward more resources should be dedicated to awareness and behavioural change campaigns to promote clean energy to all Ugandans. Called on the government to investigate and invest in capacity building, distribution value chains, information gathering and dissemination, and adherence to standards. Noted that the sector is still nascent, it is very important that its

growth is guided by government with appropriate policies and standards. Recommended decentralization of energy activities noting that most of the clean energy related activities are mainly done in Kampala and other cities, which limits their impact to urban centres.

### **2.2.3 A Spotlight on the Future: Parish Development Model and Productive Use of Energy**

**Session Chair:** *Ruth Komuntale* – Managing Director, ECOCA East Africa

**Discussants:** *Michael Otim* – PDM Secretariat; *Capt. Fred Mubiru* – Liaison Officer Operation Wealth Creation; and *Paul Okitoi* – Commissioner Planning, MEMD

Highlighted that the government is currently running several programs, namely, the Parish Development Model (PDM) and Operation Wealth Creation (OWC) to uplift the livelihoods of Ugandans. Shared some of the lessons learnt in implementing PDM and OWC projects. Noted that Productive Use of Energy is one of the ways Ugandans can use energy effectively to transform their livelihoods. Hinted that unfortunately PUE was not prioritized in the framing of these initiatives. Discussed how PUE could be integrated and leveraged as a core component in both PDM and OWC for a common goal of livelihood transformation. Also noted that policy, regulatory, and institutional support is

needed to facilitate the successful integration of PDM/OWC and PUE initiatives.

Pointed out that the Parish, being the lowest reference unit for planning, budgeting, and delivery of interventions, sits at the heart of driving socio-economic transformation. Highlighted that the PDM is intended to create Wealth, and Employment as well as increase Household Incomes. In relation to PUE, noted that PUE is also looked at as an avenue of creating and increasing household incomes and employment in addition to being an electricity demand stimulation mechanism and rural electrification driver. Explored suitable

approaches for integrating energy initiatives such as PUE into the PDM to advance community development and household income. Noted that an integration of PUE in PDM would be a Win-Win situation for the county at all fronts.

In conclusion, called upon the government to look into the possibility of having PUE integrated in PDM as a core area of emphasis. Noted that PUE is a

faster way of growing electricity demand, especially in rural areas where electricity supply just arrived. Recommended adoption of subsidies and structured financing to support PUE uptake in the country. Reminded the participants that awareness and understanding of PUE and PDM is still very low in the country. To this, they called upon the government to intensify awareness campaigns across the country.



## 2.2.4 Green Jobs: Readiness, Opportunities, and Bottlenecks in the Energy Transition

**Session Chair:** *Perez Magoola* – Energy Advisor, Open Capital

**Discussants:** *Simone Nyakwezi Rumanyika* – Ambassador, African Leadership Academy; *Alex Asimwe* – Commissioner, Labour, Industrial Relations and Productivity, MGLSD; *Margaret Balikagala* – Project Coordinator, VVOB in Uganda, VVOB in Uganda; and *Dan Jollans* – Economic Adviser, British High Commission

Discussed what qualifies as a green job and what sectors present the biggest opportunities for green jobs in Uganda. Noted that Uganda needs to create over 1M

jobs for its youth just to maintain the status quo and questioned the current state of readiness to the transition to green jobs. Hinted on the current level of capacity of the



workforce to tap into the green job economy and what gaps are existing. Explored how the various stakeholders could support in closing the gaps and equipping the youth with the requisite skills needed. Emphasized that Uganda as a country

experiences that the different stakeholders including government, donors, private sector, and companies in the energy space could benchmark on to foster the evolution of the green economy transition.

Noted that achieving universal energy access relies on creating and cultivating renewable energy jobs, providing a global opportunity to drive employment and economic growth. Indicated that technical support is needed to equip the youth with the relevant market skills to embrace the different existent and upcoming green jobs. Pointed out that more workforce investments are needed, especially for women and the youth. Cautioned that transitioning to a green economy could create, but also kill jobs in the country. Highlighted several new initiatives working to build the skills and ecosystems required by the energy practitioners of the future. Hinted on the limited number of institutions in the country that have the capacity to equip and produce competent youth with the desired skill sets for the market.

should prioritize green jobs to support youth employment. Noting that Uganda is often referred to as one of the most entrepreneurial countries, thus, it should tap into the entrepreneurial spirit and create green jobs. Highlighted the

Applauded the Ministry and the National Renewable Energy Platform for having given the youth a platform at the conference to also discuss clean energy. Called upon the government and its partners to invest more in capacity building as well as involving the youth in energy planning and implementation processes to facilitate the growth of their skill sets. Challenged officers that consider interns as just people to file papers and making tea in office. Encouraged them to give such interns a challenge to try out their skills as well as to learn from the practitioners in their field. Recommended that partnerships between training institutions and industry should be established and strengthened to facilitate a smooth collaboration and skills development among the youth.

## 2.2.5 Towards New Energy Systems and Technologies

**Session Chair:** *Dr. John Mutenyo*, Lecturer, Makerere University

**Discussants:** *Syrine Elabed* – Energy Expert, IEA; *Musa Mukulu* – Manager Research, and Business Development, UEGCL; *Godfrey Bahati* – Commissioner Geothermal Resources Department, MEMD; and *Henry Kasirye* – Innovation Executive, Mrod Studio

Noted that the energy space is quite dynamic with new technologies emerging every now and then. Discussed the approaches that could be undertaken to facilitate the deployment of new energy systems and technologies in Uganda. Scrutinized the country's preparedness to embrace new energy systems and technologies as well as addressing their associated risks. Noted how the new energy systems and technologies could aid the advancement of energy transition. Shared some of the lessons learnt from countries that have successfully integrated new energy systems and technologies in their energy mix.



Highlighted the importance of innovation and technology in enabling the transition to low-carbon energy systems. Focused on technical solutions for electricity systems, such as battery storage, smart grids, and other technologies, and the enablers required to scale up these solutions. Further discussed new and less exploited clean energy sources such as nuclear, geothermal, and floating solar. Highlighted the bottlenecks innovators and promoters of new technologies endure in the market, ranging from policy, standards, financing to perceptions.

Recommended that government should establish a dedicated energy research, development and innovation center to support in the testing, calibration, standardization and scalability of the new technologies. Further encouraged academic institutions to take up research on energy related subjects such as developing appropriate business models that could be embraced in the rollout of new technologies. Recommended that government should set aside a fund dedicated to supporting new technologies in the country.

## 2.2.6 Leveraging and Transforming Water-Energy-Food Nexus Across Farming Landscapes in Eastern and Southern Africa

**Moderator:** *Dr. Ronald Ngobi* – Project Director, WASH & Fenrich Consults

**Discussants:** *George Gift Alibo* – Head Programmes, Welthungerhilfe Uganda; *James Mumbere* – Policy Advocacy Coordinator, UWASNET; *Martha Naigaga* – National Coordinator, Water and Sanitation, Ministry of Water and Environment; *Vincent Sseremba* – Country Director, Tulima Solar, and *Dr. Enock Warinda* – Executive Director, ASARECA

Noted that it is quite complex to separate water and energy given that most areas that are water constrained are also energy unserved. Hinted that the current climate change threats, water and energy security are precursors for food security. Discussed the support mechanisms that ought to be put in place to ensure that the Water-Energy-Food Nexus thrives in the global South. Shared some of the success stories and experiences of Water-Energy-Food Nexus initiatives that Uganda could pick lessons from. Emphasized that the Water-Energy-Food nexus approach could improve climate resilience and sustainability in rural and farming areas.

Highlighted that Sub-Saharan Africa currently faces limited access to natural capital, social services, and basic infrastructure, compounded by increased climate vulnerability. However, the sub-region has strong renewable energy potential that could

trigger social-economic growth and enable several sustainable development agendas. Explored avenues of harnessing clean energy access leverage the water-energy-food nexus in rural areas, in the sub-region.

Recommended that government should strengthen its programmatic approach of work, which in this case would pool the Ministry of Energy and Mineral Development, Ministry of Water and Environment, and Ministry of Agriculture, Animal Industry and Fisheries to collectively implement Water-Energy-Food Nexus projects in the country. Also called upon the government streamline the relate policies to ensure that Water-Energy-Food Nexus thrives in the country. Noted that this space is still at infancy, thus, called up researchers and investors to explore it.

## 2.2.7 Transforming the Lives and Livelihoods of Unserved, Remote, and Rural Communities by Scaling Off-grid Productive Uses of Renewable Energy (PURE)

**Session Chair:** *Pauline Cyiza* – Renewable Energy and Market specialist, Ayuda en Acción Uganda

**Discussants:** *Hack Stiernblad* – Director of Business Development, SunCulture; *Fred Tuhairwe* – Project Manager PUE, UECCC; *Carlos Sordo* – Senior Project Manager PURE, GOGLA; *Fransisco de Asis Lopez* – Country Director, Ayuda en Accion; and *Innocent Lawoko Muno* – Energy and Environment Officer, UNCHR

The session commenced with a presentation on “*Wider Framing of PURE in Rural Uganda: Northern Uganda RBF Program*”. Noted that productive use of energy has been prioritized by government, development partners and private sector actors to stimulate and grow energy demand and as a life transformative initiative. Discussed what the government, donors and the private sector should do differently to stimulate communities’ appeal for adoption of PURE technologies. Shared experiences on how PURE initiatives have contributed to poverty reduction, economic development, and job creation in underserved areas. Highlighted how off-grid PURE projects could be designed to ensure inclusivity and consider the unique needs and preferences of different community members, including women and marginalized groups.

Pointed out that PURE technologies and solutions have been demonstrated to be transformative in boosting agricultural production among rural communities. Highlighted that in an effort to boost the adoption of PURE technologies that can rapidly transform rural livelihoods and decarbonize agricultural value chains, the right mix of public incentives and private sector investment must be found. Emphasized that providing PURE companies

with access to more beneficial working capital with the capacity to offer consumer finance; and governments and international partners providing targeted subsidy programs to improve affordability and scale operations among low-income rural consumers would enhance PURE adoption. Discussed specific roles that should be played by key stakeholders, that is, policymakers, donors, civil society organizations, private sector actors, and investors, to accelerate access to PURE products. Also highlighted specific programmatic examples for Uganda and the region.

Recommended that government should offer subsidies to both supply and demand sides of the PURE value chain to foster the uptake of these technologies. Also noted the need to extensive capacity building in order to guarantee technical expertise in rural areas where such technologies are mostly applicable. Finally pointed out the relevance of awareness campaigns to promote PURE technologies. Hinted that majority of rural dwellers are not aware or familiar with these technologies which deters their adoption by the potential beneficiaries. Called upon the government to set up demonstrational centers in upcountry areas that support in awareness creation.

## 2.2.8 SMEs Role in Scaling Energy Access in the Global South

**Session Chair:** *Eva Mpalampa* – Head Oil and Gas |Business and Commercial Clients, Stanbic Bank

**Discussants:** *Namutebi Hanifah* – CEO, BM Energy; *Peter Nyeko* – Cofounder, Mandulis Energy; *Ben Odongo* – Business Lead, UpEnergy; and *Boldewijn Sloet* – CEO, SolarNow Services Ltd. Uganda

Noted that Small and Medium-sized Enterprises (SMEs) are important stakeholders in contributing to global economic activity, social well-being, and environmental footprint. Highlighted that the energy sector, SMEs play a role in extending energy services and products to the end-users. Discussed SMEs could be empowered to develop and implement energy access projects in a more effective and sustainable manner. Shared experiences on how the support rendered to SMEs by the different development partners by far impacted their sustainability in the energy market. Highlighted some examples of successful SME-led initiatives that have significantly improved energy access in communities.

Alluded to the fact that access to energy ought to grow faster in order to meet the increasing demand across Africa. Emphasizing that such growth must

also achieve the targets of SDG 7. Explored the role of small locally owned businesses in addressing this complex problem and discussed the different types of financing, services, policy, and regulatory enablers that support African-led or owned SMEs. Noted that the tax regime is suffocating their businesses and they are literally struggling to keep them running considering the affordability levels of the target markets.

Recommended that government should priority supporting local companies through rendering them targeted subsidies, matching them with foreign companies whenever bids are up out and setting aside a support fund for local actors. Called upon the government to implement its Buy Uganda Build Uganda Policy, noting that more commitment from the government to achieve the policy's targets.



## 2.2.9 Last-mile, Refugee and Displaced Communities: Energy for All

**Session Chair:** *Sarah Basemera* – Team Lead & Founder, Raising Gabdho Foundation Ltd.

**Discussants:** *Riccardo Ridolfi* – CEO, Equatorial Power; *Ben Betele Adrama* – Refugee Energy Projects Coordinator, GIZ; *Maria Ossola* – Focal Point Support Access to Energy, AVSI Foundation; *Laurynas Vaiciulis* – Chief Executive Officer, BrightLife; and *Winnie Lawoko-Olwe* – CEO, WilioTrains

Pointed out that Uganda currently hosts over 1.5 million refugees from its neighbouring countries. Also highlighted that the government of Uganda considers access to energy as a right for everyone in the country but unfortunately areas that often host refugees and displaced communities are national grid unserved places. Shared experience on how the efforts to support increased energy access in these settings have been executed. Highlighted the transformational impact of providing energy to these communities. Also pointed out the best approaches for addressing the energy access needs of refugee and displaced communities who may be in temporary or constantly changing settlements.

Explored how to build energy markets that reach the bottom of the pyramid with life-changing energy products and services, drawing from first-hand experiences in humanitarian and other last-mile contexts. Discussed interesting partnership opportunities to collectively ramp up sustainable energy access in the hardest-to-reach communities. Covered financing mechanisms for de-risking and incentivizing private sector supply value

chains and demand-side subsidies targeting refugee and host communities. Noted that handling of refugee related energy needs should be effective in nature. Emphasizing that all partners should be moving on the same page, clearly communicating their programmes for better coordinated troops. Alluded to the fact that most districts hosting refugees are already vulnerable as a result of underlying poverty, limited resilience to shocks, limited capacity of local institutions and low levels of human capital. Highlighted the importance for national and international actors to collaborate to ensure the refugee and host communities have a sustainable energy supply for development.

Cognizant of the affordability gaps, recommended that financial incentives and easy payment modalities like pay-as-you-go model of renewable energy technologies should be developed to expand the market for increased access to quality energy products and services. Called on the government to intervene and regulate the pay-as-you-go business model to ensure that both the supplier and end-user are protected.

## 2.2.10 Accelerating Productive Use of Energy (PUE) for Increased Energy Demand Stimulation and Economic Development

**Session Chair:** *Carlos Sordo* – Senior Project Manager PURE, GOGLA

**Discussants:** *Brian Kawuma* – Country Director, Power for All; *Roy Baguma* – Director, Transaction Execution, UECCC; *Vianney Mutyaba* – Manager of Pricing, ERA; *Florence Nsubuga*, CEO, UMEME; *Andrew Kasibante* – Project Manager – UGIFT, MAAIF

The session commenced with presentations on “*PUE: Opportunities, Challenges and Recommendations*” and “*Building up the Policy Environment for Productive Uses of Renewable Energy*”. Discussed the recent development on PUE in Uganda. Highlighted that USAID is leading on the development of a comprehensive National PUE strategy for Uganda. Also pointed out that the Ministry with the support of GOGLA, developed and launched a Uganda Productive Use of Solar Energy (PUSE) roadmap. Encouraged the stakeholders to look up the roadmap and see the priority areas the Ministry is focused on. Emphasized that USAID Power Africa and GOGLA are committed to accelerating the PUE industry in Uganda, especially focusing on the recommendations and interventions laid down in the PUSE roadmap, and the planned National PUE Strategy.

Highlighted that PUE presents opportunities for the utility sub-sector and discussed what utilities could do to accelerate Productive use of Energy adoption. Explored ways of ensuring that PUE supply chains, distribution, and quality PUE equipment are readily available on the market. Noted that there are still several challenges including taxation (regulatory environment), and

business inefficiencies affecting PUE in the country and recommended what the private sector could do to make PUE a commonplace. Also shared ways of accelerating the adoption of productive use of energy solutions, both on and off the grid across the country. Highlighted what is necessary to support on-billing finance by either utilities or mini-grids. Questioned whether the the regulation support on-billing finance and what would be required foster PUE uptake. Furthermore, questioned who ought to lead the awareness drive and sensitization efforts consistently amongst MEMD, ERA, Utilities (UMEME) and how these actors could jointly collaborate to progress and ensure on-going sensitization and awareness is done on PUE.

Recommended that the government, that is, MEMD and ERA as well as UMEME should come up with a unified front lead on PUE awareness creation. Called upon the Ministry to integrate PUE in its rural electrification projects as well as make it a requirement for all mini-grids developments. Emphasized the need for local capacity to drive PUE as well as maintain PUE systems, particularly in rural areas.



## 2.2.11 The Green Rural Salvage: Building a Thriving Decentralized Renewable Energy Sector in the Face of Energy Geopolitics

**Session Chair:** *Benon Bena*, Specialist on Off-grid and Renewable Energy

**Discussants:** *Dr. Steve Kalule* – Managing Director, USK Consulting Africa; *Olga Namatovu* – Mini-grids Lead, GIZ; *Dario Fallara* – Board Member, AMDA; *Alex Wanume* – Country Director, WINCH Energy; and *Telma Nkutunula* – Head of Division for Legal Affairs and Consumer, Energy Regulatory Authority (ARENE), Mozambique

Highlighted the current state of the decentralized renewable energy sector in Africa and how regulations regarding decentralized renewable energy are aiding the promotion of Africa's Energy Transition. Discussed how decentralized renewable energy systems could help off-grid communities become more self-reliant and resilient in the face of energy geopolitics. Shared some of the successful case studies of off-grid communities or regions that have

effectively embraced decentralized renewable energy solutions as well as learn lessons from their experiences.

Noted that energy geopolitics continue to evolve, hence discussed some strategies off-grid communities could adopt to adapt to changing energy landscapes and ensure the sustainability of their renewable energy initiatives. Shared insights into the status quo of the decentralized renewable energy sector in Uganda as well as green recovery

initiatives to make the sector flourish and be competitive as the country transitions its energy systems in the face of global energy geopolitics.

Recommended that the Ministry should enact a law to regulate the renewable energy sector and stipulate clearly the parties that are in charge of the decentralized renewable energy sector. Called about the harmonization of the curriculum for training technicians in the country, highlighting existing disparities in the quality and quantity of the content

provided to the trainees. Further recommended the Ministry to regulate the technicians in the country in order to weed out masqueraders, but also to professionalize the sector. Finally, recommended that Uganda National Bureau of Standards (UNBS) should be well capacitated, both financially and personnel in order to develop and enforce standards appropriately across the country.

## 2.2.12 Opportunities and Status of Decentralized Renewables in Sub-Saharan Africa

**Session Chair:** *Eng. Denis Ariho* – Lead Technical Expert, EACREEE

**Discussants:** *Laura Corcoran* – Chief Business Development Officer, Aptech; *Joyce Nkuyahaga* – Off-grid Advisor, Power Africa's Empowering East and Central Africa (EECA), RTI International; *Eng. Ivan Karau* – Uganda Development Bank; *Julius Magala* – Energy Access Coordinator, UNCDF; and *Bernard Mbaine* – CEO, UNREEEA

Discussed available opportunities for investment in Decentralised Renewable Energy in Sub-Saharan Africa. Highlighted how the private sector could be supported to accelerate the deployment of Decentralised Renewables in Sub-Saharan Africa. Shared how DRE developers overcome the existing hindrances to the projects. Pointed out what needs to be done to unlock financing for Decentralised Renewables in Sub-Saharan Africa?

Noted that although Sub-Saharan Africa (SSA) is endowed with abundant

renewable energy resources, about 600 million of its people still have no access to electricity. Further pointed out that only about 5GWp, which is less than 1% of the global total, is installed capacity in SSA, yet the region has the equator crossing several of its countries.

Pointed out that the main challenges affecting the deployment of Decentralised Renewables in SSA are Unreliable electricity supply, limited affordability, and heavy reliance on fossil fuels. Emphasized that SSA requires a favourable policy, legal and regulatory

environment, and financing to harness the abundant resources available.

Recommended that Uganda should stand out amongst the SSA countries and adopt a supportive legal and policy framework for DRE. Noted that there is currently a vacuum in the regulation of DREs in the country and called upon the

Ministry to come up with a law for the renewable energy sector. Also noted that investment in the development of DREs is big, thus recommended the government to support local companies to grow their capacity and competences to be able to develop DREs rather than always relying on foreign developers.

### **2.2.13 Renewable Energy (RE) for all – A pathway for Uganda's Just Transition, Climate Neutral and Sustainable Energy Future**

**Keynote Speaker:** *Ivan Tumuhimbise* – Country Representative, WWF

**Session Chair:** *Yonah Turinayo* – Coordinator – Energy, Climate and Extractives Programme, WWF International

**Discussants:** *Robert Bakiika* – *Executive Director*, Environmental Management for Livelihood Improvement; *Dr. Hillary Agaba* – Director for Research, National Forestry Resources Research Institute (NaFORRI)/NARO; *Madira Davidson Amooti* – General Secretary, Uganda National Alliance on Clean Cooking; and *Ibrahim Mutebi* – Renewable Energy Manager, SNV

The session commenced with presentations on “*RE Technical Scenario for Uganda*” that was delivered by Reiner Lemoine Institute (RLI) and “*Renewable Energy Roadmap*” that was delivered by Heden Engineering Solutions. Development of the presented documents was supported WWF through the Multi-Actor Partnership (MAP) Platform for 100% RE. Shared experiences, lessons learned, and best practices/approaches for a sustainable energy future based on the RE scenario and policy roadmap studies conducted. Elaborated scenarios that could help to



envisage energy alternatives and their effects in the coming years. Noting that it is useful to identify how the existing energy policy could be complemented and how a roadmap for an energy transition to the use of RE in different



sectors could be defined. Pointed out that the pathways and scenarios were evaluated to assess the potential of the available resources to set up an energy system based on 100% renewable energies by 2050. Discussed and launched the RE technical scenario and policy roadmap reports for public adoption.

The discourse shed light on the available and enabling DRE proliferation policies, strategies and guidelines. Included an interactive debate on the design and implementation of policies and regulations needed to radically speed up investments in the DRE energy access sector. Noted that Uganda is at a turning point in its development and it must make decisions for its energy future given its wide variety of natural resources, both renewable and non-renewable.

Highlighted how the private sector and CSOs could work in sync with the Government to ensure that the highlighted energy transition pathway is achieved. Emphasized that for the progress of energy transition pathway to be implemented, monitored and evaluated, significant finances are requested. Highlighted how MAP members could be consolidated to spearhead the fundraising drives for energy transition initiatives in Uganda. Alluded to the fact that transitioning to renewable energy is crucial for Uganda's sustainable development and climate

goals. Further examined the prospects for the widespread adoption of renewable energy in Uganda. Assessed Uganda's preparedness to tackle the most challenging factors it is likely to face in its energy transition journey. Highlighted the best tangible scenarios or practices that could be adopted to achieve a 100% clean energy access in Uganda in line with the country's commitments and targets beyond what was presented. Discussed how the existing renewable energy policies and strategies in Uganda could be adopted or fine-tuned to contribute to a just transition and a sustainable energy future.

Recommended that the only way of achieving a just transition as a country is through coordinated planning and implementation of energy projects. Emphasized that the Ministry should not just stop at developing policies, but rather proceed and efficiently implement them in conjunction with its partners. Recommended that the policies should be translated to local dialects to facilitate comprehension from by layman. Furthermore, called on the government to undertake awareness campaigns on the different renewable energy technologies, their usages and benefits in order to facilitate mindset change among the populace. Finally recommended that routine policy audits should be done to ascertain the progress in the implementation of the policies and guide on areas of improvement.

## 2.2.14 Reinventing Waste Solutions for Better Future

**Session Chair:** *Tom Ssengalama*, Team Leader, Nature Climate Energy and Resilience, UNDP

**Discussants:** *Dr. Miria F. Agunyo* – Project Manager, NAMA Biogas; *Cathy Adengo* – Head Sustainability, and Environment, Stanbic Bank; *Joel Kagina* – Supervisor Solid Waste Management Project, KCCA; *Harold Obiga* – Director Legal Services, ERA; *Eng. James Maiteki* – Manager Sewerage Services, NWSC; and *Sunil Agrawal* – Project Director Madhivani Group-Kakira Sugar Works

The session commenced with a presentation on “*Success Story of NAMA Biogas Project and Investment Opportunities*”. Shared how the project exposed cities and urban authorities in the country to the appreciation of the waste as a resource. Pointing out the appreciation of the waste as a resource value chain from sorting of waste to recovery of resources in form of electricity, energy for heating, promoting the discussion of organic fertilizer and even recovery of plastic. However, highlighted that waste to energy conversion is not a new phenomenon noting that the private sector, policymakers, and donor community involved at various levels. Noted that these initiatives point to the sustainable management discussion and incorporating environmental aspects as well, yet investment is still a major challenge.

Explored avenues of the roll-out such a project to other parts of the country and

ways the knowledge of transforming waste into useful resources could be translated into practice. Suggested measures that should be taken to enhance local investment in waste-to-initiatives in the country. Pointed out how different the learnings from the NAMA project could inform future initiatives. Explored how sustainable financing for the next phase of NAMA and similar projects could be secured. Discussed how banks could support in enhancing the discussion on sustainable projects that can positively impact all groups of stakeholders i.e. youth, women and men.

Noted that as government promotes waste to energy projects in a bid to contribute to the energy security discussion, technologies resulting in use of biogas and biomass to generated electricity have been considered and successfully been applied in certain cases. Discussed the journey a potential investor should take to successfully install a biogas to electricity/biomass to electricity plant that

feeds electricity to the grid. A case of Kakira Sugar Works limited, one of the private sector entities that have benefited from the generation of electricity from waste i.e., bagasse and feeding it on the national grid was discussed, where positive and negative experiences were shared that other interested investors could learn from.

Noted that the discussion on waste to energy has been globally embraced with various regions in the North and South demonstrating viability through project that have been successful. Cognizant that waste to energy approaches could be a solution for urban areas of the developing south given the growth population, urbanization and trends of waste generation, some of the measures Uganda could take in adopting and promoting waste to energy approaches help her 'leap frog' some of the negative experience the North has faced were highlighted.

Recommended that the government should enforce stringent measures to ensure that all cities, towns and municipalities efficiently manage their waste and appropriated use it for energy

generation. Called on the government to develop standards for industrial biogas production and distribution in order to facilitate large scale production. Appealed to the government to streamline the licensing process for large scale biogas to electricity generation, noting that unnecessarily bureaucracy is deterring investment in this sector.





### 2.2.15 Clean Energy Transition: Critical Minerals and Supply Chains

**Discussants:** *Chris Lubangakene* – Ass. Commissioner Laboratories, GSD/MEMD; *Loyola Karobwa Rwabose* – Mining Lawyer, MEMD; *Bwesigye Don Binyina* – Executive Director, Africa Center for Energy and Mineral Policy; and *Frank Dickson Mugenyi* – Executive Director Minerals Africa Development Institution

Highlighted how the rapid rise of clean energy has underpinned significant growth in demand for critical minerals, citing that clean energy transition exploiting technologies like e-mobility EVs and renewable energies are extremely minerals-intensive scheme. Noted that the competition for clean energy manufacturing and supplies of

dimensions play in the supply of critical minerals, and how countries could

critical minerals is a major issue for resilient energy transition globally. Discussed the latest advancements in research on clean energy and essential minerals concerning developing economies. Pointed out opportunities for Uganda to utilise its critical mineral resources to advance the clean energy transition. Noted the role geopolitical

ensure a secure and diversified supply chain of these minerals that will

equitably benefit both producing and consuming nations. Pointed out strategies that could be employed to ensure that the supply chains for these minerals remain sustainable and environmentally friendly.

Indicated that the astonishing demand for minerals is likely to put upward pressure on prices, exacerbating the costs of an energy transition that is already expected to be very expensive. Explored major issues facing domestic mining, inventing substitutes, recycling, and reprocessing. Highlighted the role of innovation in addressing our critical minerals challenges.

Recommended that sector stakeholders should keen interest in the country's

critical minerals, energy development and deployment activities. Pointing out that several bills, policies and regulations were passed in the recent years. Also called upon the government to support nascent energy technologies through incentives and championing awareness and sensitization campaigns. Likewise, support local manufacturing of energy components like solar panels to enhance job creation. Furthermore, the government was called upon to financially support local value addition to the country's critical minerals. Finally recommended the government to provide capacity building and technical assistance to enhance the skills and knowledge about these critical minerals in the country.

## **2.3 Access to Finance**

### **2.3.1 Bridging the Funding Gap to Scale Innovation and Accelerate a Clean Energy Transition in East Africa**

The session was organized by UK Catalyst to showcase as well discuss its support to Uganda's energy sector as well as experience sharing by some of the private sector actors that have so far benefited from the UK Catalyst fund. Highlighted that to date, Energy Catalyst has invested over £120 million of grant funding to target risky early-stage innovation that cannot access traditional finance to bridge the gap and help

innovators scale and attract private sector investment. The session brought together a range of experts and innovators to share learnings from across the portfolio of 256 companies addressing energy access and spotlight the successes that have helped leverage over £200 million in follow-on funding for Energy Catalyst-supported companies.



Some of the benefiting Ugandan companies include Nexus Green, Mandulis Energy, CREEC, among others, that shared their experiences as well as exhibited their products at the event. Emphasized that funds are available, but unfortunately, applicants do not prepare enough before applying and thus end up being rejected.

Recommended interested companies and researchers to always look out for the UK Catalyst funding calls every year. Hinted that sharing experiences from those that have already benefited from

the funds could help prospects to develop competent proposal. Indicated that the funding is very competitive, cautioning prospective applicants to do thorough research and planning before submitting their proposals.





### 2.3.2 Team Europe Support to the Energy Sector in Uganda

**Session Chair:** *Maurice Mugisha* – News Anchor, NTV Uganda

**Discussants:** *Dr. Isabirye Brian* – Commissioner, Renewable Energy Department, MEMD; *H. E. Maria Hakansson* – Swedish ambassador to Uganda; *H. E. Xavier Sticker* – French ambassador to Uganda; Nan Yang – EU Team Leader Energy Development; *Jacob Holmberg, Mark Hurley* – Private Director AFB; *Jesus Garland* – Project Manager Energy EU; *H. E. Mathias Shauer* – German ambassador to Uganda; and *Mrs. Caroline Adriaensen* – Head of Cooperation EU Delegation in Uganda

Noted that the European Union and its Member States are global leaders in the transition towards clean energy, as part of the EU's global commitments in the fight against climate change. Highlighted that the EU Green Deal – the EU's policy to achieve carbon neutrality by 2050 – sets out the road map, strategy and financial resources allocated to deliver on these ambitions. Further pointing out that it includes the promotion of renewable energy resources, energy efficiency and energy conservation measures, and research and innovation across sectors. Additionally, it also aims at supporting partner countries – such as Uganda – in their efforts to reach the targets set by the Paris Agreement. Highlighted ongoing and planned support to Uganda's energy sector, and discussing challenges and opportunities for the energy transition with key public and private sector players.

Indicated that as part of EU plans to fight against climate change to achieve carbon neutrality by 2050, promoting energy efficiency and research in energy conservation techniques in Uganda are critical areas. Highlighted that data from IRENA shows that in 2022 an additional 42GW of solar energy was sold in Europe compared to merely 1GW sold in Africa in the same year. Questioned the cause of the differences and noting measures taken by EU that could be benchmarked on to improve this situation, especially in Uganda.

Noted that data management and collection is one of the biggest challenges in implementing the renewability programs in Uganda. Pointed out financial innovation for sustainable renewable energy development in Uganda as a critical area that needs urgent attention. Elaborated that Team Europe has supported the private sector to bring capital

investment in renewable energy sector. Also indicated that several domestic and external investors have been attracted to invest in the renewable energy sector. Applauded the government for the

conducive political, policy framework, and Uganda's climate that is attractive to investors. Further hinted on the need for electrifying vehicles and bikes in Uganda and highlighted role Team Europe played

in supporting this cause, particularly by offering financial support and capacity building.

Pointed out that Team Europe had managed to improve the efficiency of producing ordinary biomass (charcoal) from less than 10% to more than 20%. Also indicated that there is ongoing promotion of electricity for clean cooking as a way of reducing carbon footprint by EU in different parts of Uganda. Highlighted that 17 additional small hydro electric power and 3 transmission lines have been constructed to improve access to renewable energy.

Informed the participants that Team Europe created a platform for collecting funds from different people in Europe to invest in renewable energy projects in Uganda. Also noted that the Ministry of Energy and Mineral Development recently wanted to implement EVs in Uganda with the help of Team Europe to reduce the carbon footprint but unfortunately, they did not have enough data for the realization of this project.

Highlighted that Team Europe has provided funds to support and provide adequate skills for both foreign and domestic investors, for example, there was an increase of 155MW of electricity in last 8 years and also the support increased from 400 million euros to 500 million euros. Also noted that the EU has helped the private sector actors to develop their ideas.

Alluded to the fact that in 2022, around October there was an increase in investment in battery selling and charging points for electric bikes to more than 60 locations in Eastern and Central Uganda and as of November 2023, there were close to 700 electric bikes on the road and a target of 1,000 was foreseen by the end of the year.

Emphasized that Team Europe has provided and it is still committed to providing the necessary support tools such that Uganda can realize a complete transition to renewable energy by 2050 through its implementing programs like GIZ, d.light, Engie Energy solutions and many more and its currently running a huge portfolio of about 600 to 700 million euros which is ran by only EU delegates. Hinted that Team Europe understands that the access to these funds by a grassroot stakeholder is still low and it is trying hard to improve it such that everyone is able to access these funds. Also, for these programs to thrive, Team Europe pointed out that it needs dedication from authorities in Uganda. Recommended that incentives should be provided to private sector companies that invest in renewable energy projects. Further noted that more technical support is required for different stakeholders, an indication that Uganda is still lagging behind in this. Pointing out that there is need for more skilling among the people especially in new emerging technologies since the skilled people are still low. Recommended

extensive training on renewable energy across the country for mindset change. Team Europe urged the Ugandan private sector and the government at large to heavily collect data which will later be used as information for any renewable energy project. Emphasized that the government should embark on its

energy transition plans by coordinating with its private sector. For the sector of EVs and electric bikes to thrive in Uganda, Team Europe urged the Ugandan government and private sector actors to heavily invest in construction of charging facilities for batteries.



### 2.3.3 Scaling Finance for Equitable Transition to Clean Energy

**Session Chair:** *Dr. Frank Bunnya Ssebowa*, Senior Advisor, UOMA

**Discussants:** *Samuel Ocanya* – Project Manager EASP, UECCC; *Nicholas Kiiza* – Sector Head – Power & Infrastructure, Stanbic Bank; *James Otto* – Senior Investment Manager Infrastructure, Uganda Development Bank; and *Elizabeth Mwerinde Kasedde* – Executive Director, Equity Bank

The session commenced with a speech delivered by *Mr. Roy Baguma* – Director, Transaction Execution, UECCC on behalf of Ms. *Specioza Ndagire*, Managing Director, UECCC.

Emphasized that clean energy solutions are needed to decarbonize our infrastructure and markets. Collectively agreed that the bottlenecks to uptake of clean energy solutions are around deployment and the cost of integration. Noted the need for innovative policies and financing models that use public funding to de-risk and leverage private capital, reduce the green premium, and make green solutions cost-competitive. Hinted that the private sector must take the lead in driving the collaboration on the climate agenda through nurturing and implementing sustainable clean energy innovations. Discussed options for de-risking carbon and climate investments to accelerate and upscale energy and climate action, recommended sustainable net zero innovations that are affordable for reducing the green premium, and how to fast-track the innovation adoption trajectory in Africa. Indicated that concessional finance must be significantly scaled up and used strategically to mobilize the largest possible amounts of private capital in support of clean energy development and climate goals. Highlighted the different funds available such as under the Electricity Access Scale-up Project at UECCC that has different components addressing a range of financial issues in the energy sector.

Argued that achieving scale in the energy sector requires a holistic approach across the value chain. showcased how with the correct ingredients – integrated energy access

planning, greater coordination among actors, and innovative, just & patient finance mechanisms – the energy sector could unlock greater investment opportunities. Noted that scaling private finance for the clean energy transition is crucial. Highlighted knowledge gaps in the energy sector regarding the available financing products targeting clean energy. Also noted that several sector players are do not meet the basic funding requirements, such as bookkeeping, legal status and bankable projects. Emphasized the need for financial literacy training in the energy sector in order to enhance sectoral financial competences.

Recommended that sector players should always approach the financing institutions and consult about the available packages and terms and conditions applicable to them. Called upon sector coordinating bodies to work closely with the financing institutions to organize financial literacy trainings for the sector players. Also noted that the mismatch in the packaging, particularly the ticket size and mistrust between the financiers and the beneficiaries could be addressed if consultative meetings are held. Energy businesses should refine their renewable energy projects to ensure bankability to easily secure funding from financing institutions. Recommended that bookkeeping by businesses should be prioritized.

### 2.3.4 Demand Side Results-Based Financing: Launch Event

The session alluded to the fact that Uganda is currently home to over 1.5 million refugees, mainly from South Sudan, the Democratic Republic of Congo, Burundi, Rwanda, and Somalia. Hinted that refugees live in settlements alongside rural host communities across 13 districts, which are among the poorest and least developed in the country. Recognized the several interventions by actors such as Energising Development (EnDev) and other humanitarian and development partners to address challenges in these communities. However, noted that significant barriers to accessing modern energy products and services remain eminent in these communities.

As a means of addressing this bottleneck, EnDev Uganda with funding from the Netherlands Directorate General for International Cooperation

(DGIS) launched a new project called the **“Demand Side Results Based Financing Project,”** which targets refugees and host communities with modern cooking as well as solar PV technologies in the West Nile sub-region, and other locations such as Kiryandongo, and Palabek.

Subsidies provided in targeted regions lower consumer prices for a range of quality-certified products including solar lanterns, solar home systems, improved cook stoves and higher-tier cooking technologies. Through this demand-side subsidy project, EnDev Uganda targets to enable up to 400,000 people to access modern energy services and products as well as indirectly contribute to providing energy access to millions through scale up and replication.

### 2.3.5 Innovative Technologies to Scale Finance for Distributed Renewable Energy (DRE) Projects

**Session Chair:** *Essien Joel*, Energy Consultant

**Discussants:** *Samuel Kaufman* – CEO & Co-Founder, SAWA Energy; *Edith Kababure* – Chief Manager, Alternative Channels, Centenary Bank; *Kenneth Nkumiro* – Enabling Environment Advisor, Chemonics; and *Elizabeth Kasenene* – Executive Director, RENTICO

Noted that decentralised renewable energy (DRE) technologies play a critical

role in enabling an equitable energy transition and ensuring energy security

for many emerging and developing economies. Shared on the current innovative technologies to scale finance for DRE projects and overarching challenges from an investment perspective that could be addressing through innovation/ innovative technologies. Forecasted the possible innovation, particularly technology relevant to DRE, looking at the run to the end of the SDGs timeline. Highlighted how innovative technologies could de-risk and catalyze investment in the DRE sector. Allured to the relevance of data, evidence and learning to innovation/innovation of technology. Decried the limited financial resources in the country that are committed to supporting innovation as well as limited innovative finance. Emphasizing that for the DRE to advance steadily, it is important for financing institutions to be creative and come up with innovative finance packages that speak to the social needs and status quo. Pointed out that energy companies find it very hard to secure finance in comparison to agriculture companies. Blamed the financing institutions for not

intentionally interesting themselves in the energy sector projects as well as building the capacity of their personnel to better understand energy projects.

Recommended that the Ministry should facilitate interactive discussions amongst the financing institutions with private sector companies on innovative and cutting-edge technologies that could help attract, de-risk and catalyze investment in the DRE sector in emerging markets. Further recommended that the Ministry should get interested in knowing periodically the financing available in the sector by collecting data. Called on the financing organizations should modify their ticket funding sizes to accommodate a wider size of interested clients' projects. Local financing organizations in renewable energy sector e.g., UECCC, UNCDF should create partnerships and work together to reduce scenarios of bureaucratic red tape setbacks, and share information about their activities to clients.

### 2.3.6 Biofuels Blending Side Event

**Session Chair:** *Solomon Muyita* – Head of Communications, MEMD

**Discussants:** *Disan Kiguli* – Principal Energy Officer, Petroleum Supply Department, MEMD; *Mubiru Wilberforce* – Sugar Manufactures Representative; *Eng. Herbert Abigaba* – Principal Energy Officer, MEMD; and *Hosea Nkojo* – Supply and Petroleum Affairs Manager, TotalEnergies

Noted that Uganda is a net importer of petroleum products with development

currently underway to exploit and utilize her fuels under exploration. Stated that the



consumption of petroleum products currently stands at 78 and 80 million litres per month of PMS and AGO, respectively. Shared that the Ministry of Energy and Mineral Development had developed legislation to provide a Legal Framework to support the development of the biofuels industry, which include the Biofuels Act, 2020, Biofuels Regulations 2022, and declaration for the Licensing Authority. Highlighted that these legal frameworks are intended to develop the biofuels for sustainable use in the transport sector as part of; promoting the availability of an alternative, renewable energy fuel which preserves the natural ecosystem, the biodiversity, and carbon oxide neutral and ensures food security in Uganda; creation of green jobs and a circular economy.

Further indicated that the Ministry had also held engagements with the key stakeholders in the biofuels chain as well as the potential key stakeholders including the producers, fuel company owners, and policymakers among others in terms of the development of the above frameworks. Discussed the roadmap for Uganda's blending of fossil fuels with biofuels with a focus on the 1% blend of bioethanol with petrol. Served as a forum for sharing lessons learned, challenges, and opportunities in biofuel production and blending.



Generally, shared an overview of Uganda's petroleum sub-sector, regulatory Framework, developments and plans. Examined Uganda's regulatory framework for the biofuels in comparison to other countries and the country's preparedness in terms of policy for the implementation of the Biofuels. Further discussed the readiness of the sugar producers to meet the demand once commences with about 800 litres of biofuel required monthly. Shared experiences from elsewhere on handling similar biofuel blending initiatives and how best could handle transportation, blending and dispensing of the blended fuels. Questioned what could still be pending in order to achieve customer satisfaction and confidence to used blend fuel.

The Minister of State for Minerals appreciated the attendance and commitment to driving the Sustainable Development of Uganda's Biofuels Industry this far. Further noted from the presentations and discussions, that the Ministry has developed legislation to provide a Legal Framework to support the development of this industry, including the Energy Policies; Biofuels Act, 2020; the Biofuels Regulations, 2022; and the Declaration of Licensing Authority.

Further noted that to support the initiative of blending fossil fuels with biofuels, as part of the energy transition, and the decarbonization of the transport

sector in particular and the Oil and Gas sector in general, the Ministry has undertaken a consultative process with key stakeholders to discuss the plan for commencement of blending of the fossil fuels with the biofuels, and as well, assessed biofuels production status across the Country. Asserted that based on the above process, the Country has the availability of feedstock that is sufficient for the commencement of the mandatory Ethanol Blended Petrol (EBP) program, that is, starting with a 1% by volume ratio blend (E1), effective start of next FY (2023/2024) - July 1<sup>st</sup>, 2024.

Concluded the remarks by announcing the intent to commence mandatory blending as below.

In line with section 3 of the Biofuels (licensing) Regulations, 2022 (No. 129 of 2022) IN EXERCISE of the powers conferred upon the Minister responsible for Energy, the Ministry issued an intent to issue a mandatory Statutory Instrument for the mandatory use of bioethanol for blending with petrol, effective start of next FY (2023/2024) - July 1<sup>st</sup>, 2024.

### 2.3.7 GET Access Uganda: Mini-Grids Project Launch

**Session Chair:** *Benon Bena* – Renewable Energy Expert

**Discussants:** *Patrick Tutembe* – ERA; *Fred Tuhairwe* – Project Manager PUE, UECCC; *Olga Namatovu* – Mini-grids Lead, GIZ; *Moses Kakooza* – PUE Expert; *Idris Tayebi* – Director, NEOT Off-grid Africa; *Riccardo Ridolfi* – CEO, Equatorial Power; and *Peter Nyeko* – Co-founder, Mandulis Energy

The session speeches from: *David Löw* – Deputy Head of Cooperation, German Embassy; *Gavilan Marin Jesus* – Energy Programme Officer, European Union; and *Eng. Irene Pauline Bateebe* – PS, MEMD

**Eng. Irene Pauline Bateebe** – PS, MEM

Shared that the Government of Uganda received a 35 million Euro grant facility for the implementation of Solar PV based mini-grid systems in 140 villages across various districts of Uganda, including refugee settlements and Lake Victoria shores. Noted that the targeted customer connections under the project are over 25,000 and the project is expected to deploy up to 5.3 MW of PV generation capacity.



Highlighted that the Ministry was launching the Project and further intends to conduct a market-sounding activity to obtain feedback from stakeholders,

including mini-grid project developers, appliance financing institutions in the Solar PV space, and consultants, which will feed into the qualification requirements for the project. Involved sharing of experiences by mini-grid developers, an in-depth presentation on the project, discussions amongst the participants. Shared challenges encountered such as bureaucracy and delays in issuing of licenses, demand

stimulation and growth, affordability gaps among the users and access to just and patient financing for mini-grid projects.



## 2.4 Information and Knowledge Management

The session began with a presentation on *Clean Cooking Industry Trends in Africa* by Caroline Amollo. Noted that the future of clean cooking in Africa is or will be realistically a slow but sure transition due to the difference technological advancements between the rural and urban areas. Emphasized that more efficient and less negative impacting innovations could be adopted by the different communities with the help of the government and private sector especially through providing more affordable clean cooking alternatives. Highlighted the need for more awareness about carbon financing at all levels of the communities highlighting the various benefits of this approach.

unawareness and the cost that might not be favourable to all. Indicated that through awareness programs on the use of stoves and benefits of minimizing the use of firewood, involving private sector in the distribution of the products and working together with government to provide easy use of improved technology, the transition could be fast-tracked. Also, user training on the technology was identified as a possible trigger for demand to encourage communities to purchase the products whose functions are well known.

Stated that some homes in rural areas are not built for some energy technology therefore the need to put that into consideration. Indicated that about 65% of Ugandans use charcoal and 20,000 people are employed in the charcoal value chain. Noted that people end up destroying forests to get charcoal and earn a living which has a negative impact on the climate. Emphasized that there is a lot of deforestation happening at the cost of the environment and bringing about climate change. Called on the participants to consider the effects of climate change and make the right choices or adopt the right practices e.g., planting the right trees and of good quality.

Noted that the transition process is long from the traditional or old practices due to

Recommended that government should revise the electricity cooking tariff by either lowering its range or increase the lifeline units to about 40kWh to encourage use of electricity to cook. Called on urban dwellers to embrace the use of electricity to cook as a means of minimizing carbon emissions. Recommended the Ministry to intensify awareness campaigns on clean cooking fuels and stoves on the market. Noted that since the charcoal ban was enacted, the Ministry has never come out to sensitive people about the available alternatives.





## 2.4.2 Religious Leadership Dialogue on Clean Energy and Sustainable Practices

**Session Chair:** Peter R. Kakuru – Paster, Watoto Church

**Discussants:** *Pastor Martin Sempa* – Founder of the Makerere Community Church; *Rev. Emmanuel Kalagala* – Vicar, Church of the Resurrection Bugologi, Church of Uganda; *Imam Kasozi*, Imam, Mawanga Mosque, Munyonyo; *Prof. Peter Nyende* – Lecturer, UCU; and *Dr. Kaiso Flugencio* – Manager Climate Change, Energy and Environmental Stewardship, Inter Religious Council of Uganda

Emphasized that development has promoted the use of renewable energy to meet the needs of today without interfering with the future needs. Noted that most of energy widely used is unreplaceable (fossil fuels), thus, it is important to think of people who are coming after the present generation. From a religious perspective, noted that religious leaders have a duty to protect the environment, asserting that if energy is not used sustainably, then even religion is under threat. Pointed out the contentment nature of lifestyle that needs to be reminded about their environment.

Acknowledged that many people are not aware of the clean energy, noting that the concept of clean energy is centralized in urban centres and not in rural. Highlighted that the issue of wrong attitude toward clean energy still affects people and needs to be tackled immediately. Asserted that religious leaders can be good ambassadors and champions of renewable energy. Further pointed out that renewable energy technologies are not expensive per say, but the initial cost is often prohibitive. Called on the government to make these technologies affordable. Also required that government to foster education on renewable energy in order to build

knowledge and acceptance amongst the people.

Alluded to the fact that religious leaders are influential, who exist for the good of our community. Emphasizing that this category of people is an untapped force in the advancement of renewable energy adoption in the country. Collectively pointed out that there is need to take

influential people like religious leaders to partner and be ambassadors of renewable energy technologies.

Recommended that the Ministry should endeavor to work closely with the religious leaders in promoting renewable energy in the country. Called on the Ministry to train religious leaders on renewable energy so that they could have the basic knowledge and skills to share with their congregants. Requested the government to ensure that the

products on market are of standard to avoid market distortion.





### 2.4.3 People: Championing Community-Led Energy Transition

**Session Chair:** *Najja Nasif*, District Speaker, Wakiso District Local Government

**Discussants:** *James Bond Kunobere* – Environment Minister, Buruuli Kingdom; *Collins Muttu Atiko* – Secretary General, Acholi Kingdom; *Teddy Nabakooza Galiwango* – Environment Board Member, Buganda Kingdom; *Robert Byaruhanga* – Oil & Gas Manager, Bunyoro Kingdom

The session commenced with a Keynote speech from *Owek. Mariam Mayanja Nkalubo*, Environment Minister, Buganda Kingdom.

Highlighted the growing consensus that effectively tackling the energy transition and climate change crisis, requires the support and scale of solutions that indigenous people, local communities, and grassroots initiatives offer. Noted that indigenous peoples and local communities are a critical part of the solution, despite not always being equitably involved in the discourse. Emphasized that culture evokes emotion, stimulates imaginations, generates images of ourselves and of possible futures, and thus shapes our brains and therefore holds immense power to influence and transform what people aspire to, what they expect, and what they consider essential in the moment and over time.

Pointed out that in the past, as the women cooked using their local stoves, some would put stones in the fire as food gets ready and when cooking would be done, these stones are then removed and put in a basin of water to warm the water for bathing. Noted that this practice is no more in the present generation.

Pointed out that the Kingdom of Buganda launched the “Ekibira Kya Kabaka” initiative in order to boost the efforts to conserve the environment. Highlighted that Buganda Kingdom has adopted the use of solar as source of light, solar dryers, and powering water pumps to improve the availability of water for agriculture. Also hinted that in the Buganda Kingdom, the Kabaka Education Fund has helped to educate the youth in the various institutions in a range of fields such as environment and energy. Called on the government extend financial support to the local communities. Indicated that capacity building trainings are still needed on the technical aspects of the renewable energy technologies.

Highlighted that as cattle population in the Bunyoro region grows, biogas production has also gone up. However, financial constraints and limited technical know-how remain the underlying challenges in adopting the technology. Noted that in Bunyoro, locals with no electricity have been advised to take up solar home systems and they are doing so. Further pointed out that Bunyoro Kingdom had partnered with

the government to build a geothermal power plant.

Alluded to the fact that there is abundant sunshine in the country since Uganda lies along the Equator and also there are numerous hydropower resources, but all these have not been put to full use to benefit Ugandans. Highlighted the challenge of some infrastructures being destroyed, which affects the steady supply of electricity. Called up government to establish surveillance systems to safeguard against infrastructure vandalism and theft.

Pointed out that most women have it in mind that when cooking Matooke, one need to leave it to stay on the charcoal stove for some time (simmering) in order for it to have the taste that they want. Therefore, this creates a challenge to the cooking alternatives such as electricity and gas. Called upon the

Ministry to carry out awareness campaigns in order to bring out mindset change among the people.

Recommended that cultural institutions should not be left out of the decision-making process, particularly concerning clean energy technologies, noting that they have a big mass of people that they influence in decision making. Encourage the government to set up vocational institutions to teach the local communities on renewable energy. Recommended that sensitization on the improved stoves is needed so as the local communities can embrace the new technologies. Emphasized that capacity building programs should be put in place to facilitate grassroot presence of people with technical know-how on the clean energy technologies.

#### 2.4.4 Energy Data, Knowledge and Analytics for Actionable Insights

**Session Chair:** *Dr. Suzan Mary Abbo*, Managing Director, CREEC

**Discussants:** *Andrew Wilobo* – Program Partner Digital Economy, Mastercard Foundation; *Henry Obwoya* – Digital Finance Expert; *Richard Muhangi* – Principal Surveyor and Head GIS Unit, MEMD; and *Mark Shibuka* – Senior GIS Officer, UEDCL

Noted that availability of energy data online has eradicated the need of surveys. Highlighting that such data also has the feasibility studies. Emphasized that it is imperative to have an ecosystem that has data available, accessible to anyone interested, correct and generative data mechanisms without necessarily incurring costs

associated with manual data collection and update. Pointed out the need for data portals to make data acquisition seamless because it is the right of every citizen to access this data. Noted that the most expensive phase in the data cycle is the interconnection. Cited an example that not all data is available from UEDCL due to data privacy and legal reasons.

Emphasized the need for interdisciplinary engagement to allow for information flow to support decision making from the research side, business side and policy side. Knowledge management in the energy sector has created opportunities for investment. All decisions should be data driven such that the discussions are not emotional and screaming on top of voices.

Pointed out that the energy sector has quite a large and dynamic data bank i.e. the target is moving for example distribution grid involving replacement of transformers, connection of new customers. This generates a lot of data. Practical scenarios at UEDCL such as dealing with large investments opportunities on grid systems such as EACOP with various stakeholders such as UNOC. Noted that there have been extensive collaborative sessions where data has been a key player. Highlighting that the simulation of the grids to know the best sites for deployment of heating stations required a lot of data.

Pointed out that CREEC has been trying to make business sense from the data. Noting that a lot of skilled and competent people are present in the country but their efforts cannot be monetized or create revenue flows from their works. Highlighted that some investment partners hold back on information in a specific way that they do not know what the information would be used for. Noted that data management remains a key

challenge to the energy sector and the country at large.

Recommended more outreaches to institutions of learning to avail information on the energy transition because incorporation of the same into the curriculum may take time. Emphasized that the government should incorporate collection of feedback from the public to better understand how to attend to their energy data requests. Recommended prioritizing the development of interactive data portals to make data acquisition seamless and possible with any end user. Pointed out the need for knowledge sharing in a platform where decisions are made to attract low-cost capital, renegotiate, reach to development partners and redirect regulators to correct prices. There is need to understand why the end user is not using the available technologies presented by government i.e. address mindset change. Develop methodologies and metrics that demonstrate return on investment to demonstrate financial sense of the energy data.



## 2.4.5 Promoting Inclusive Energy Engagements: Empowering All Voices

**Session Chair:** *Priscilla Regina Nalwoga*, News Anchor, NTV Uganda

**Discussants:** *Eng. Judith Nayiga Ssengendo* – Director Technical Regulation, ERA; *Emilly Nakamya* – Business Planning and Performance Manager, Uganda National Oil Company; and *Hon. Dr. Miria Matembe* – Former Member of Parliament, Uganda

Noted that the government remains committed to empowering all Ugandans irrespective of their gender, race, and diversity. However, hinted that women involvement in energy remains low. Encouraged women not to wait to be called on to join the energy discussion, but should find their way to the discussion. Cited the affirmative action policy and regretted say that the women that benefited from it did not labor to support fellow women to raise up the ranks. Noted that often women fight fellow women, they seem not to be wishing them well unfortunately.

Mentioned that women in the energy and extractives formed a network. Highlighted that the network is intended to encourage more women to join the energy sector and stand out. Welcomed all women to join the network so that they could hand hold each other. Decried the fears among women that the energy sector involves too much walking and lifting of equipment, which is a myth. Called on the girls to do courses in science, technology, engineering and mathematics (STEM) and never look down on themselves.

Noted that it is evident that advocacy for women's participation has deteriorated in recent years and likewise, women that

are highly placed have not handheld fellow women. Pointed out that several women groups exist in the energy sector, but on the contrary, little or no impact is visible in regard to more women assuming higher positions. Called on such groups to work together and empower each other in order to achieve their mandate. Emphasized that a just energy transition cannot be achieved unless all parts of society equally participate in the sustainable energy discussion. Called on men to create space and boost female participation in a masculinized sector through the provision of a platform to share their experiences, challenges, and lessons learned. Hinted the need for a commitment on gender transformation.

Recommended that government should give women audience and take into consideration their views, particularly in the energy sector. Called on the Ministry



to intensify awareness campaigns in schools in order to encourage more girls to join the energy sector. Called on for more platforms that allow women to freely air out their views and participate in decision-making. Called on

government to take action on men that sexually abuse women at their respective workplaces. Encouraged women not to shy away and avoid airing out their struggles and mischiefs.

#### 2.4.6 Making Modern Energy Cooking Markets Work for All

**Session Chair:** *Janney Nabanoba* – Administrative Assistant, CREEC

**Discussants:** *Gorreti Nakiwala* – Champion, Women in Renewable Energy Assoc/CREEC; *Sarah Kiggundu* – Energy Saving Stoves Champion, Joint Energy and Environment Projects; *Nakato Leticia* – Team Leader, Katoogo Women Group, Mbuya; and *Phiona Namara* – Food Vendor, Makerere Kikoni Market

Highlighted that clean cooking technologies are not the preserve of the rich and middle-income classes alone, but everyone human being. Showcased the role integrated energy planning can play in expanding access to clean cooking, using the experiences of women from ghetto areas that use or supply clean cooking technologies. Discussants used their native languages

Appreciated the different institutions such as CREEC, JEEP, NREP, among others that have reached out to them to support them. Alluded to the fact that they had been trained to make briquettes and improved cook stoves. Decried the cost of machinery for making briquettes which is beyond their affordability range, noting that their daily production is limited because they have to manually make the briquettes. The called on the participants to support them acquire these machines.

to share their experiences, challenges, and opportunities of using clean cooking technologies in ghetto areas.

Noted that as people in the ghettos and markets, they never get a chance to be heard when it comes to issues of energy. Pointed out that ever since charcoal was banned, they have struggled to sustain their businesses and families.

They called upon the Ministry to extend outreaches and trainings on clean cooking to the ghettos and markets because these are areas of the most vulnerable and poor people that are struggling to meet their energy needs. Asked the Ministry to translate the promotional material and any material it puts out to the local language to enable even the unlearned to comprehend it, emphasizing that energy is not for only the learned, but all Ugandans.

## 2.4.7 Role of Science, Technology and Indigenous Knowledge in Just Energy Transition

**Session Chair:** *Priscilla Regina Nalwoga*, News Anchor, NTV Uganda

**Discussants:** *Dr. Miria Agunyo* – Project Manager, NAMA project; *Dr. Ruth Atuhaire* – Head of Department, Energy Science and Technology, MUBS; *Dr. Sara Namirembe* – Executive Director, STEPUP Standard Limited; and *Prof. Elizabeth Balyejusa* – Director, Directorate of Research Partnerships & Innovation, UCU

Highlighted that science, technology, and traditional knowledge are important for the clean energy transition. Shared experiences from academic and research organizations as well as social settings across Africa, and options for systems that are more human-centred, and culturally sensitive. Noted that it is crucial to connect clean energy initiatives to ecological networks to catalyze long-term viability, sustainable development, and improved well-being.

Discussed successful initiatives that integrated indigenous knowledge into renewable energy projects, sharing indigenous ways of cooking, preserving heat and cooling that overtime been abandoned yet could still be useful. Highlighted that plans are underway to document and archive some of the indigenous knowledge and skills that could be pivotal in sharpening the energy transition. Emphasized that energy transition is not during away with indigenous knowledge, but rather should catalyze the former.

Academicians demonstrated how they have used scientific analysis to understand the impacts of energy systems and climate change on community livelihoods. Focused on how to develop a scientific hub for energy research and assess how academic institutions could be successful in developing partnerships in energy research, and what is needed to harmonize efforts to advance collaboration in implementing research findings. Discussed the current state of energy education and capacity building and efforts to make quality skills development accessible to all. Further discussed how to facilitate community organizational development to promote clean energy transformation and natural resources conservation, how to promote an alternative framework for the coexistence of communities, energy needs, and biomass, and how to promote science and technology and indigenous knowledge to facilitate sharing of energy and conservation innovations. Explored connectivity, and innovations to accelerate energy-



inclusive interventions and look to opportunities to capitalize on to secure a connected and energy-resilient communities' nature and people.

Hinted that UCU and MUBS, for instance had begun course on energy economics and other energy disciplines to train graduates in energy as their contribution to the country's social, economic and industrial development as well as energy transition readiness. Noted that generally, the country has limited personnel with technical know-how on energy, with very few experts at PhD level. Decried brain-drain challenges whenever the universities send out their staff to pursue further studies. Called on the government to be intentional and support staff training at university level as well as funding research and innovation.

In reference to the energy policy, noted that the policy is quiet about indigenous knowledge, which makes it challenging to even establish mechanisms of exploring such knowledge. Pointed out

that energy transition should be looked at a case-by-case basis. Noting that each country ought to define its transition framework and strategize accordingly in order to achieve its set targets. Otherwise, the bandwagon approach to energy transition will never work for developing countries such as Uganda.

Recommended that the Ministry should establish strong ties with the academic and research institution in order to enable exchange of data, collective development of research agenda, impactful and informative research undertaking, appropriate packaging and dissemination of findings, data-based decision-making and policy development. Called up sector players, that is, development partners, private sector, civil society and policy makers to work closely with the academicians for a harmonized and coordinated undertaking of planning, implementation and development of the energy sector.

## 2.5 Training, Research & Communities of Practice

### 2.5.1 Renewable Energy Teens Club

**Session Chair:** Dr. Sara Namirembe – CEO & Founder, StepUp Standard

**Discussants:** *Lia Rogers* – Luigi Giusanni High School; *Elijah Bongole* – Makerere College School; Kirsten Murungi – Grace High School; *Neema Buwaga* – Hope Senior School; *Nissi fuorr* – Shiloh International School; and *Janet Wangui* – St. Charles Lwanga S.S. Mubende

Emphasized that teens are an integral part of change in the renewable energy

programs, but unfortunately no one cares about what teenagers say. Noted

that some schools do not have the passion for renewable energy programs. Also, some students study renewable energy just for the sake of getting marks, but not to put to use the skills they acquire. Pointed out that there are some students who cram class notes and also read past papers to just know how to pass the subject/ course without understanding the real principles. Mentioned that it is wise for students to practice the discussed ideas about renewable energy in their holidays.

Alluded to the fact that about 7.5 million Ugandans are teens. Noted that most ideas shared by teens are never been implemented as the parents and the government keeps giving excuses of limited funds. Looking to rural schools noted that several of them not even connected to the national grid, denying young people a right to clean and reliable energy generated from renewable energy sources.

Recommended that teens should be involved more in the renewable energy programs by equipping schools with the leaning resources to facilitate such learning. Called on the parents to join hands with the government to promote and fund renewable energy ideas from the young generation of the country. Recommend that the government should encourage and promote practical sessions in subjects and courses that are energy related. Shared that most students waste a lot of time during holidays on watching movies and sleeping. Suggested that students could use this time to do important things, for example getting involved in different renewable energy programs. Called on renewable energy companies to always involve teenager in their projects so that they can get chances to share their knowledge.

### **2.5.2 Sustainable Energy Development Programme: Closed Door Donor Working Group Meeting**

This closed-door discussion brought together Heads of Foreign Mission, development directors, heads of cooperation and Ministry of Energy and Mineral Development management to take stock of the support to Uganda's energy transition as well as to affirm their commitment going forward. Involved sharing lessons learnt, challenges and remedy mechanisms established.

The discussions Centred on the importance of donor organizations in the sustainable development of energy and as well as the need to ensure exchange of information between donors and the governments on the needs and opportunities for energy

investments. Discussed the framework for coordination with donors, international financial institutions and international organizations, a key ingredient to boosting aid effectiveness and developing capacities in Uganda.

### 2.5.3 Official Launch of the NREP/Off-Grid Energy Working Group

**Session Chair:** *Alexander Komaketch Akena* – Institutions Expert, BGFA

**Discussants:** *Jeroen Van der-linden* – Team Leader, NIRAS; *David Njugi* – East Africa Regional Representative, GOGLA; *Dr. Brian Isabirye* – Commissioner, Renewable Energy Department, MEMD; and *H.E. Maria Hankasson* – Ambassador of Sweden

In response to the evolving off-grid energy landscape in Uganda, the Off-Grid Energy Working Group was established as a vital initiative under the National Renewable Energy Platform (NREP), in collaboration with various partners. This session that was sponsored by the BGFA program and supported by Sweden and Denmark, marked the official launch of the Off-Grid Energy Task Force. Noted that the Off-Grid Working Group, operating within NREP, will serve as a central hub for the exchange of experiences, knowledge, and information related to off-grid energy solutions. Emphasized that it will also keep a watchful eye on regulatory and policy developments.

Pointed out that the task force is meant to create market changes through engagements for addressing barriers and will contribute to policy regulatory framework in Uganda, facilitating off-grid energy investment by the private

sector. Noted that the task force targets the provision of sustainable clean energy services for underserved people in rural and urban areas and aims at mobilizing the private sector and accelerate market for off grid energy investment and enabling sustainable business and accelerating energy access. Furthermore, will provide market insights, standards and best practices including catalysing policies.

Noted that the role of economic development could be a catalyst to foster energy sector and energy transition. Recognized MEMD for giving renewable energy and specifically off-grid energy a platform. Affirmed continued funding for the off-grid platform through the BGFA (Beyond the Grid Fund for Africa). Emphasized that supported by robust and effective data collection and analysis mechanisms and systems mainstreamed to inform better public and private investment in frontier

markets, the task force is poised to succeed.

Called up increased coordination between government institutions, international donor programs and the private sector to inform priorities for market development measures. Recommended the government to pay attention to data collection and

aggregation, monitoring of performance and quality of service delivery by private sector players. Noted that sharing of data and lessons learned would be crucial in informing policy and prioritization of market supporting measures. Recommended sector support through facilitating TA, capacity building, knowledge exchange

#### **2.5.4 Sustainable Biomass Resources: Bio-Economy and Bioenergy**

**Session Chair:** *Arthur Makara*, National Coordinator, Uganda Biotechnology and Biosafety Consortium (UBBC)

**Discussants:** *Dr. Ephraim Nuwamanya* – Senior Researcher, NARO; *Praviin Kekal* – Managing Director, Bukona Agro-processors Ltd.; and *Dr. William S. Kisaalita* – Founder, Thermogenn & Lecturer, UCU

Emphasized that agriculture is the source of food generation for Uganda. Highlighted that bio-economy means biological use of resources that we have been damping. Noted that crops also provide waste or residue for other economic use like biofuels production. Also, the residue could be used for generating fibres, wall hanging, cover bulbs, and generating hair extensions for the ladies. Decried that some of these major resources are neglected yet they could be useful in building energy resilient economy. For instance, plant materials that is not finding its way in to the energy mix easily is bamboo. Noted that bamboo grows within a short time and can be used. Hinted that other countries are using elephant grass, rice

husks, ground nut shells, coffee husks, etc. for energy generation. Further stated that animals waste could be used as a feedstock to generate biogas.

Submitted that ethanol is currently manufactured in Nwoya district and sold in Kenya. Encouraged participants to embrace ethanol as a cooking fuel, noting that it burns with a blue flame that is appropriate for cooking. Indicated that strategies are needed to have ethanol consumed in Uganda. Called on the Ministry to create awareness on ethanol. Highlighted that ethanol production has created market for the cassava farmers due to the demand for cassava as a feedstock. Cautioned participants of the challenges of selling all their cassava, which is food, to ethanol producers that

such a move will expose them to food shortage and hence starvation.

Noted that sustainable production and utilization of biomass resources for solid (charcoal, wood, etc.) and liquid (biofuels) is critical to avoid causing indirect land use change emissions. Recommended the development of systems of low indirect land use change emissions risk certification, such that rules are set allowing certification of projects that could deliver additional biomass without impacting existing markets. Hinted that Low indirect land use change emissions risk production approaches include restoring low-quality land, improving crop productivity, and implementing novel agricultural approaches like intercropping.

Hinted on the challenges faced in the bio-economy, noting that establishing a value chain all the way from production to end user is hard. Further noted that the machinery required to process and produce at large scale very expensive and not many actors in the sector can

afford them. For instance, noted that bamboo needs technological innovation for it to burn slowly. However, people want or demand for what burns like the traditional firewood. Hinted that bamboo is produced at lower cost so that it can compete with charcoal.

Recommended that the Ministry should develop policies that work for all and all technologies. Called on the Ministry to look into the use of biomass for heating and electricity generation. Noted that there is need to regulate the use of food crops for energy production before the country faces food scarcity and starvation. Emphasized the need for the Ministry to carry out awareness campaigns on the different energy technologies and fuels so that the public can appreciate their benefits. Called on the government to offer subsidies on nascent technologies so that their production machinery becomes affordable and enhance mass production in the country.

### **2.5.5 Local Government Sub-Regional Forum**

The Ministry of Energy and Mineral Development in partnership with GIZ organized the Energy Decentralization Sub-Regional Forum with the objective of sharing updates since the last forum in November 2022 and to work on the draft strategy to improve the operation and maintenance of renewable energy systems in social institutions under District Administration. The forum attracted participants from MEMD, Ministry of Local Government and District Local Governments. District Energy Focal Persons and District Planners came from the 22 Decentralization Pilot Districts, namely, Adjumani, Agago,

Amolatar, Alebtong, Apac, Arua, Dokolo, Gulu, Kitgum, Koboko, Kolo, Lamwo, Lira, Maracha, Moyo, Nebbi, Otuke, Oyam, Pader, Soroti, Yumbe, Zombo, and Obongi to participate in the forum.

Focused on energy Mainstreaming, planning and budgeting and coordination of clean energy in the various sectors at Central and Local Government levels. Highlighted that this is crucial for the success of increasing access to clean energy. Also, the forum shared experiences, lessons learnt and challenged encountered by district energy focal persons and district planners. The forum also had several capacity building sessions to equip the participants with the relevant skills.

## **2.5.6 Climate Change and Renewable Energy: Securing an Energy and Climate Resilient Future for People and Planet**

**Session Chair:** *Acago Bernadette Virginia*, CEO & Founder, BernaAcago foundation

**Discussants:** *Asha Pauline* – Executive Director, Environmental Alert; *Aaron Werikhe* – Climate Financing Unit, MoFPED; *Arthur Ssebugga Kimeze* – Climate Resilient and Green Growth Lead, GGGI; *Piya Shrestha Resha* – British Embassy, Nepal; and *Tony Ninsiima* – Bwiidi conservation

Pointed out that diversification of technologies in energy generation is paramount. Noting that it is risky for countries that are vulnerable to climate change to depend on only one type of technology for energy generation. Hinted that increasing public financing and foreign direct investments in renewable energy projects will support energy mix diversification. Called on the strengthening of Uganda's adaptive capacities. Emphasized that climate education is very important at rural levels. Noting that engaging people that are directly facing challenges of climate change in negotiations through conferences and discussions is the way to go. Called on the government to develop policies and conditions where people do

not have to encroach on wetlands and cutting down trees for charcoal. Hinted that if government truly wants to promote renewable energy technologies, it should reduce taxes levied on imported renewable energy technologies. Likewise, there is need to attract more international and local financing to support quick-start the energy transition in the country.

Emphasized that people are not aware of government policies on climate change. Stated that the environment degradation question in Uganda is not for the poor, but rather it is for the whole national. Discussed the global strategy for adaptation and mitigation to secure resilient energy and ecosystems for people and the planet in Africa. Shared thoughts on managing energy market



ecosystems for increased resilience and low-carbon communities. Also discussed how nature-based solutions represent an opportunity for clean energy and climate adaptation and mitigation goals, and how DRE certification could be an innovative tool for clean energy and climate mitigation and adaptation. Additionally, shared lessons learnt on carbon financing to drive more impactful actions in Africa.

Recommended to the government that the common people that are directly affected

by the challenges of climate change should be involved in negotiations and international conferences like COP 28. Also emphasized the need to involve the youth and grassroot people. Government should enhance on climate education, make people aware of different policies in place regarding the environment conservation. Highlighted the need to focus on mitigation strategies and adaptation strategies, planting of more trees.

## 2.5.7 Civil Society and Shaping the Energy Transition Discourse: Legacy and Prospects

**Session Chair:** *Richard Kimbowa*, Chairman, INFORSE & CSOs Network Uganda

**Discussants:** *Nimpamya Enock* – Executive Director, Action Coalition on Climate Change (ACCC); *Frank Tumusiime* – Advocates for Natural Resources Governance and Development (ANRRDE); *Judith Nabimanya* – Department of Investment for Sustainable Development, SEATINI Uganda; and *Robert Turyakira* – Executive Director, Environment Shield

Shared the historical role of civil society in advocating for energy transition and sustainability, highlighting some success stories of how civil society has been instrumental in shaping the global, regional and country energy agenda, and

sustainable energy transition. Called on for strengthened collaborations between CSOs, governments, and the private sector to drive a faster and more equitable energy transition. Noted that this is REC23 was one of the few Examined the important role of Civil Society Organizations (CSOs) play in advocating for and representing their members in their respective markets, as

held both the private sector and governments accountable in the energy transition. Pointed out ways in which the influence and capacity of CSOs could be further strengthened to ensure a just and

government events where CSOs were allotted a platform to share their views without being censored. Applauded NREP for making this happen and pledged to continue working with NREP in uniting energy sector actors in the country.

well as the next steps for further strengthening of their part. Spotlighted the critical role of civil society in shaping the global energy agenda and

implementation of commitments and pledges under SDG 7. Noted that CSOs have been advocating for sustainable energy and environment practices in the country. Hinted that they will keep government in check regarding the policies and financing of the energy transition in Uganda. Called upon everyone to play their role and change their households, communities and country in the long run.

Recommended continuous dialogues with the energy sector actors, particularly the government officials and development partners in order to streamline the energy sector policies, regulations and strategies. Called on the government to put into their words into action. Emphasizing that government buildings for instance should be powered by solar systems by now to serve as champions of energy transition.

## **2.5.8 International Collaboration on Solar Energy Development: Spotlight on International Solar Alliance**

**Session Chair:** *Dr. Brian E. Isabirye*, Commissioner Renewable Energy Department, MEMD

**Discussants:** *Dr. Nicholas Mukisa* – Deputy National Coordinator, NREP; *Sowedí Kitanywa* – MP, Busongora North; *Job Mutyaba* – IRENA Consultant; *Sylvia Aarakit Manjeri* – Lecturer, MUBS; and *Robinah Nanyunja* – CEO, USEA

Highlighted that accelerating global attainment of the SDG Goals, particularly, universal energy access, energy security, and energy transition remains a crucial priority for the International Solar Alliance (ISA) as a critical driver of inclusive growth and gateway to abating climate change. The ISA, in keeping with its 5-year strategic plan to provide programmatic support to member countries by rolling out regulatory support to member states in establishing sustainable and viable solar-receptive regulatory frameworks, of which Uganda had been identified for this purpose. Informed participants that together with MEMD, ISA

intends to establish up a state-of-the-art Solar Technology Application Resource Centre (STAR-C) in Uganda, a facility intended to provide capacity for the deployment of solar energy applications and research, business modeling, incubation, training,

standardization, and testing for Uganda in coordination with the other country partners.

Shared lessons learnt and how the country could harness international collaboration to build the Renewable

Energy Sector. Highlighted experiences in interacting with the International Solar Alliance and individual and community benefits attained from interactions with the International Solar Alliance. For instance, noted that among the benefits of the Solar Panel Installation Project are, lighting, increased innovation in rural schools, i.e., salon establishment, computer & TV set purchase, monitoring of teaching staff. Also noted that in the health centre, patients are happier due to the presence of lighting.

Highlighted that the development of the Centre of Excellence as an initiative of the International Solar Alliance to build capacity for the country is a positive given that Uganda is still struggling with limited personnel with technical know-how, particularly in the area of solar systems at the grassroot. Pointed out ways through which more Ugandan companies can have more partnerships at the highest levels. Noted how the Uganda's energy sector is building up in comparison to the rest of the world. Stated ways through which Ugandan companies can be strong enough to create a sustainable market.

Recommended that people should embrace the renewable energy sector since Africa's abundance of energy presents a lot of opportunities not only for the private sector to do business but also for the international community and government. Emphasized that Ugandans, especially Ugandan women should strive to work with the right

partners, embrace opportunities and strategically align themselves so as to have their enterprises spread all over the world.

From a political point of view, politicians being the high-level decision makers, recommended that politicians should be sensitized in regard to renewable energies so that they can in turn influence the society to embrace recycling, responsible living, saving electricity and water. Recommended that such collaborations as the one of ISA should be extended to other districts particularly rural communities in Uganda.

Noted that there is need to look at the target audience to serve as technicians. Recommended that one of the target beneficiaries should be the science teachers and once trained they can serve as maintenance technicians so as to reduce concentration of expertise in only urban areas. Also hinted that there is need to develop an energy local content framework and a renewable energy Act and regulations to address the various challenges being faced.

To advance research and development, encouraged collaborations between international universities and local universities. Hinting that there is need to

build capacity that can be scaled up as well, through local partnerships. Likewise, noted that sustainability can be triggered through empowerment of local institutions which must be embraced.

## 2.5.9 Debunking the Myths and Stereotypes on Bioenergy: Redefining the Relevance of Bioenergy in the Transition to a Green Economy, the Case of Biofuels

**Session Chair:** *Flavia Ajambo* – Public Relations Officer, CREEC

**Discussants:** *Dr. Betty Nabuuma* – Bioenergy expert/Lecturer CEDAT, Makerere University; *Innocent Miria Opio* – Bioenergy Expert, Muni University; *John Tumuhimbise* – Ass. Commissioner, Bioenergy, MEMD; and *Joshua Ogwok* – Head of Research, Innovation and Development, CREEC

The session commenced with a presentation on “*Advancement in Biofuel and what CREEC is doing*”. Clarified on the misconceptions and illustrated the overlooked indicators of biomass significance. Recalled the impressive and transformative role that biomass played in the first industrial revolution. Recreated a sustainable path for biomass production, use, and trade. Noted that currently biomass stands a chance of being relegated to the biased zone of polluting fuels. Pointing out that this stems from partial information, overgeneralization, and the tendency to equate the smoke from biomass to that from fossils. Presented common misconceptions about biomass and how they are disputable using research findings from a series of topics studied at CREEC.

Noted that 42% rely on advance bio fuel produced from non-food waste such as water hyacinth. Pointed out that as a myth that Biomass is seen as polluting fuel and compared to fossil fuels often. Asserted that there is need to distinguish biofuels from conventional fuels with mature fuel market. Noted

that because of limited awareness about biofuels, people have been made to believe anything they hear. Called upon the experts, particularly at the Ministry to create awareness on these fuels. Also called upon the Ministry to partner with research institutions, both local and international to advance research on biofuels.

Emphasized that biofuels are produced from non-food biomass mainly, although some food crops could as well be used. Noted that most observed investments have been in infrastructural development e.g., Kakira sugar work improved their infrastructure as well as Bukono in Nwoya to produce biofuels. Hinted that there are barriers to investment that investors are often scared of. Hinted that concerns over food security are real and recommended that this should be safeguarded against before largescale production of biofuels in the country commences. For instance, noted that if cassava is used as a feedstock for biofuel production, this is likely to cause food insecurity. Noted that that biofuel production uses a lot of water and emphasized that recycling water is the way to go. Stated that growing market of electrical vehicle is a threat to biofuel. Noting that both biofuel and electric cars should work side by side hence the need for biofuels in Uganda. Hinted that market demand of biofuel is limited.

Recommended that government should support the sector in growing the market for biofuels in the country.

#### **2.5.10 Create Your Clean Energy Legacy and Pass the Baton: Teens Thrive When they have Meaningful Conversations with Caring Adults**

**Session Chair:** *Ruth Bongole* – Bishop Cypriano Kihangire S. S. Luzira

**Discussants:** *Josette Elotu* – International School of Uganda; *Jeff Bongole* – Shiloh International School; *Jessie Alma* – Fairways Primary School; *Martha Amanywa* – St Charles Lwanga S.S Mubende; and *Tukamushaba Nixon* – Mengo Senior School

Highlighted that the impacts of climate change are detrimental to the health, nutrition, education and the future of children, adolescents, and youth, who are the most vulnerable to extreme weather events, toxic chemicals, temperature changes and eco-anxiety. Emphasized that solutions and just transition require brave collective commitments from everyone, particularly youth leadership, as natural partners and inheritors of the planet. Discussed practical solutions and policy actions for clean energy transition to ensure a just and inclusive transition to a low-emission, energy/climate-resilient future and a just and fair transition pathway. Amplified the specific challenges and the energy activism efforts led by children and adolescents.

Pointed out that for all, young people were left behind and never given a platform to share in the energy and environment discourse. Noted that whoever is currently planning for the energy sector, he/she is actually planning for the young generation and the generations to come, which most likely will interface with the climate change threats due to the current generation's mischiefs in planning.

Recommended that government should include renewable energy and environmental studies in the education curriculum as early as at primary level. Called upon the Ministry to carry out training sessions on renewable energy in schools in order to expose young people to such technologies. Welcomed the idea of inviting them to share at REC23 and prayed that they should be invited again and again to be part of such discussions. Appreciated their schools for having allowed them to attend such a great national event.



## 2.5.11 Youth Dialogue on Energy Transition and climate Change

**Session Chair:** *Edwin Muhumuza* – CEO, YouthGoGreen

**Discussants:** *David Nankunda* – Master's Scholar, Energy Economics and Governance, MUBS; *Ronald Natukunda* – Aeon Energy solutions UG, & TM leader at Clean Energy Initiative (CEI); *Adello Nakafero* – Smart Youth Network Initiative; *Opiro Emalu Joshua* – Founder, and Director, Oshataka Waste Initiative; and *Ethol Amanda Natukunda* – Founder, Erudites Uganda

Tabled that young people can compete favourably to attain financing when their ideas and innovations are communicated and stipulated articulately to the financing platforms coupled with revision in the procedures undertaken to attain these grants. Highlighted that the government can enable rural areas to access cleaner energy by enabling big prosumers to set up more renewable energy systems which should allow the price per kilowatt hour to drop and be affordable in the rural areas. With the

climate crisis on the rise, it was deliberated that renewable energy can address this issue through targeting daily energy consumers at the grassroots not limited to the employment of clean cooking, sun-dryers and E-bikes.

Emphasized that young people understand the links between sustainable development and climate justice. Pointed out that they have risen to the forefront as advocates and



innovators in bringing sustainable energy solutions to homes, communities, and countries. Amplified continue to build polluting economies of the past by investing in fossil fuels. In unison, noted that the young African activists have called on governments to advance just and equitable energy transitions that step-up ambitions and accelerate progress. Indicated that Youth Go Green holds different events such as the runs, tree planting and dialogues to equip youth with the knowledge and resources needed to amplify and strengthen advocacy efforts for clean and just energy access.

Recommended embracement of practical knowledge in institutions of

that it was unacceptable for governments to

learning, hands on training of users by the suppliers of renewable energy appliances. Called on the translation of user manuals to local languages to improve usability and outreach of appliances as a way to help simplify the renewable energy conversation. The government was also called upon to provide infrastructure through cell phone data and avail the necessary expensive tools to promote youth inclusion. Asked the Ministry not to sideline the youth, but continue to partner with them in its activities and always engage them because they are energetic



## 2.6 Policy, Planning, Standards, Quality, Institutions and Markets

### 2.6.1 Grid Efficiency and Resilience: Electricity Theft and Infrastructure Vandalism

**Session Chair:** *Dr. Nicholas Mukisa*, Deputy National Coordinator, NREP

**Discussants:** *Emmanuel Okello* – Senior Planning Engineer, UETCL; *Eng. Emmanuel Sunde Nsubuga* – Sustainable Energy Systems Engineer, MEMD; *Ronald Bogere Mitti*, Health and Safety Manager, American Tower; and *Micheal Shibuta* – Head of GIS, UEDCL

Highlighted that electricity theft is about illegal connections people make without following the right procedure to connectivity. Vandalism on the other hand is stealing electrical gadgets or materials to make other products out of steel. Pointed out that the backbone of vandalism is the high demand for scrap in the country, which targets specific metals. Need for money for survival and economic sabotage are other causes of vandalism that were noted. Shared how telecommunication companies have been safe from vandalism but noted that recently there have been some cases of recorded on their towers. Emphasized that vandalism was real, noting that for telecom companies, vandals do not tamper with

masts but rather the wires. Hinted that vandals come for cables instead, vandalize cut and pull wires only. Noting that vandals search for copper or aluminium out of these materials.

Pointed out that first traversing the community with grid lines everywhere derails connectivity of electricity projects and communities become impatient. Noting that swiftness is needed to ensure prompt connectivity to prevent hostility from communities that results in vandalism. Also, some project in one country being initiated with sufficient material may culminate into vandalism to another country to source materials since the implementers may not

have materials to support their machinery. Pointed out that the greedy categories of vandals go in for materials with loader and even pick up generators. Highlighted that the companies are working with security agents to curb vandalism.

Noted that the transmission and distribution grids today result in up to over 17% of electricity lost to inefficiency. Emphasized that efficient grids would provide better electricity services without the need to expand power generation, with many sustainable development benefits. Besides the inefficiency, highlighted that electricity theft and infrastructure vandalism present additional bottlenecks to grid reliance in Africa, particularly in Uganda. Hinted that Experiences elsewhere have shown that digital technologies for foresight and response escalation exist, but not much has been done in the Global South. Appreciated the role partnerships could play in tackling opportunities for efficient and resilient grids in Africa.

Recommended stakeholder engagements on electricity projects in order to establish a buy-in from the communities. Highlighted that it is important to look at the needs of the people within the various communities and make them part of the electricity project. Emphasized that companies should organize people in the community to police the grid and its infrastructure on behalf of the company. Amplified the importance of community policing.

Called upon the developers and companies to employ people in the areas where projects are established so that they can as well benefit from the projects rather than come with employees from elsewhere to go works that the locals could ably do. Recommended compensation of the community members affected by the electricity project to address their anger. Also noted that companies should have social responsibility to know that people need to be paid for their land where the sub stations are established.

Recommended that government should not be kind on the proprietors of electricity theft and vandalism. The law should take its course and none should be sympathized with to serve as an example to the rest of the people.

Hinted about the need for active equipment to encourage surveillance of the main activities can be an advantage. Recommended having some form of dyeing of a certain length so that when one goes to the market, they can ably identify the materials being sold are from a vandalized electricity infrastructure. Called on the companies to consider Artificial Intelligence as opening opportunities for addressing the vices. Also noted that trackers should be used to curb theft and vandalism.



## 2.6.2 Commitment is an Act, not a Word: The Oil & Gas Industry's Decarbonization Strategy

**Session Chair:** *Herbert Mugizi*, Principal Petroleum Engineer, MEMD

**Discussants:** *Felix Bob Ocitti* – Manager Licence Compliance, PAU; *Paul Bagabo* – Natural Resources Governance Institute, Uganda; *Zion Okama* – Senior Renewable Energy Export, TotalEnergies; and *Honey Malinga* – Commissioner Upstream Exploration and Production, MEMD

Hinted that the Oil & Gas industry's operational emissions account for more than 10% of global  $CO_2$  emissions. Emphasized that supporting the transition to lower-carbon alternatives, it is critical for Oil & Gas companies to also decarbonize their operations rapidly: reducing methane leaks, venting, and flaring; improving energy efficiency; and using renewable power and carbon capture technologies. Highlighted best industry practices

including new technologies and discussed policy enablers to encourage the industry's decarbonization. Pointed out the challenges for the Global South to access energy transition resources at an affordable cost while driving their decarbonization as part of potential sustainable development pathways.

Noted that the country is planning an LPG refinery to increase clean energy sources following oil and gas extraction.

Encouraged the participants to share practical outcomes that the government can base on for energy transition. Noted that there are plans to blend fuel fuels with biofuels, which is one step towards decarbonization of oil and gas sector. Pointed out that currently companies that entirely dealt in fuel fossils are also diversifying and taking on projects in renewable energy. Assured the participants that the government is taking every possible measure to ensure that oil production happens with little or no leakages. Also pointed out that the government was committed to amicably work with all actors in the oil and gas sector to ensure that best practices are adhered to.

Pointed out that electric charging points are going to be integrated in several fuel stations around Kampala metropolitan area to facilitate electric charging of e-vehicles and e-bikes. Also hinted on the fact that companies such as

TotalEnergies are currently promoting electric vehicles. To emphasize this, called all the participants to visit the TotalEnergies stall to witness the e-vehicle and the charging station prototype.

Recommended that actors in the oil and gas sector should not be looked at as energy of the energy transition, but rather as partners that facilitate the transition. Called on the renewable energy and environmental conservation actors to continuously engage them in their discourses to allow them a chance to present their advancements in address environmental issues. Recommended to the Ministry to take on the creation of awareness about the country's oil and gas sector and its advancements in adherence to environmental issues.

### **2.6.3 Towards a Green Hydrogen Economy: Policies and Strategies for Catalyzing Energy Transition and Sustainable Development**

**Session Chair:** *Eng. Sharon Mukami* – Head of Eastern Africa Region and Business Development

**Discussants:** *Charnelle Fortuin-Ndlovu* – Business Developer, HDF Energy; *Aleem Karmali* – Head of Infrastructure, Industrial Promotion Services (IPS); *Mak Owuor Achola* – Siemens Limited; and *Prof. Wilson Musinguzi Babu* – Lecturer, Mountains of the Moon University

Highlighted that the transition from a global economy dependent on fossil fuels, to a green hydrogen and renewable fuels-based economy is

happening now. Noted that developing green hydrogen value chains could yield economic value, create jobs, and contribute to achieving global emission

reduction targets. Hinted that green hydrogen and its derivatives (e.g., green ammonia, e-fuels) could be critical in reducing the emissions of hard-to-abate and hard-to-electrify sectors such as heavy industries, aviation, and shipping or heavy road transportation. Explored the latest developments in the field, potential economic and job growth opportunities and proposed enablers required to scale up the solutions. Additionally discussed the financing gap needed for the global south to realize this development.

Highlighted green hydrogen projects for Uganda, namely, Hydrogène de France SA ("HDF Energy") group to develop a hydrogen-based storage green power generation plant as an alternative source of electricity in Uganda; H<sub>2</sub> Agro Uganda Limited to develop a hydrogen industrial complex at the Karuma Hydropower Plant; IPS Consortium to invest in green hydrogen for ammonium-based fertilizers; Global Gases Group to invest in Green Hydrogen for Remote electrification on islands in lake Victoria, and K2R that has proposed to harness the potential of H<sub>2</sub> as a Fuel.

Emphasized that the dangers of fossil fuels and need for energy transition. Clarifies that Hydrogen is to diversify and not to replace existing renewable energy technologies. Also noted that green hydrogen looks at the acceleration of agricultural productivity. Called on the

Ministry for a National Policy to pave ways for private sector investment in green hydrogen. Asserted that the current status of the country is practical enough for the production of green hydrogen.

Shared experiences from elsewhere, noting that Kenya launched her Green Hydrogen Road map in August 2023, Kenya's regulation drafts for Hydrogen guideline are out for public review, HDF is developing a 1.3 GW hydrogen power plant in South Africa with about 15 different integrated projects, and the Government in Namibia partnered with private sectors in order to boost green hydrogen projects. Pointed out that the usage of hydrogen-based fertilizers for crop production as a partnership between the agricultural and the hydrogen sector it is important for the country. As a country dependent on agriculture, highlighted that there is a high demand for Hydrogen.

Recommended to government that Green Hydrogen technologies should be adopted and elaborately considered in the national policy. Called on the government develop a clear Green Hydrogen Road map. Also emphasized that the government should prioritize inter-sector partnerships. Noted that the grid is aged and called the government to invest in national grid strengthening. Called on the Ministry to establish mechanisms for regulating the production and consumption of



Hydrogen should be regulated. Noted that hydrogen transportation is difficult, thus, industries should be set up near the power plants. Hinted the country

should not wait for too long before commencing the production of hydrogen.

#### **2.6.4 Charcoal Ban: Bottlenecks and Prospects for Transitioning to Clean Energy**

**Session Chair:** *James Kyewalabye*, Managing Director, Divine Bamboo, Divine Bamboo

**Discussants:** *Hitimana Leonidas* – Chief Technical Advisor, FAO; *Joan Kyokutamba* – Executive Director, Shungura Foundation; and *Teddy Nabakooza* – Environmental scientist, Buganda Kingdom

Hinted that Charcoal/Wood fuel continue to play a critical role as a cooking energy source for most Ugandans accounting for over 94%. Noting that over 65% of urban dwellers and 90% of the rural population use charcoal and traditional wood fuels, respectively, as their main cooking fuels. Highlighted that the charcoal production process is wasteful and comprises unskilled labourers with little or no attention given to the charcoal quality. Noted that the traditional earth kilns with a conversion efficiency of 10% - 15% dominate the production cycle. Pointed out that more efficient technologies such as Casamance kilns and retorts with efficiencies of 25% - 30% are being promoted by the Ministry and her partners. Allured to the fact that in the last decade, efforts have been made to promote the adoption and continued usage of Improved Cookstoves, and 36% have adopted their use. Shared the bottlenecks of greening the charcoal value chain as well as explored the prospects for transitioning to clean energy.

Emphasized the importance of the charcoal ban as it is a signal of how the charcoal trade and production used to happen and also serves as a regulator of future price increases in charcoal due to depletion of resources involved. Decried the high prevalence of ignorance of charcoal production in a sustainable way. Noted that the implementation of a sustainable charcoal value chain with interventions to repair damages caused by charcoal production through deforestation is important. Emphasizing that such could include the establishment of biodiversity.

Noted that charcoal production is largely sustained by a very large market demand. Proceeded to emphasize that charcoal production is not competitive but highly commercialized to the extent that those trying to make it competitive would find hard time to do so. Hinted that there exists knowledge gaps among people with regards to a transition to clean energy. Asserted that this was the right time to kickstart sensitization as the charcoal prices are high.

Discussed FAO's forestry interventions to support the transition to clean energy i.e., monitoring forest change to support the government in greening humanitarian responses, biodiversity, and commercial wood processing. Noted that there had not been many interfaces with initiatives present in traditional charcoal production districts i.e., Mubende, Kasanda, Nakaseke and Kiryandongo, even when these are endowed with bushy areas of forests as raw materials for charcoal production. Highlighted the promotion of briquettes has not yielded much in terms of public buy-in due to the perception that it is dirtier than charcoal.

Decried the status of briquettes, noting that it was very disappointing among women innovative groups because the production is not commercialized as these currently produce for their own use rather than sale. Hinted that the main challenge associated with the transition is affordability as the alternative energy sources are expensive.

Proposed assessment of existent regulatory policies especially the ordinances for charcoal production at the district level as none is being fully implemented. Recommended certification should be done by a third party for sustainable charcoal production to check on the technologies

for wood harvesting and compliance with environmental concerns. Called upon the Ministry to promote alternative energy sources such that the charcoal share keeps reducing to enable a just transition. Recommended consistent efforts by the Government to support technologies and innovations of alternative energy sources. Proposed licensing at charcoal production level; registration to promote business, ordinances at local government. Local level leaders should interest themselves in charcoal trade.

Recommended to the government to make briquette production attractive to the business people and consumers. Also, called on the government to support large scale industrial production of non-carbonized briquettes. Emphasized that collaboration of government and partners to support innovations of alternative energy sources are important. Noting that the efforts should be consistent to ensure that these alternatives are easily available and at a cheaper cost.

Recommended cultural integration in the sensitization process i.e., the communication should be translated to a language that locals understand and also integration of people's beliefs in the sensitization campaigns. Emphasized tailoring of solutions according to the target group i.e. rural and urban people.

## 2.6.5 Affirmative Action for Local Content: Advocacy for Inclusivity in the Energy Markets in Africa

**Session Chair:** *Dr. Nicholas Mukisa* – Deputy National Coordinator, NREP

**Discussants:** *Kajura Francis* – Programs and Partnerships Manager, PSFU; *Jane Seruwagi Nalunga* – Executive Director, SEATINI; and *Godbert Tumushabe*, Associate Director, Great Lakes Institute for Strategic Studies

Explored the competencies needed in the energy sector and the level of

Markets. Shared experiences on gender and indigenous companies' inclusivity and potential tools to catalyze concrete ways to bring women and locals back to the centre of clean energy discourse; the role of umbrella Associations; and the level of awareness of the challenges

Noted that it is essential to prioritize local content and inclusivity in the energy sector in developing countries. Highlighted that local companies ordinarily create jobs for the local communities which results in improved household revenues. Decried the inabilities of the umbrella bodies to advocate for local content and empowerment of their members. Further hinted that such bodies have done nothing warranting them to be beneficial to their members. Noted that these umbrella bodies are not serving the interests of their members, but interests of a third party, often the government

support required to drive the local content agenda across Africa Energy

facing marginalized groups and how to support them in ensuring the effective energy planning, production, and consumption. Discussed most important drivers and affirmative actions to keeping communities and vulnerable incentivized, dedicated, and capable.

or the funding agencies. Pointed out that these bodies are not independent, which compromises their position in advocacy for the rights of their members. Also hinted that such bodies cannot only survive on their membership subscriptions, which cannot meet their administrative costs. It was however noted that these bodies have conducted several policy advocacy dialogues with government and have also attracted some financing for the sector from international partners. Acknowledged that there is still work to be done to strengthen the bodies and make them competent like the ones in other countries.

Recommended to the government to develop a local content framework that will guide on what should be done by local companies. Also called on the Ministry to support local companies through technical assistance and capacity building. Recommended to the umbrella bodies to establish revenue streams beyond their membership subscription for their sustainability. Refuted the call for affirmative action, but rather recommended that local actor to address their competence because going by the current status, they are unable to deliver quality work as required at a national level. Recommended that the government should support the local companies by twinning them with international companies to enable them grow their competences over time.

## 2.6.6 Enabling Environment for Private Sector Participation in Clean Cooking Transition

**Session Chair:** *James Baanabe* – Senior Consultant, MECS

**Discussants:** *Winnie Grace Onziru* – Senior Standards Officer, UNBS; *Desmond Tutu Opio* – Senior M&E Specialist, UECCC, *Eng. Herbert Abigaba* – Principal Energy Officer, MEMD; *Aaron Werikhe* – Climate Financing Unit, MoFPED; and *Louis Arinaitwe* – Country Director Department for Business and Trade at the British High Commission.

Focused on discussing the ways to create a conducive environment for private sector participation in the clean cooking transition in Uganda. Covered a range of topics, including Government incentives to accelerate the transition to clean cooking, the Regulatory framework for the clean cooking sub-sector, the Standards and labelling of Clean cooking technologies, Financing options for the transition to clean cooking, and the government strategy for attracting carbon finance to reduce costs of clean cooking technologies.

Revealed that the government was actively implementing a program to support clean cooking through the use of LPG (Liquefied Petroleum Gas) by distributing cylinders and kits to the public. Highlighted the importance of e-cooking as a solution to the affordability problem. Noted that various partners, including the World Bank, the UK government and GIZ are supporting research efforts to analyze what an e-cooking value chain looks like. Hinted that there were ongoing efforts to address concerns regarding the charcoal ban, and there is a commitment to the clean cooking discussion with research showing that using electricity for cooking is cheaper, more efficient and convenient than using charcoal,



with the ultimate goal being ensuring that all Ugandans have access to clean, safe and affordable cooking solutions.

Emphasized that the government recognizes the importance of affordability of clean cooking technologies, which are known to have high upfront costs. To address this issue, the Uganda Credit Capitalization Company (UECCC) established a clean cooking fund within the Electricity Access Scale-up Project (EASP), a World Bank-funded project aimed at increasing electricity access and promoting clean cooking using electricity. Hinted that over the years, UECCC has supported the off-grid market through a pilot biogas financing facility, which informed the development of clean cooking financing tools. By providing credit through financial officials and subsidies in the form of Results Based Financing (RBF), UECCC was reported to be helping end-users acquire clean cooking technologies. UECCC's RBF scheme offers a subsidy of 30-60% based on the type of technology.

Divulged that the Climate Finance Unit under the Ministry of Finance Planning and

Economic Development (MoFPED), is mandated to mobilize, access and appropriate climate finance to all energy sector actors. To de-risk investments in the clean cooking sector, noted that several initiatives were being undertaken, including the African Development Bank's climate finance and ongoing talks with the International Monetary Fund (IMF) to access a new window of climate finance called the Resilient Sustainability Facility. Hinted that part of the proceeds were to be used to capitalize the firm in the Uganda Development Bank. The Ministry of Finance Planning and Economic Development was also reported to have been developing a green taxonomy to incentivize private sector players to invest in green projects and provide clarity on what constitutes a green investment.

Disclosed that the existing standards were in place to regulate the influx of clean technologies into the Ugandan market, with more measures planned for the future. Noted that the development of standards was facilitated through technical committees, which are under the purview of the Ugandan authorities rather than the Bureau of Standards. Further noted that the contingent upon factors such as the subsidized components, suppliers, and subsidy amounts. Therefore, recommended that conducting comprehensive cost-benefit analyses prior to subsidy allocation becomes crucial to ascertain their efficacy.

In the mission to heighten awareness, recommended a collective effort between the private sector and government is indispensable. This undertaking demands substantial resources and manpower, underscoring the necessity for active participation from all stakeholders in achieving a seamless and professional awareness campaign. Noted that the British High Commission had pledged continued support to the government to support training, technical assistance, funding and investment by both the private and public sector in the policy, research and innovation in the various energy initiatives.

enforcement of these standards was a challenge and that a registration and database system was proposed to address the issue. Additionally, the lack of testing capacity was identified as a significant obstacle to the standardization of products and technologies. Emphasized that the bureau was committed to providing support to sector players in achieving their standardization goals.

Recommend and emphasized that ensuring the integrity of quality standards is a shared responsibility that extends beyond government or regulatory bodies. UNBS underscores the significance of garnering widespread support, urging individuals to assume the role of ambassadors for standardized services. Noted that in the innovation landscape, standards often lag behind the introduction of novel products. Consequently, the Bureau is constrained in preventing the influx of products lacking established standards to regulate them. Recommended that a proactive approach is essential to expedite the development of timely and relevant standards.

Highlighted that the impact of subsidies on system prices is a nuanced consideration,



## 2.6.7 Promoting a Just, Effective, and Equitable Energy Transition in Sub-Saharan Africa

**Session Chair:** *Dr. Joseph Kobusheshe* – Director EHS, PAU.

### **Presentation:** Uganda's Energy Transition Plan

**Discussants:** *Jeroen van der Linden* – Team Leader, NIRAS; *Elison Karuhanga* – Co-head of the Oil, Gas, Energy and Mining practice, KAA, Kampala Associated Advocates; *Peter Muliisa* – Chief Legal and Corporate Officer, UNOC; *Dr. Gerald Banaga-Baingi* – Ass. Commissioner Technical Planning, MEMD

The session commenced with a presentation on “*Uganda's Energy Transition Plan*” by Dr. Gerald Banaga-Baingi. Emphasized that the energy systems must modernise and expand rapidly to meet these ambitions, prompting Uganda's decision to develop the Energy Transition Plan (ETP). Highlighted that the objectives of the plan, stated by Uganda's Ministry of Energy and Mineral Development (MEMD), are: Provide universal access to electricity and cleaner cooking by 2030; Modernise and diversify Uganda's energy mix and promote its efficient use across all sectors to support industrial growth, poverty reduction and socio-economic transformation; Ensure secure and affordable energy supply; Mitigate energy emissions in line with Uganda's conditional climate commitments, which imply a 20% reduction compared to baseline emissions in 2030; and Position Uganda as an energy hub for the East African region.

Highlighted that given Uganda's point of departure, efforts must be stepped up to develop the country's energy systems. Electricity and clean cooking access rates remain low, at around 45% and 15%, respectively, despite recent progress

driven by strong government programmes. Pointed out that the country has many domestic energy and mineral resources that can help realise the energy transition. Uganda has ample potential for solar, hydroelectric and geothermal power. With the opening of the Tilenga and Kingfisher oil fields in 2025, Uganda is set to become an oil producer and exporter for the first time. Currently the country imports all its oil products. It also has new graphite and rare earth projects in Orom and Makuutu under development and holds important deposits of other critical minerals. These resources, if harnessed well, could reinforce the transition and contribute to Uganda's economic growth.

Asserted that the rate of progress required to reach universal access is steep, but not unprecedented. Acknowledged that prior to disruptions from the Covid-19 pandemic, electricity access rates improved at 5% annually, and clean cooking rates around 1.5%. To reach universal access to electricity by 2030, noted that over 800 000 households would need to gain a

connection each year to 2030. Cited that Kenya, Rwanda, Bangladesh and India have all achieved similar rates of progress in the past.

Forecasted that reaching universal access this decade relies on all solutions available. Hinted that grid connections should reach around 45% of those without access today in the transition plan, leaving the majority of connections to off-grid systems by 2030. Further noted that smaller systems should provide an important first step for many households with acute affordability challenges and are gradually provided with more robust connections over time. Similarly, highlighted that liquified petroleum gas (LPG) and electric cooking should reach more than half of those gaining clean cooking access by 2030, but emphasized that improved biomass cookstoves shall be an important transitional solution for many rural households with limited means to pay for fuel on an ongoing basis.

Asserted that the power sector will become the backbone of Uganda's energy systems, with all growth met by low-emissions sources. Predicted that electricity will rise to become the single largest source of energy consumed by 2040, growing to reach 56% of total final consumption by 2050. Noted that the grid currently is already 99% renewable, with only a small amount of oil-based generation used in critical situations. Highlighted that low-emissions sources of energy will maintain this share all the

way through to 2050, even while generation grows nearly forty-fold.

Examined how to attain greater effectiveness through unified action, subsidiarity, and complementary platforms for clean energy. Shared targets and visions of institutions and continental alliances in driving a just and equitable Energy transition. Discussed the need for the country to consider how it could develop and mobilize the capacity to meet the updated NDC and SDG7 targets. Noted that if the country supports and achieves an ambitious, multi-dimensional target along these lines, it needs to be supported to catalyze its knowledge and skills but also be equipped with tools and resources to achieve and measure progress. Explored opportunities and priorities for private sector-led and community energy initiatives to scale up coverage, impact, and community benefits across the country.

Emphasized that no country should be forced into a transition it has not prepared for. Called upon countries, particularly in the global south to define their nature of transition, have clear transition plans supported with strategies and funds. Asserted that no country should be cornered into abandoning their fossil fuel resource without compensation. Recommended global south countries to sustainably extract, process and supply their fossil

fuel and utilize the revenue to finance their transition.

Recommended to government to maintain its stand on energy integration over energy transition. However, cautioned government to be mindful of the environmental concerns around oil and gas production. Called on the

government to come up with the transition fund to support actors in the sector in their energy transition. Recommended that government should embark on awareness creation so that the public can appreciate the trade-offs between energy integration and energy transition

## **2.6.8 Strategy for Accelerating Cooking with Efficient Electrical Appliances in Urban Centers from Traditional Fuels to E-Cooking**

**Session Chair:** *Agnes Naluwagga* – Clean Cooking Guru, CREEC

**Discussants:** *Victoria Butegwa* – Project Manager at EnDev-GIZ; *Jacob Etunganan* – Energy Expert at SNV; *Dr. Will Clements* – MECS Research Lead for Uganda; and *Dr. Samuel Baker Kucel* – Consultant at CIRCODU

Reiterated that cooking with electricity in the context of Uganda is feasible, and this could be verified by studies available to the public owing to CREEC and MECS. Revealed that studies show 82% of Uganda's local dishes could be prepared using e-cooking technology. Elaborated that e-cooking is the main clean cooking technology being promoted because it is one of the proposed ways in which Uganda could reduce its surplus electricity generated.

Pointed out that CIRCODU was engaged by MEMD and MECS through the funding from the Foreign Commonwealth & Development Office of the UK government to do a baseline study to ascertain the status of clean cooking in Uganda. Noted that the study classified the barriers to e-cooking under 5 thematic areas which are: Policy and

regulatory environment; Accessibility, availability and reliability of power; Affordability; Limited administrative capacity; and social-cultural factors. Revealed that there are a lot of perception regarding cooking with electricity, with beliefs that it is not safe to cook with electricity or very costly to do so. Signaling a lack of awareness on the availability and benefits of e-cooking appliances. Additionally, a challenge of power imbalance was identified to which less adoption of e-cooking is attributed due to the low reliability it implies. It was disclosed that the Ministry of Energy and Mineral Development was working on a strategy to address the barriers to the adoption of e-cooking.

Highlighted that SNV as per its mission to strengthen capacities and utilize partnerships to ensure sustainable and

inclusive livelihoods, divulged that SNV had a program on Sustainable Energy Markets looking into three assets i.e., demand, supply, and enabling environment. To this end, noted that SNV as a development organization, demonstrate what works that could be adopted by the governments and other players through projects such as; the Inclusive Markets for Energy Efficiency in Uganda (IMEEU) which aims at increasing access to energy efficient technologies among households, industries and Small and Medium Sized Enterprises (SMEs) to improve their profitability, resilience and competitiveness.

Disclosed that about 8.4 billion Uganda shillings had been deployed specifically for catalytic grants and Result Based Financing (RBF). Noted that the IMEU project has partnered with 13 companies on the supply side that are beneficiaries of RBF and 11 companies on the catalytic grants side. Emphasized that plans were in the pipeline to include financial institutions to ensure the sustainability of financing to the project. Emerged that GIZ's EnDev project, as an energy access initiative, holds a vested interest in market development by employing market-based approaches, fortifying the private sector, and advancing energy access in refugee host community areas.

Alluded to the fact that successful transition to e-cooking is possible and hinges on the unwavering commitment of key stakeholders. Recommended that everyone should acknowledge that the responsibility now lies with each individual to effect this transition within their households and actively disseminate awareness. Recommend that the government and clean cooking actors should ensure the dissemination of accurate information to consumers is imperative for all stakeholders involved. Noted that e-cooking stands as a promising innovation in Uganda, showcasing significant potential. Emphasized that EnDev-GIZ expresses genuine interest in providing support and exploring adaptability within the Ugandan context. Recommended fostering collaborative efforts among the actors to map out overarching themes of collaboration and identify opportunities underscoring the strategic pathways forward

## 2.6.9 Harnessing Access to Clean Cooking Technologies: Private Sector Experiences

**Session Chair:** *Didas Muhumuza* – Senior Officer Stakeholder Management at PAU

**Discussants:** *Peter Mwesigwa* – Project Lead at UMEME EPC Pilot; *Lafelle Chu* – Country Director at UpEnergy; *Caroline Amollo* – Director for Corporate Affairs, Burn Manufacturing Company; *Dr. Emmy Wasirwa* – Wana Gas Energy Solutions; and *Ronald Sezibwa* – Seb Engineering Construction Ltd.

Based on the insights gained from Kenya's market, unveiled that cultivating an enabling environment is imperative for investors in the clean cooking sector to nurture its growth. Noted that the crucial challenge of establishing connectivity to the main grid was underscored, supported by statistics revealing that despite Uganda's status as one of the leading producers of electric power in East Africa, a substantial 60% of this capacity remains untapped, an untapped surplus that could be harnessed by the clean cooking sector, contingent upon grid connectivity. Additionally, highlighted the challenge of reliability, stating that in the face of unreliable electrical power, there is an inherent tendency to revert to biomass due to its dependable nature.

Emphasized that UMEME's commitment to advancing the adoption of electric cooking was highlighted through the development of the EPC pilot, a project supported by various partners. Noted that the pilot project, facilitated by MECS, incorporates a comprehensive monitoring and research framework, examining both the behavioural aspects

of customer adoption and the impact on the grid. This aspect is led by the Access to Energy Institute, with key partners such as the Ministry of Energy and Mineral Development and the Center for Research in Energy and Energy Conservation (CREEC) involved. Highlighted that the promotion of clean cooking adoption involves emphasizing collaboration and adherence to standards as regulatory measures for ensuring the quality of Electric Pressure Cookers (EPCs). Price subsidies were identified as a pivotal factor in this context.

Decried a reverse transition to traditional biomass amongst people. Noted that insights had been derived from an EPC pilot project where customers had initially purchased clean cooking technologies but had reverted to the use of more familiar biomass. Observed that the end-user of the technology might not always be the purchasing customer.

On navigating the market amidst prevalent financial and cultural myths about clean cooking technologies, noted

that troubleshooters have been utilized to identify faults, particularly with Liquefied Petroleum Gas (LPG), to dispel associated misconceptions about the dangers of the technology. Highlighted that participatory research initiatives had also addressed mindset change. Emphasizing that this approach unveiled significant concerns among customers, notably high upfront costs. Allegedly, government intervention, through reduced taxes on LPG but increased taxes on cylinders, has sustained elevated technology costs. Private sector companies attribute their market persistence to innovative business models.

Pointed out that it is necessary that the rate at which standards are developed be accelerated to keep up with the high level of innovation being experienced. Stated that it is hard to drive away cooking with charcoal or firewood as they too offer numerous opportunities. questioned how opportunities are to be created for every player regardless of their form of energy to come into the business at the right standard. Highlighted that businesses need to

understand the niches of where they want to practice.

Recommended that participatory research is crucial in promoting the adoption of clean cooking technologies, as it facilitates the creation of consumer-centric technologies as well as interventions. Emphasized that innovation is necessary to achieve the goal of promoting clean cooking in Uganda as it enables companies as well as the end users to reach mutually beneficial solutions. Called upon the government to cultivate an enabling environment for investors in the clean cooking sector to nurture its growth. To foster the sustainable adoption of clean cooking technologies, recommended that effort should be put into dispelling myths and misconceptions about the various clean cooking technologies by providing information in the place of misinformation.



## 2.6.10 East African Community: Unlocking an Inclusive Energy Transition

**Session Chair:** *David Njugi* – East Africa Regional Representative, GOGLA

**Discussants:** *Tutembe Patrick* – Electricity Regulatory Authority; *Joseline Namara Kwesiga* – GIZ; *Molly Mbekeka* – USAID; *Allan Okello* – Head of Business Unit, Tukole Solar; and *Fransisco de Asis Lopez* – Country Director, Ayuda en Accion

Asserted that inclusive energy transition is a process towards an environmentally sustainable economy that ensures decent work for all, social inclusion, gender equality, and poverty eradication. Noted that inclusive energy transition involves taking care of the needs of the human resources working in the carbon-intensive sectors driven by fossil fuels as the source of energy. Pointed out that the East African Community is endowed with abundant renewable energy resources such as hydro, solar, wind, geothermal, biomass, etc. Further asserted that these resources have not been well harnessed to satisfy the energy needs of the citizens. Hinted that decarbonization, renewable energy, energy efficiency, and energy conservation are required to reduce the energy demand of energy-consuming sectors and save money for other economic activities.

Called on the countries in the EAC to prioritize investment in decarbonization, the needs of all stakeholders as the region transitions to renewable energy and energy efficiency.

Pointed out that there are macro-economic benefits for inclusive energy transition in the EAC. Highlighted the gender imbalance situation in renewable energy and energy efficiency sector in the EAC region and advised on what could be done to improve the gender status. Emphasized that several jobs have been created in the renewable energy and energy efficiency sector in the EAC and they are quite attractive compared to the fossil fuel industry.

Recommended strengthening and actualization of regional integration especially on matters of energy access to unlock the inclusive energy transition ecosystem. Called

renewable energy, energy efficiency, and energy conservation to reduce the demand for energy and make energy available to other people with no access to energy. Stated that majority of the population in the EAC depends on biomass for cooking using inefficient cooking technologies. Argued that there should be a shift to e-cooking to reduce greenhouse gas emissions and contribute to a better climate. Asserted that the entire transport sector in the EAC is dominated by the use of fossil fuels (i.e. Diesel, Petrol, etc) which generate high greenhouse gas emissions to the atmosphere. Pointed out that this sector could be transformed to e-mobility and hybrid-mobility. Stated that inclusive energy transition requires all stakeholders in the sector to commit to: Job creation; gender equality; racial equality and social cohesion; human rights; and disability inclusion. Discussed the gist of addressing

on the line ministries in the EAC countries to work together as well as the private sector actors to see to it that an inclusive energy transition is achieved. Recommend establishment of cross-border energy trade and investment by encouraging regional governments to put in place policy that create a conducive environment with minimal bureaucracy to facilitate such developments. Recommended that regional dialogues on energy transition should be held and avail a platform to all actors to contribute to the discourse.

## 2.6.11 Practicable Energy Solutions for Nature and Conservation

**Session Chair:** *Natukunda Sharon* – Assistant Director, SWEDO Innovations Limited

**Discussants:** *Twesigye Bashir* – Executive Director, Civic Response on Environment and Development (CRED); *Pauline Nantongo Kalunda* – Executive Director, ECOTrust; *Janet Akugizibwe* – Programs Manager, Tree Adoption Uganda; *Moses Egaru* – Country Director, IUCN; and *Ahimbisibwe Catherine* – Ag. Commissioner Relief, Disaster Preparedness and Management, OPM



Hinted that natural resources underpin economies, world over, through resources like water, food security, sustainable charcoal and wildlife habitats. Emphasized that nature also serves as a bridge to a clean energy future, providing critical carbon sequestration and storage. Discussed how to capitalize on the need for our natural world to support our planet while continuing to ensure our forests and agricultural lands provide for people as well. Explored a range of natural climate solutions and presented a menu of policy options and best practices that could be employed to meet the challenges and opportunities at hand.

Noted that natural resources have been depleted because of lost ownership during the first policies brought up by government. Pointed out that small holder farmers are very innovative with about 80% land ownership but they are less informed and they have been excluded from formal systems. Noted that investments are being made but unfortunately, they do not amount to anything, especially when it comes to preservation of nature.

Shared an experience how Bugoma forest has been destroyed for energy and agricultural purposes. Pointed out that people were acquiring land titles over natural resources like in Kikuube district where a local leader was owning a title of a river bed. Called upon the

government to develop and implement policies with preservation of nature as a priority. Hinted that environment and social impact assessments should not only stop before project licensing, but

the regulators should continuously follow up to establish the projects are having any environmental impacts during their execution.

## 2.6.12 Innovation and Sinking Emissions in Carbon-Intensive Sectors

**Session Chair:** *Marsida Rada* – Energy Advisor, ENDEV-GIZ

**Discussants:** *Jackson Muhindo* – Resilience & Climate Change Coordinator, Oxfam; *Ronald Kaggwa* – National Planning Authority; *Justine Akumu* – Energy Officer, MEMD; and *Howard Ping* – Mandulis Energy



Highlighted that globally, governments are investing billions into clean energy research and development. Emphasizing that spending these

investments well would be especially important to decarbonize hard-to-electrify industrial, transportation, agricultural, and other sectors.

Discussed and recommended what it will take to successfully implement existing energy programs to incentivize and deploy clean energy and decarbonization innovation at scale, as well as additional technical and policy solutions that could help reduce emissions and grow jobs. Addressed accounting for differentiating products from mining, green hydrogen, biofuels, and other applications and highlighted prospects for Africa's comparative advantage in cleaner decarbonization solutions.

Pointed out that carbon-Intensive Sectors could explore strategies, technologies, and policies to address climate change in industries that traditionally contribute significantly to carbon emissions. Highlighted some technological breakthroughs or emerging trends that are promising in helping carbon-intensive sectors transition to cleaner and more sustainable practices. Pointed out local case studies that demonstrate the impact of innovation on carbon emissions reduction, with the emphasis being put on electric cooking. Highlighted that cooking in households and heating in industries and commercial companies play a significant role in the country's emissions. Emphasized that the use of electric stoves as well as green hydrogen by the industry and commercial companies will go a long way to reduce the total annual emissions of Uganda.

Highlighted how innovative clean energy interventions could be utilized to enhance the decarbonization agenda and accelerate

the attainment of net zero targets. Pointed out that a national wide drive sensitizing people about clean cooking would result in growth of the number of households using clean cooking stoves. Also noted that passing a policy that obliges industries and companies to only use clean energy for heating would tremendously the attainment of net zero targets. Also hinted on how potential innovators looking to innovate and reduce emissions in carbon-intensive sectors could access financing and government support. For instance, noted that the government is currently

working on policy and regulatory framework for carbon financing. Also pointed out that several financing streams are coming up to support climate clean interventions, particularly in the developing countries.

Recommended that the government should fast-track the development and implementation of carbon financing policy and regulatory framework. Called on the government to create awareness about clean energy technologies as well as offer subsidies in order to stimulate their adoption. Noted that government needs to be intentional with about its net zero targets and should penalize any actors in the industrial and commercial sectors that do not adhere to national regulations. Encouraged participants to undertake research as well as coming up with innovations promoting energy decarbonization.

## 2.6.12 Biodigester in a Circular Bio-Economy: Scalability Prospects and Actions

**Session Chair:** *Micheal Ahimbisibwe* – Ag. Principal Energy Officer Bio-Energy, MEMD

**Discussants:** *Prof. Mackay Okure* – Senior Lecturer, CEDAT/Makerere University; *Saroj Raj* – Global Technical Advisor – Biodigester Market Development, SNV; *Dr. Kigozi Abbas* – Senior Scientist, NARO; *Sarah Ruedenauer* – Lead Project Coordinator · Fachverband Biogas e.V. / German Biogas Association; and *Florence Kintu* – Business Development Manager, Biogas Solutions Uganda Ltd.

Pointed out that biogas is a renewable and eco-friendly source of energy that could be produced from organic waste. However, noted that it also has some disadvantages that may limit its adoption and use. Some of the stated limitations of using biogas were upfront costs which prove to be expensive considering the average Ugandan household income levels. Further, social and cultural barriers, such as the perception of biogas as a low-status or dirty fuel, or the reluctance to use human or animal waste as a resource. Hinted that biogas technology is not widely adopted or supported by the government and the public in some regions. Highlighted that biogas production requires large amounts of feedstock, which may not be readily available or affordable for some individuals. Noted that the quality and quantity of the feedstock also affect the efficiency and yield of biogas generation.

Asserted that the huge potential of the renewable gas sector becomes more apparent year after year, yet the sector still needs relevant legislative support and investments in the coming years to harness its full potential. Discussed the role of the biogas subsector in the future energy system, assessing the capacity of feedstocks to scale the industry, accelerate



the investment in the biodigester value chain, and identifying the missing links in driving the renewable gas system in Africa. Recommended that the government should sponsor the installation of biogas systems for households to serve as demonstrational systems in feedstock rich communities as well as for picking lessons about perceptions and maintenance of these systems. Emphasized that government policies should be revised to create an enabling environment for biogas subsector. Recommended to government to need to conduct awareness campaigns in communities to increase the uptake and adoption of biogas. Called upon the government and partners to support capacity building of artisans as well as social workers are grassroot level to support in construction, maintenance and stimulating demand for biogas systems.





### 2.6.13 Transparency and Regulations: Scaling Energy Projects Amidst Environmental Crusaders

**Session Chair:** *Herbert Kafeero* – Programs and Communications Manager, SEATINI

**Discussants:** *Dickens Kamugisha* – CEO, AFIEGO; *Francis Elungat* – Energy Lawyer, MEMD; *Tony Sserubiri* – Principal Petroleum Officer, MEMD; and *Juliana Keirungi* – Senior Partner, Atacama Consulting

Highlighted that the major focus around petroleum activities is on emissions, air quality, noise, water and vegetation and pointed out that the national petroleum policy (2008) is the guiding tool in safeguarding the environment. Noted that produced natural gas during the production of petroleum oil such as methane will not be flared. Indicated that UNOC and Climate Alliance were planting many trees in the Albertine Graben to reduce carbon foot print. Also informed the participants that Uganda joined Extractive Industry Transparency

Initiative in 2020 as a means of keeping its extraction process transparent and adherent to environmental standards. Also noted that the resettlement and compensation program for the project affected persons is clear and open. Asserted that for every development to take place, NEMA takes the lead to carry out environmental, and social impact assessment of the project to ensure the project will not have unacceptable impacts. Also, noted that all stakeholders are involved and engaged before decisions are made.



Indicated that one of the key challenges of transparency is management of data. Noting that it is very hard to come across

data that could be used to assess the projects' impacts on the environment.

Insisted that inclusive decision making should be more implemented to allow communities have their say and voices considered before project implementation. Pointed out that it is crucial to have the necessary policy and legal framework on how all stakeholders could be engaged in the development process of the projects. Noted that benchmarking on the international practices could be beneficial to the country.

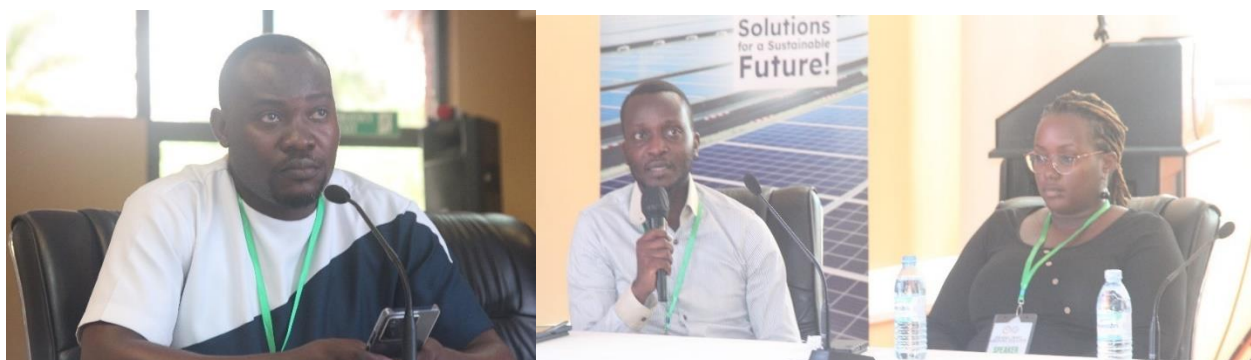
Asserted that every energy project should be accounted for in terms of social, economic, environmental and political impacts because these projects require very extensive investments. Called on the sensitization of the public about energy projects, how they will be executed and their intended benefits to people. Recommended comparison of the available energy source in different societies and developing them according to demand. Recommended strengthening of the regulations to help to assess the effects of the project. Noted that the major challenge is implementation of these policies and delay in the rule of law to ensure justice.

Recommended the development of a central database for every project, completed, underway and planned to enable consolidation of information and ensure that such information is accessible by the general public. Emphasized that all ministries should work together as one Government to ensure development and transparency. Recommended development of a policy to protect consumers in terms of the equipment they use.

## 2.6.14 Business on the Streets: Spotlight on Private Sector

**Session Chair:** *Aidah Ssemakula* – Director Consulting, Belli Advisory

**Discussants:** *Douglas Baguma*, Board Chairperson, USEA; *Rikki Verma* – CEO, Nexus Green Ltd; *Victor Kazimiri* – Marketing Manager, AKVO International; *Matinda Waringa* – CEO, Village Energy; and *Joshua Mawerere* – Chairperson, KACITA Youth League



Noted that with the business shift in focus from low income to middle income earners, businesses were receiving increased income and have continued to receive good reports regarding the benefits from the consumption of their products. However, as part of the experience across Uganda over time, it was stated that solar cannot be an alternative to the grid power but a supplement. Decried the high taxes levied on businesses that make it very hard for them to make profits. Noted that while affordability of systems is key, most businesses have no reverence for quality control but are rather more interested in profits. Further highlighted that the quality of installations and after-sale services are also a glaring concern because it determines functionality.

Indicated that there has been a lot of improvement in designing, engineering, lighting, tailor-made solutions and noted the need to involve the client in proper education about the system is important. Alluded to the fact that there has been a gradual transition from traditional cooking systems to improved forms of cooking like LPG, Biogas and electric pressure cookers. Noted that an improvement had been registered in adoption of clean cooking energies, creation of awareness and addressing the issues of quality and clean cooking using solar systems. Mentioned that registered success was attributed partly due to the awareness campaigns held at national level by the government through the Ministry of Energy and Mineral Development, and development partners like GIZ and Modern Energy Cooking

Services (MECS). Indicated that the electricity cooking tariff has become a tool of awareness and facilitating adoption of clean cooking technologies.

Cited some of the challenges hindering the uptake of clean energy that related to quality against cost of the product, stringent measures required by financial institutions to access financing, laxity nature of standards in the sector, a need to invest more in clean energy to produce more, sensitization at all levels to improve awareness and the elimination of brokers in the supply chain to increase the profits in approaches of reducing costs by dealing directly with manufacturers.

Recommended that the introduction of tax waivers and subsidies would encourage investors and consumers to take up clean energy. Also endorsed having standards made mandatory as well as stringent enforcement regulations to foster quality for both imported and homemade products. Also recommended collaborations and partnerships amongst the sector stakeholders. Finally, emphasized the need to increase awareness and sensitization of people about clean energy technologies. Called on the government to support the sector by organizing capacity building sessions to train technicians, artisans and business owners on issues of financing and technologies.

## 2.6.15 Energy transition in the context of the Global Geo-political Dynamics and Quest for Structural Transformation in Uganda/Africa

**Session Chair:** *Herbert Kafeero* – Programs and Communications Manager, SEATINI Uganda

**Discussants:** *Jane Nalunga* – Executive Director, SEATINI Uganda; *Faith Lumonya* – Economic Justice and Climate Action Programme Officer, Akina Mama wa Afrika; *Paul Bagabo* – Senior Officer, Natural Resource Governance Institute; and *Siraj Magara Luyima* – Energy and Extractive Industries Coordinator, Oxfam in Uganda

Noted that there are many factors that could make it hard for some countries to exploit their natural resources, such as political instability, environmental degradation, corruption, lack of infrastructure, and foreign interference. Hinted that some examples of countries that face these challenges in the Democratic Republic of Congo (DRC) which has abundant mineral resources, such as cobalt, copper, gold, and diamonds, but has been plagued by decades of conflict, violence, and poor infrastructure barring exploitation.

Highlighted that a lot of competition and interest in Africa's natural resources, especially oil and gas exist. Pointed out that European countries are coming back to renegotiate oil deals with African countries. Insisting that some of these European countries are looking for alternatives to Russian gas imports, which have become more expensive and unreliable due to the geopolitical tensions over Ukraine. Indicated that



these countries are eyeing fossil fuel projects across Africa, such as the Senegal-Mauritania gas pipeline, which was expected to supply Germany with 2.5 million tons of gas by the end of 2023.

Asserted that energy transition is not a one-size-fits-all solution for Africa. Therefore, pointed out that energy transition in Africa should be tailored to the specific context and priorities of each country and community, while also taking into account the regional and global implications. Highlighted that energy transition in Africa is about affordability and not emissions. Noting that people will only transition to the

source of energy that is readily available and affordable or cheap.

Recommended that countries should focus on capacity building to equip their citizens with the necessary skills to utilize the available resources. Called on regional integration to boost the exploitation capacity rather than patterning with foreign countries. Recommended that clean energy should

be subsidized to make it affordable to the local communities in different African countries. Emphasized that private companies in line with the energy transition campaign should be empowered to reach in all corners of the continent for both sensitization and the provision of services. In Uganda's case, recommended that the resources acquired from oil and gas could be used to finance the transition.

## **2.7 Closing Ceremony**

### **2.7.1 Closing Speech**

Speaker: Hon. Peter Lokeris – State Minister for mineral development

Thanked all participants for being part of this year's conference and expo. Noted that the REC23 and expo was part of the Energy and Minerals Week 2023, and a platform for insights and creating pathways towards clean energy for all. Recognized the technical team at the Ministry of Energy and Mineral Development and National Renewable Energy Platform for the Unwavering commitment and collaboration spirit, great organization and making REC2023 and expo a success.

Highlighted that witnessing converging ideas and experiences from over 33 countries represented at the conference and expo reflected the ambitions to enhance renewable energy and energy



efficiency in Uganda. Acknowledged that the exhibition of innovations, businesses, and technologies has been a testament to show potential in the sector and the recommendations made during the different sessions of the event emphasized the collective struggles for ambitious actions. Called upon

participants to ensure that the insights are turned into tangible implementations to mitigated against climate change and its impacts.

Noted that the Critical challenge that is continuously emerging is the need for affordable and sustainable energy solutions and that the spirit demonstrated at REC23 and Expo must translate into appropriate and targeted efforts in securing the necessary financial support to attain Renewable energy goals. Emphasized that the energy sector is not only economically viable but also essential for sustainable development. Pointing out that by forming strong partnerships and honoring of available resources, small steps could be taken to lead to significant transformations.

Further acknowledged and appreciated of everyone for the dedication and effort involved in making the REC23 and expo a meaningful encounter in that the discussions and engagements that were conducted enriched the event and made it a concern for future progress of the energy sector and reminded the Ministry of its importance in shaping a sustainable energy vision, and assured

the participants that the efforts will ultimately be of benefit to the present and future generations.

Concluded by thanking everyone on behalf of the Ministry of Energy and Mineral Development and Honorable Minister Ruth Nankabirwa for the steadfast and overwhelming support and commitment from the ecosystem stakeholders throughout the conference, and congratulated the award winners for their excellence in Renewable Energy. Further acknowledged the Event partners, British High Commission, TotalEnergies, GIZ, UECCC, WWF, Energy Catalyst UK, KFW, UNEFCO, FAO, Care International and all other partners that contributed to the success the conference and expo.

Thanked all the session chairs and discussions as well as the exhibitors who contributed to the success of REC23 and expo and noted that the insights, experiences and commitments are significant in the journey towards a clean energy for all.

Officially declared REC23 and Expo closed

FOR GOD AND MY COUNTRY.



