

RE4SG-ENERGY WEEK CONFERENCE & EXHIBITION REPORT 2024



September 9 - 12th, 2024

Kigali - Marriott Hotel

PREPARED BY
Energy Private Developers
Association

INTRODUCTION

The 4th Edition of Renewable Energy for Sustainable Growth (RE4SG) took place from the 9th – 12th September 2024 under the theme “Accelerating Rwanda’s Renewable Energy Transition and Adoption”. Organized by Energy Private Developers (EPD) in partnership with The University of Strathclyde and its Global Renewables Centre (GRC), the conference and exhibition reached out to the Rwandan Renewable Energy sector, providing a platform for multi-stakeholder dialogue, international business and partnership development. In total 285 delegates attended, 34 of whom were international.

In 2024, EPD celebrated a significant milestone of 10 years of empowering Rwanda's energy sector. This journey has been part of a transformation in the nation's energy landscape, bringing Rwanda closer to achieving sustainable energy for all. As of 2024, the cumulative electricity connectivity rate in Rwanda is 80.1% of households, with 56.2% connected to the national grid and 23.9% accessing energy through off-grid systems (mainly solar). This has been achieved through significant contribution by the Private Sector, especially in off-grid areas and mini-grids connected to the national grid. RE4SG 2024 emphasized investment opportunities, incentives, and the policy framework in Rwanda's renewable energy sector by engaging both private and public sector players in networking, techno-economic innovation, and knowledge exchange to scale up the use of renewable energy for sustainable growth in Rwanda. The conference invited international energy experts to exchange knowledge with local, regional, and global international experts. Government support for the conference enhanced its significance and impact. Sincere appreciation is extended to the Minister of Infrastructure, Transport, and Energy, Dr. GASORE Jimmy; the Minister of Climate Action of Scotland, Alasdair Allan; and the Chief Executive Officer of the Private Sector Federation (PSF), Stephen RUZIBIZA, for sharing their experiences in the energy sector.

Many different companies showcased their technologies during the exhibition, one highlight being the unveiling of the ENGIE Energy Access Product – All in One, which includes a battery and inverter in one system, by Minister of Infrastructure Dr. GASORE Jimmy and Dr. Ivan TWAGIRASHEMA. Industrial site visits also added practical knowledge exchange to the conference and delegates visited; Rusumo Hydropower plant, Productive Use of Renewable Energy (Arc Power, CET), e-mobility (Ampersand, Spiro and BasiGo). The Energy Private Developers Association (EPD), in partnership with the BK Foundation, made a transformative impact on Rwanda’s sustainable development journey. As result of the conference, they delivered solar lighting solutions and improved cooking stoves (ICS) to 141 households in the Nyanza and Ruhango Districts, marking a crucial milestone in the country’s progress.

In this report, contributions from keynote speeches, panel discussions and poster sessions are summarized.

Energy Week 2024

Day 1

Opening Comments



Mr. Serge Wilson MUHIZI

Welcome Remark by CEO - EPD

It is my distinct honor and privilege to welcome you all to the fourth edition of the Renewable Energy for Sustainable Growth Conference and Exhibition.

We are gathered here today, united by a common purpose: to accelerate the renewable energy transition both in Rwanda and globally, in alignment with Sustainable Development Goal 7, which ensures access to affordable, reliable, sustainable, and modern energy for all.

During the conference, we will address critical challenges and explore the numerous opportunities that exist in the renewable energy sector. Building on the success of our

previous editions in 2017, 2018, and 2019, we will continue to foster investment, advance policy development, promote technological innovation, and strengthen the partnerships that drive progress in this vital field.

Our theme for 2024, "Accelerating Rwanda's Renewable Energy Transition and Adoption," underscores Rwanda's bold aspirations as outlined in its National Strategy for Transformation (NST1) and the Energy Sector Strategic Plan from 2018 to 2024.

We are proud that EPD members have actively contributed to shaping these strategies, ensuring that we all work together towards transforming Rwanda's energy future. Your participation is invaluable, and I look forward to the rich and productive exchanges that will emerge from this important gathering.

Together, we must seize the opportunity to learn from one another, inspire action, and set concrete, measurable goals that will lead us towards a more sustainable and resilient future.

**Remarks by Stephen RUZIBIZA****Chief Executive Officer of PSF**

government departments for private sector members. When we talk about energy, like all other sectors, it has faced disruptions and alternatives.

Today, (a few of us) are driving electric vehicles, which means that fuel and related petroleum products have been sidelined. Energy has become our basic need. We are now constantly using power banks to charge phones, so everything revolves around energy, and expectations are high.

This means that all energy developers need to scale-up the market; a market that is competitive, customer-satisfactory, affordable, and sustainable, but also profitable. Developers need to look into corrective investments so that they can invest in all areas of energy requirements, including transmission, development, and repairs.

It is not easy to keep this event annual!

We must recognize the Ministry of Infrastructure for maintaining their partnership with the association and appreciate the support from various

**Mr. Damien Frame****GRC- Program Manager**

It's amazing to think that it's less than a year since we officially partnered with EPD under the GRC program. During that time, we've held a series of workshops across different knowledge exchange themes, engaging with a range of stakeholders in Rwanda, and also with our colleagues in Malawi and Zambia.

We've engaged with private sector, civil society, academia, and others. And those workshops brought out core themes, mini-grids, C&I solar, commercial and industrial solar, green finance, and gender inclusion. We're really delighted with the collaboration and the progress that's been made.

It is a testament to the commitment and hard work of EPD, and we believe this is just the start of a long and impactful collaboration between our new partners in all four countries.

The GRC, fits within an overall commitment by the Scottish government to support global citizenship and climate action. Our mission is to grow strong partnerships and new initiatives, building new networks and multidisciplinary collaborations across the four countries to help achieve SDG7.

This conference represents a major milestone in our efforts to achieve those goals of the GRC. It's great to be here, back in Kigali again, and to be joined by the teams from Scotland, Malawi and Zambia - Renewable Energy Industries Association of Malawi – (REIAMA), Zambia Renewable Energy Association – (ZARENA).

**Remarks by Alasdair Allan:****Scottish Government, Minister of Climate Action**

Increased renewable energy deployment and development is a core mission for Scotland, as it is for our partners in Malawi, Zambia and Rwanda.

Energy is a critical component of economic and social success for any country, and should be affordable, reliable and clean. Supporting SD7, affordable and clean energy, continues to be a key element of our international development investment in Malawi, Zambia and Rwanda.

It is an important way in which we, in Scotland, demonstrate our commitment to

global citizenship. This means recognizing that our world is an increasingly complex web of connections and interdependencies in which our actions have implications for communities locally, nationally, and internationally. There is no clearer example of this than in the threat posed by climate change.

Scottish government have prioritized tackling the climate emergency but our efforts mean nothing in isolation, international collaboration and partnership is crucial as we develop our renewable energy sectors and support each other to reach our shared goals. So, a huge thank you to our partners at the University of Strathclyde, the Renewable Energy Industry Association in Malawi, the Zambia Renewable Energy Association and the Energy Private Developers Association in Rwanda. The Global Renewables Centre has already made a significant contribution to the sector through facilitating knowledge exchange, sharing experience, and pooling resources to work towards local priorities from mini-grid innovation and financing to empowering women in renewables.

The GRC promotes global south led solutions to truly global challenges. I'm excited about the potential for this work and hope that the discussions and connections made at this conference will serve as a catalyst for powering further change!



Remarks by EPD Executive Chairman

Dr. Ivan TWAGIRASHEMA

In the future, the economy will not be able to run without energy. Without electricity and all kinds of energy production, artificial intelligence, robotics, and many other applications are impossible. Energy will be like food for the next economy. Countries that will be able to run and face those challenges, will be the ones with a proper plan for access to all forms of energy.

As we celebrate the 10th anniversary of EPD, I am proud to reflect on our journey. I was fortunate to be among the founding members of this association and have served as chairman from its inception to the present day.

We started with just 20 members, and today, we have over 200 companies regrouped in different subsectors within the association.

When we began, we didn't even have an office. Our journey has been full of surprises, challenges, experiences, and learning. Today, we have more than five staff members, some of them hold master's degrees. Initially, having a CEO was not even part of our dream.

The Private Sector Federation (PSF) is the umbrella organization regrouping all of us in the private sector, and PSF is composed of chambers, each made up of associations. EPD is among the few associations that have an office, a CEO, and the capability to organize such an international conference.

Reflecting on our history, I want to first thank our initial partners, the Shell Foundation, which supported us for six years. I can't imagine how our journey would have been without their support. I also want to thank BFZ from Germany, which supported EPD for three years at the beginning. These two institutions were instrumental in helping EPD open our first office and start operating as an organized association.

I extend my gratitude to other partners as we move forward, but above all, we express our appreciation to the government of Rwanda for its good leadership and vision, especially His Excellency, the President of Rwanda.



Official Opening by Minister of Infrastructure, Transport and Energy:

Dr. Jimmy GASORE

It is a pleasure to address you today at Rwanda Energy Week under the theme "Accelerating Rwanda's Renewable Energy Transition and Adoption." We gather at a pivotal moment in our nation's development journey, as Rwanda makes significant strides in advancing energy access and sustainability.

Today, 80% of Rwandan households have access to electricity, with 57% connected to the grid. Our commitment to achieving universal energy access, as outlined in Sustainable Development Goal 7, remains unwavering. We are taking bold steps to achieve universal access to sustainable energy, including providing access to green

cooking options, reducing biomass reliance, and promoting energy efficiency across all sectors.

Under the second phase of our National Strategy for Transformation (NST2), we have set ambitious targets to be achieved by 2030. These include reaching 100% electricity access for households and 100% access for productive use areas. These milestones are more than just numbers; they represent our commitment to energy security, economic growth, and improved livelihoods across Rwanda.

In addition, we are working to increase the share of renewable energy in our power generation to over 60% by 2030. This critical step will ensure that Rwanda's energy supply remains sustainable, resilient, and aligned with our nationally determined contributions and our long-term vision for carbon neutrality by 2050.

As we expand access, we must ensure that energy is used wisely, minimizing waste while maximizing its contribution to economic development. The government plays an important role in creating the necessary conditions, but it cannot do this alone. We are committed to fostering strong partnerships between the public and private sectors. Let me also emphasize the importance of regional and global cooperation. Thank you all for your participation, and I wish you a successful and healthy Rwanda Energy Week.

Energy Private Developers Association (EPD) celebrating 10 years anniversary



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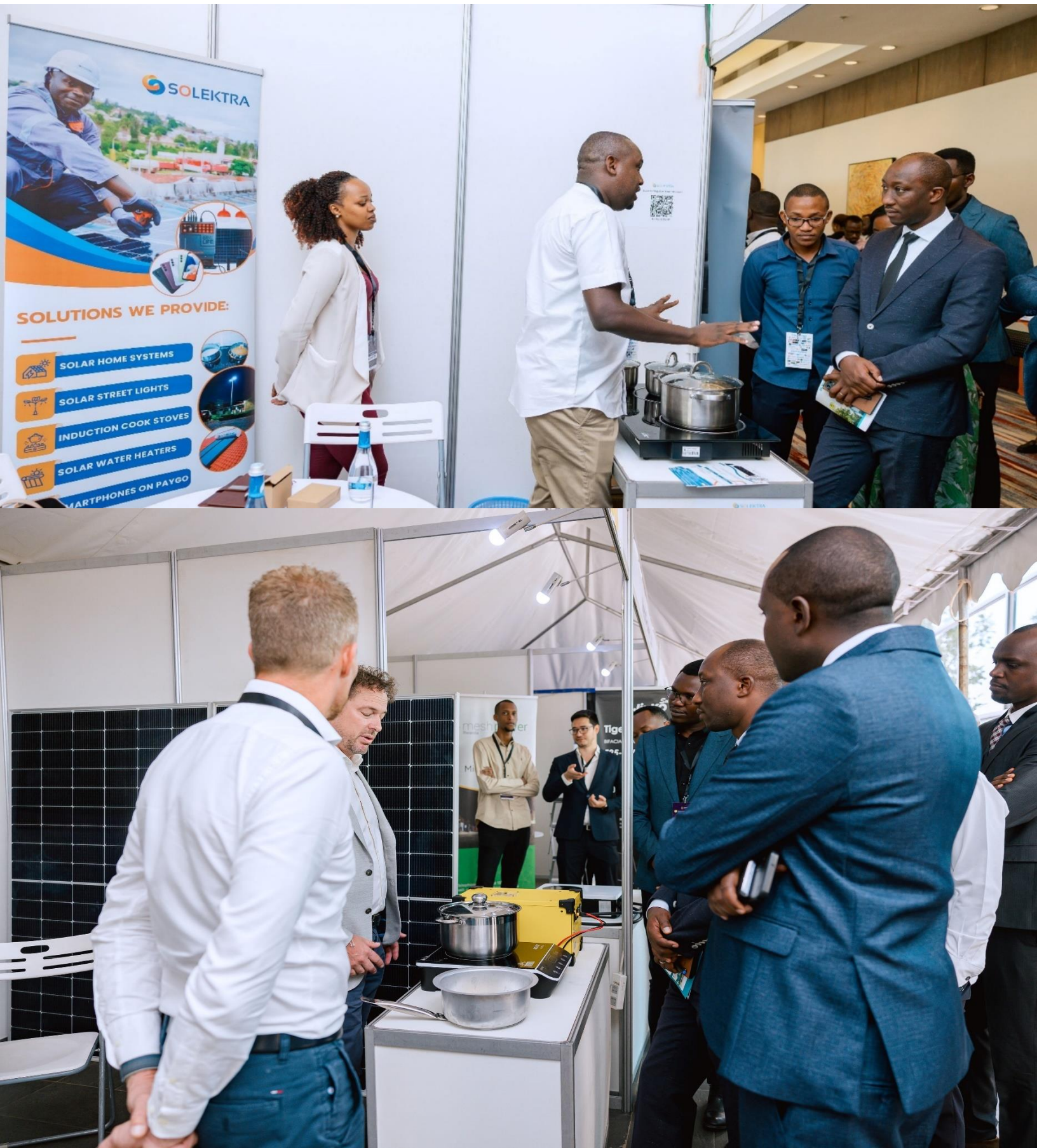
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The minister of Infrastructure officially unveiling MySol boss – a new product of ENGIE.



ENGIE Energy Access mentioned that “They want to go beyond solar home system (SHS), and developed a 5-kW system that provide energy solutions to Commercial and Industrial activities.

Energy Week Conference Exhibition



Panel Discussion: Driving Energy Transition towards Achieving COP28 Goals and SDG 7: different perspectives



Divine NAKANYANGE RDB - Acting Head of Investment. The government of Rwanda has set ambitious goals within the vision 2050. The vision is about achieving climate resilience and carbon neutrality. Looking at this vision, it's well aligned with the global effort, of course, to combat climate issues and also climate change. And when it comes to RDB, the Rwanda Development Board, as a government institution, of course we do align our strategies with the Vision 2050, and as I said, which includes all those initiatives related to SDG7 and also those different initiatives.

Felix GAKUBA - Managing Director of EDCL. The energy sector is vast, but also, it's a dynamic part of the global economy. When you look at the changes, new players that we have in this field, but also going through all the dynamics and the changes we've seen, in transformations and part of this energy business landscape, there is as well the renewable energy growth. Rwanda, we are increasing the capacity of the power generation in the country, and focusing on renewable energy as one of national projects. We are also promoting the regional interconnection but we are also promoting the energy trade on the regional level. We also try to even capitalize on the existing power plant, but also optimize them by increasing their capacity, it's another option.

Country Representative (GGGI) Caroline Raes - We have to ensure the promotion and scale up solar-powered irrigation systems that are farmer-led and climate-friendly for contributing to smallholder farmer activities, so that they can move into commercial farming. That's still an area that we need to focus on and do, there's a lot of opportunities.



Dr. Ivan TWAGIRASHEMA

EPD Executive Chairman

The participation of private sector in energy existed, but we also need to deal on the principles of how private sector and government have to work together.

To access finance has been an issue, the first component comes from our financial institutions, banks, microfinance that are focusing on retail and real estate which has been slowing down our target.

We started discussing with the local banks, they started hiring energy experts in the bank, and that's a positive move. Today, our regulatory system and the law does not allow selling energy to neighbor but if a house owner is able to generate 200 kilowatts, where is he going to put the excess? We will be losing a set of opportunities. And for companies importing equipment need to be manufactured locally, for lowering cost focusing also the affordability of Rwandan.

Panel Discussion: Strategies for Developing Green and Sustainable Industry Policies



Energy sector policies and regulatory frameworks are a critical issue, especially for the private sector. Panelists from the government, regulator, and private sector discussed the status of the current policy and regulatory eco-system.



MUGIRANEZA Jean Bosco

**Director General Energy Division/
MININFRA**

**“The current status and development of
the green sector”.**

Some of key barriers to remove include; financial barriers and high initial costs of technology. Green technologies, such as renewable energy systems or sustainable manufacturing processes often have higher upfront costs discouraging investment. So, to mitigate them, Governments and financial institutions can offer low interest loans and tax breaks or grants, to reduce initial burden.

It is critical that private sector and Government work together on the complex problems existing in energy sector.

Working together and putting policies and strategies in place will address the current problems that we face with.

Patric MUGABO - Chief Operations Officer at ENGIE ENERGY ACCESS. The private sector has come a long way, and it wasn't an easy journey 10 years ago, but EPD has changed a lot. Currently, the private sector is being approached, asked to share input, and play a major role in the design of these policies.

The private sector is also playing a role in implementing them, particularly in developing solutions related to the policies. Some policies from the Ministry of Infrastructure and various laws, including customs regulations, do not favor the solar energy sector and hinder some aspects of the policy.

**Florien GUMYUSENGE****Acting General Manager/ RURA**

At the Rwanda Utility Regulatory Authority, we create laws and enforce regulations. These regulations and rules need to be flexible to a certain extent to allow private investors into the market. At the same time, they must protect these investors. Because at the end of the day, we don't want to encourage someone to enter the market only to have their investment fail tomorrow. RURA works to maintain the market and avoid factors that could harm it. Regarding collaboration, there is always room for improvement. We are working with different stakeholders, including the industry, utilities, the EPD, and all other operators in the sector. However, we may need to do more. If we are good, we need to strive to be better, and ultimately the best.

The role of RSB in achieving green energy and sustainability is to develop, maintain, and disseminate standards in various fields, including energy systems. While developing energy policies and different laws or regulations, it is essential to have quality standards in place. RSB supports business operations by providing these standards at no cost. The Standards Board offers various services, including quality testing and certification. This includes testing services for different renewable energy products. We believe that with this approach, we will be able to achieve clean energy.

**Patrick NZABAMWITA****Rwanda Standard Board**

Presentations By Companies and Partners on Current Initiatives for Enhancing Productive Use of Renewable Energy

Presentations in this session focused on initiatives enhancing productive use of renewable energy in Malawi and Rwanda, highlighting current projects, challenges (including limited awareness and funding issues), and opportunities for job creation and economic growth. Both countries are actively working on adopting renewable energy technologies in sectors such as agriculture, manufacturing, and clean cooking. They emphasized the critical link between renewable energy adoption and agricultural productivity, particularly in irrigation.

Challenges noted for Productive Use of Renewable Energy:

- Limited awareness of the potential for using energy to increase profitability in various sectors.
- Funding and affordability issues for renewable energy technologies.
- Policy gaps and misalignment between different sectors (e.g., energy and agriculture).
- High costs of energy for irrigation.



UWIZEYE Jean Claude

Head of PURE/ EPD

Rwanda plans to increase irrigated land from 71,000 to 131,000 hectares in five years, with

solar-powered irrigation playing a key role, 646 hectares are currently under solar-powered irrigation in Rwanda. The government provides a 50% subsidy for irrigation installation up to 10 hectares per farmer to support this initiative. Key initiatives in Rwanda include:

- Monitoring the application rates of productive use of renewable energy technologies in various sectors.
- Focusing on public funding and concessional finance for PURE technologies.
- Conducting effective awareness campaigns and demand stimulation.
- Implementing Results-Based Financing (RBF) programs to promote access with productive use.
- Assessing the effectiveness of government policies and regulatory frameworks related to PUE.

Panel Discussion: Advancing The Adoption of Productive Use of Renewable Energy (Pure) Within the Energy-Water- Food Nexus



Tony NSANGANIRA, Deputy Country Director at the Tony Blair Institute for Global Change, an agricultural economist with experience in the agricultural sector, mentioned their work with political leaders to accelerate the transformation of different economies. Their focus is on strengthening institutions and capacitating government officials or public servants to speed up the implementation of various policies and programs. He recommended that investors invest in the productive use of renewable energy.

Dr. Patric KARANGWA, the Director General in charge of Agricultural Modernization, stated that the Ministry of Agriculture considers the productive use of renewable energy as central to the modernization of agriculture. As part of the National Strategy for Transformation, the goal is to increase the area under irrigation by 85%. A key issue for farmers is the cost of energy for operating the irrigation schemes. The cost of electricity ranges between 300,000 Frw and 500,000 Frw per hectare per year. The government provides a 50% subsidy for the installation of irrigation systems on farmers' fields, up to 10 hectares per farmer. This is why land use consolidation and farming in cooperatives are promoted. MINAGRI supports farmers in various, such as providing access to low-interest loans, with commercial banks offering loans at interest rates of around 18% or higher.

Panel Discussion: Green Investment in Energy Transition: Aligning with COP28 Goals and Achieving SDG 7



To provide a brief introduction to COP28, the primary focus was on keeping the 1.5°C target within reach. This requires inter-sectoral efforts, with the goal of reducing at least 22 gigatons of emissions before 2030.

Tony SHYAKA, Investment Analyst at the Rwanda Green Fund, discussed green energy and noted that they are focusing on energy provision under IREME Invest for projects such as solar and hydro energy. They aim to ensure that the rest of the population, who are not yet connected to the grid, has access to energy, as well as financing the transition to clean cooking.

From the bank's perspective, Equity Bank, across its group and subsidiaries in the region, is driven by a strategy called the Africa Recovery and Resilience Plan. The Africa Recovery and Resilience Plan allocates resources and sets a goal to achieve at least 25% green investment and energy-efficient investments by 2030.

Financial institutions provided their targets and recommended that green investment is a shared journey, where both the private sector and the government, along with financial institutions, need to join hands to ensure they can work together and create synergies.

Pannel Discussion: Just Transition and Gender: Empowering Women for an Inclusive Energy Transition



In this panel, the discussions focused on the most significant barriers that women face in the industry. Panelists said that Government of Rwanda with its development partners have done great work to promote gender equality, women empowerment, and increase numbers of women working in the energy sector.

Allen MUNGANYINKA, Head of Female Inclusion sub-sector at EPD, indicated that private sector has joined the momentum of empowering and inspiring women.

Regarding opportunities for women, there are marketing opportunities aimed at building capacity for female drivers, particularly female bus drivers in Rwanda. Both Ampersand and Spiro are creating driving opportunities, especially for women. Dorren ORISHABA, Managing Director of BasiGo – Rwanda, said, "They are working to create opportunities for women."

Energy Week 2024

Day 2

Opening Comments



Welcome Remark by Philippe KWITONDA

DG- Land, Water and Forest at MoE

It is a great pleasure to attend EPD- Energy Week Conference, with a theme of Accelerating Rwanda's Renewable Energy Transition and Adoption.

Rwanda has achieved a lot in development of renewable energy, but we still have a long journey to go, we need to build partnerships, networks, collaboration and cooperation framework to transition together because we will be safe when we move together.

As you understand, climate change is a global threat, and that is the reason why we need to be closer, we need to work closely, so that we move together and also adopt together these renewable energy solutions.

Through NDC, Rwanda is committed to reduce 38% of emissions by 2030, and this requires around 11 billion USD. You understand that we need everyone here, private sector, academia, national and international partners to identify, innovate, develop and finance renewable energy solutions like electrical industry, solar power and also hydro power.

We need to transition from traditional and fossil fuel like fuel wood to modern and clean alternative to achieve that national target and SDGs targets. Adopting the use of renewable energy leads to the reduction of emissions, which has multiple benefits. That includes saving our planet, preventing, mitigating the impacts of climate change and promoting the health.

There are many opportunities for renewable energy development. For example, Rwanda plans that by 2050, 70% of Rwandans will be living in urban areas. You understand that all these people living in urban areas, in urban cities, they will need other forms of energy, not biomass dependence or biomass fuel.

The Ministry of Environment is highly committed to work with everyone to create a conducive environment in terms of policies, cooperation frameworks, for acceleration and transition of this from traditional energies to this innovative renewable energy solution. Furthermore, Rwanda is having a fast-growing economy. every sector of the economy needs energy to grow, now transition to start using this renewable energy.

Presentations: Driving Towards Sustainability: Innovations and Initiatives in Green Transport for a Greener Future



Pascal HATEGEKIMANA

University of Rwanda/ Grid Innovation

Pascal presented research on improving energy storage for electric motorcycles in Rwanda. The research investigated a supercapacitor to improve battery life and facilitate innovative energy storage that can deliver high power without affecting the lifespan of the battery.

Electric mobility has benefit of independence from oil imports and is hence environmentally friendly due to the reduction in emissions. But a key challenge is the issue of expensive energy storage and having high initial costs, limiting traveling range because of limited infrastructures for charging. The research has highlighted potential solutions to this challenge.



Mr. Lahim NZAMWITA

Ministry of Public Services and Labor

The presentation by Mr Nzamwita, Sector Capacity Development Analyst from the Ministry of Public Service and Labor highlighted that “E-mobility sector is one of the growing sectors currently in Rwanda. The presentation discussed the current skills landscape and, in the e-mobility sector, assessed critical skills shortages, hiring, and costs. It was noted that the sector is emerging fast, and there is limited research on E-Mobility-related skills development.

Business to Business Discussions for Partnership, Negotiation, Business Opportunities



Panel Discussion: Towards Sustainable Mobility -Opportunities, Technologies, and Challenges in Green Transport for Energy Transition



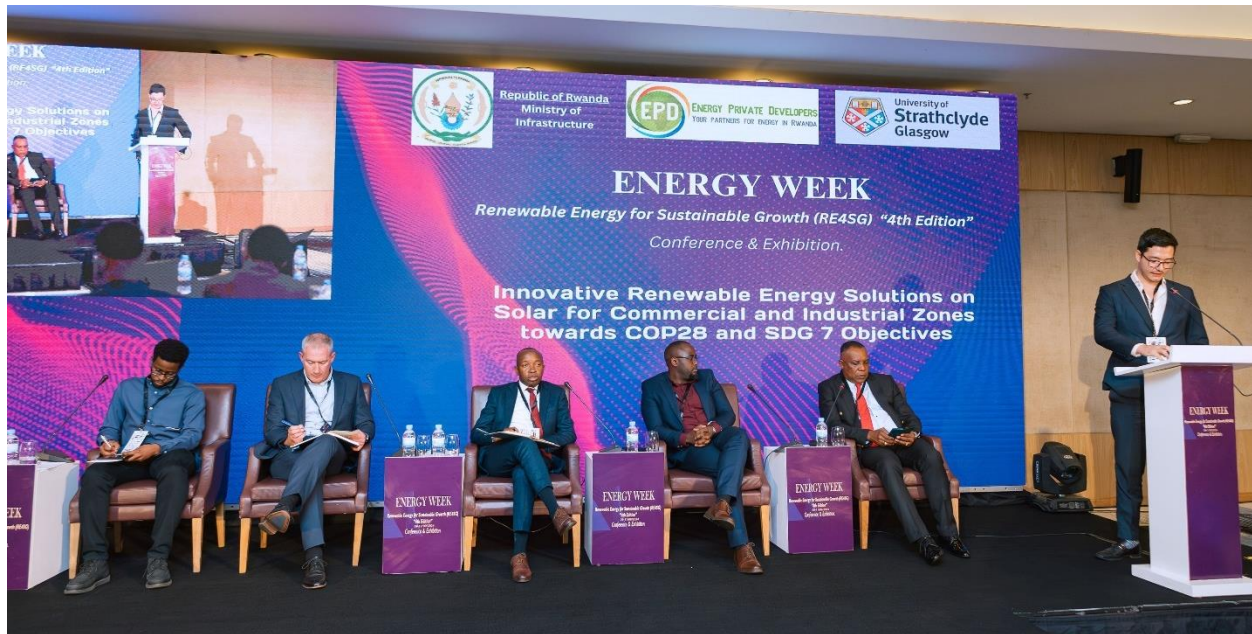
Mr. TWAGIRIMANA Janvier, Transport Coordinator at MININFRA, pointed out that they began with a study that showed e-mobility is possible and highlighted the conducive environment that has been established in Rwanda to support the adoption of electric vehicles. As of today, e-mobility, including electric vehicles in all categories such as motorcycles and buses, has been increasing year by year, thanks to government support.

Private investors in e-mobility emphasized that they are beneficiaries of good policies that have been put in place, as well as of stakeholder engagement, particularly with REG, which is in charge of infrastructure and power.

Mr. Herman HAKUZIMANA, Climate Program Manager at REMA, mentioned that promoting the acquisition and penetration of electric vehicles is driven by long-term climate goals, as it helps reduce harmful emissions worldwide. He also noted that short-term economic factors are important, as the operational expenditure for electric vehicles is much lower compared to internal combustion engine vehicles. This positively impacts the economy and the spending habits of individuals.

Additionally, the panelists recommended investors, stakeholders, and the government that “Capacity building is crucial for the adoption of green transport through awareness and training.”

Panel Discussion: Innovative Renewable Energy Solutions on Solar for Commercial and Industrial Zones towards COP28 and SDG 7 Objectives



The panelists discussed that technology and finance cannot be effectively assessed or sustained if capacity is not addressed. Therefore, the focus should be on technical and entrepreneurship capacity development to empower developers to produce results in a timely manner and at a reasonable cost for the end user.

A representative from the Rwanda Utilities Regulatory Authority (RURA) spoke to current regulations limiting the size of grid-connected distributed generation. It was noted that they are flexible and have initiated a review of policy and rules, especially on the extension of 50 kW peak limitation to 250 kWp.

Leandre BERWA, Chief Executive Officer of SLS ENERGY, said, “Energy is a new market, and there are still many moving factors.” He highlighted SLS’s innovation with retired batteries, which have been completely depreciated on the first user's balance sheets, and how they are resetting the batteries with new efficiency and value.

The panelists recommended developing new partnerships, including research and capacity-building expertise.

Presentation: Green Hydrogen and Nuclear Energy Opportunities & Challenges In Africa: - Case Study, Rwanda.



Presentation by EPD Chairman - Dr. Ivan TWAGIRASHEMA

Executive Chairman of the Explova Consult

Explova Consult focuses on commodity trading and also provides general consultancy and transaction advisory services. The presentation shared knowledge about hydrogen and its different types, mentioning that it cannot be found in nature alone and has to be produced, but the production process of hydrogen is more sophisticated.

Regarding nuclear energy, it was noted that Africa has large reserves of uranium, but the challenges include transportation and high operational costs. If not managed properly, nuclear energy poses risks to human life. Nuclear power is a non-renewable source and generates waste from uranium.

It was concluded that for Africa, the challenges related to the management of sophisticated energy products like hydrogen and nuclear power will be significant for many reasons. One key issue is the lack of political will at the government level and within institutions. It requires substantial effort for a country to embark on nuclear power development.

Panel Discussion: Collaborative Pathways: The Role of Development Partners Driving Energy Transition for Sustainable Futures



Development partners primarily support the government and the private sector by providing technical assistance and working with private companies to deploy solar home systems, mini-grids, and the productive use of energy.

Dorothee Merkl, the advisor at EnDev Rwanda/GIZ, said that EPD is driving this exchange with development partners and highlighted the strong effort by the government to ensure that different development partners take on distinct roles. EnDev is currently implementing a program in collaboration with private companies.

Damien Frame, the Program manager of the Global Renewable Centre (GRC) summarized the history of development partnership supported by the Scottish Government, highlighting support for renewable energy. In terms of development partnerships, different partners take on various roles. The Scottish approach encourages institution-to-institution partnerships. Currently, energy related funding is directed toward supporting the growth of these partnerships, which began with academic institutions in Malawi and now includes projects with Zambia and the Rwanda Energy Private Developers Association.

Panel Discussion: Cooking Up Solutions: Enhancing Stakeholders' Collaborative Efforts to Ensure Universal Access to Clean Cooking for All



The energy sector has demonstrated that clean cooking and modern cooking technologies and fuels are pivotal in reducing rates of smoke-related illnesses, mitigating climate change, improving air quality, and significantly enhancing the livelihoods of people.

Head of Clean Cooking sub-sector at EPD, Ehudi SHINGIRO mentioned that close to 50% of EPD members which are over 200, are involved in clean cooking business, fuels production, and production of appliances as well as their distribution.

Panelists revealed that although the government has set a conducive environment through tax reduction to make technologies affordable for Urban and Rural areas, access to efficient cooking solutions e.g., Improved cook stoves, LPG, Biogas, Solar or eCook remain insufficient.

The panelists discussed various incentives set by the government of Rwanda, but also emphasized the need to examine fuels. They recommended that “companies collaborate to form larger entities, combining the strengths of five smaller companies, which would help them access finance, technology transfer, and other opportunities”.

Panel Discussion: Hackathon for hydro and Minigrid projects, to achieve SDG7



Eng. Ntare KARITANYI the Managing Director of Rusumo Power Company Ltd shared his observation that Investors in energy should join their efforts and build large scale energy infrastructure for it to stay longer and affordable.

The discussion covered the hydropower plant's operations and maintenance, highlighting the role of technological innovation to improve the overall efficiency of the power generation system. However, high costs remain a challenge. Therefore, homegrown solutions such as local fabrication of some equipment should be investigated to reduce the cost and lower the price of Energy.

The panelists suggested that the gap between academic researchers and industry must be addressed. Investment in locally led research projects is needed to explore innovative solutions, cheap products, fuels, and appliances made locally.

Energy Week 2024

Day 3



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Research paper presentations: Driving Innovation - Universities' Contributions to Advancing Sustainable Energy Solutions



Sylvie ISINGIZWE

Deputy CEO- AESG Ltd

This presentation shared university contributions toward advancing reliable energy solutions, highlighting that universities bring technical expertise, the global networks and interdisciplinary research to solve energy challenges. Universities also provide space for experimentation, scalability of new technologies and are uniquely positioned to spearhead the energy transition by combining research, innovation and collaboration.

Universities are good partner in localizing technology and building country expertise that is needed to achieve Rwanda's sustainable energy goals. There is a need of bridging the gap between academia and industry, to make sure the collaborative efforts are tackled and especially universities should collaborate to turn the academic research into commercially viable technologies.



Dr. Eng. RWAMURANGWA Evode

Deputy Chief Operating Officer/AESG

This presentation introduced an innovative model in which vehicles could be charged using solar energy. During peak hours, these vehicles would act as backup power sources to the grid, helping to prevent power outages. Dr. Evode, in his presentation, highlighted how this solution could benefit car owners by allowing their vehicles to serve as home power sources when not in use.

Panel Discussion: The role of Media in Accelerating Renewable Energy Adoption: Challenges and Opportunities

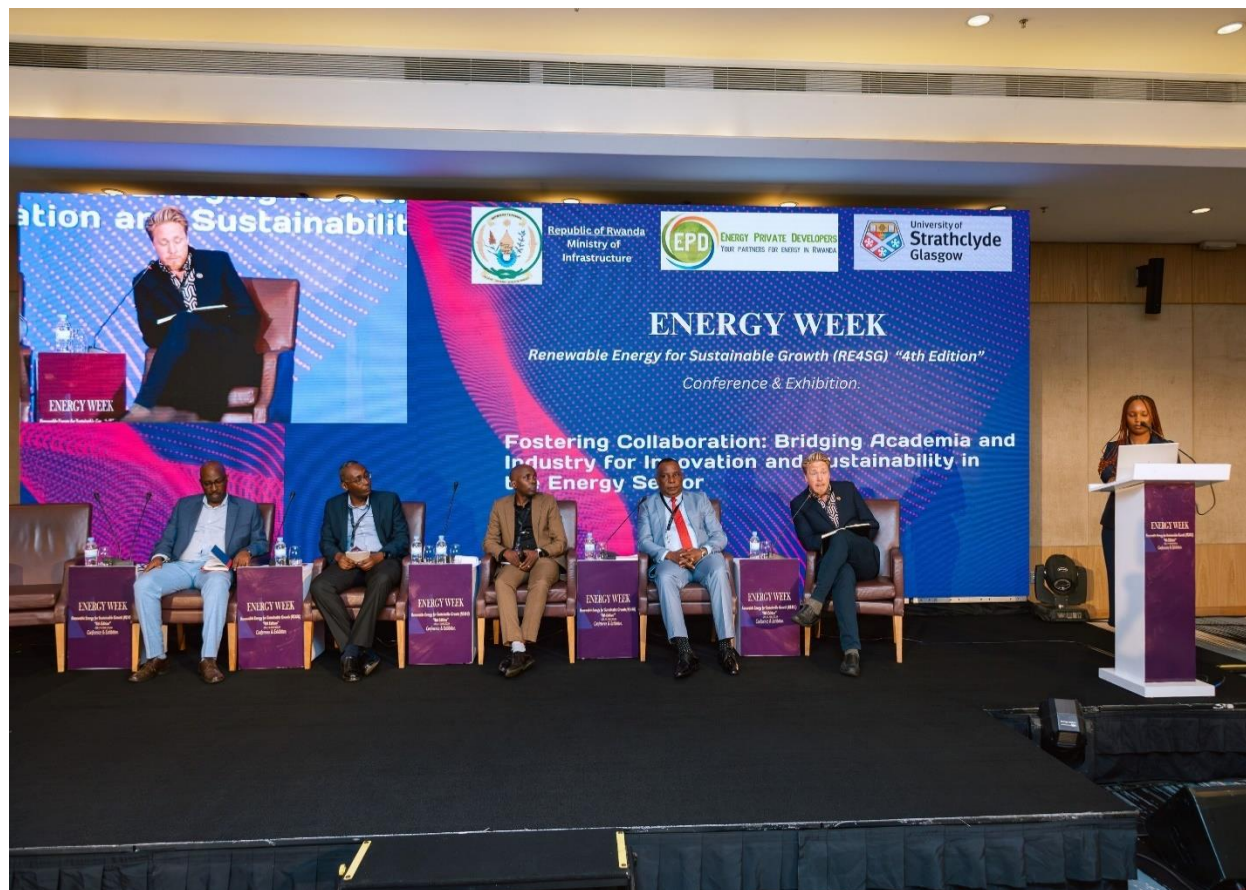


The Head of Media Sector Coordination & Monitoring Department Jean Bosco RUSHINGABIGWI described how RGB actively support media awareness and promote sustainable energy policies, He highlighted that one of the key challenges they have in Media sector is specialization.

Annelie FRANK, Rwanda Media Program Manager, discussed the media's role in education and argued that the media in general have failed to tell the big story about climate crisis - not only in Rwanda. She suggested capacity building to address those issues and bring them into the program, including the media houses themselves.

The panelists appreciated Rwanda Environmental Journalists for putting together a group of journalists with focus on climate, environment and energy. This has improved national capacity to write about renewable energy and climate actions. Previously, it was not easy to find a journalist with such interest and know about energy, climate and environment.

Fostering Collaboration: Bridging Academia and Industry for Innovation and Sustainability in the Energy Sector



This panel discussed challenges that technical universities and TVET are facing, including communication issues between industry and academia. It was highlighted that there is low capacity from the industry side to engage in research and development.

Panelists shared lessons on scaling up of renewable energy training and adaptation, focusing on sustainable solutions for affordable, reliable and clean energy in Africa, through which technical and financial gaps can be addressed.

Recommendations to academics and researchers included expanding their focus beyond producing publications towards the practical implementation of their research within the country. By doing so, they can help create graduates who are equipped to generate impactful jobs and contribute to the growth of startups.

Panel Discussion: Energy Efficiency



This panel highlighted challenges for efficient solutions in Rwanda, including lack of skills in terms of qualified energy experts, energy auditors, the lack of access to finance, and companies being unwilling to send their staff on energy efficiency training.

Joshua Oladimeji from PISTIC ENGINEERING, talked about the importance of energy efficiency, and how it can supplement renewable energy in achieving low carbon energy systems. From the perspective of Pistic Engineering, whose business covers energy integration, industrial decarbonization, development and implementation of energy projects, he said energy efficiency with proper project planning brings return on investment. Low cost of energy minimizes expenditure levels and results in increased profit.

Panelists pointed out that there is good availability of efficient solar equipment including battery storage system in Rwanda. Increasing numbers of residential, institutions and industry consumers are switching to renewable energy to support their daily activities.

Panel: Bridging Continents – The role of the Global Renewable Centers in Facilitating North- South Energy Knowledge Exchange



Damien Frame, Program Manager of the GRC, summarized The Global Renewable Centre and its knowledge exchange program funded by the Scottish Government. The GRC has partnerships with renewable energy associations in Rwanda, Zambia and Malawi with the Scottish hub at Strathclyde University.

Brave Mahonie, President of the Renewable Energy Industry Association of Malawi (REIAMA) summarized recent knowledge exchange workshop delivered through the GRC. He described REAIMAs efforts to promote productive use of energy and efficient fuels and stoves in Malawi, working with multiple stakeholders from government to private sector. Building international collaboration with other renewable energy associations is strategic priority.

Pritchard Mukuka from the Zambian Renewable Energy Association (ZARENA), highlighted the work of the GRC helping companies in Zambia to respond to current energy access challenges through knowledge exchange opportunities and collaborations, particularly around minigrids, rural electrification and productive use of energy.

Serge Willison MUHIZI, Chief Executive Officer of EPD described how EPD joined the GRC program with a focus of benefiting from energy trade and integration. Being in touch with colleagues from Zambia, Malawi and Scotland, brings opportunities, through investment across different partners, in those three countries, he called companies from Rwanda to use the available opportunities in energy trade, and investment.

Presentations: Carbon Credits, Climate Finance, and Promoting Climate Justice



Désiré RURAGARAZA

Founder of Your Energy, Mining & Law

This presentation highlighted the opportunities offered by the international carbon market. The market for carbon is big and participants were advised to prepare and the carbon market financing system, to drive investment. Emission trading works if company/country A cuts the emission at some level due to low production or other factors. On an exchange basis, you will be able to sell the amount you have not used to company/country B depending on their productions and other factors that may require them to emit a lot. This results in the transfer of money to country A from the country B.

Let's say, for example, a Scottish company is under the UK trading scheme. They are asked to cut their emissions at a certain level, but this is not feasible because there are other parameters that prevent quick and easy reductions.

In that case, they can come to Rwanda, to buy credit that the regulator has already made available to a local company that managed to reduce their emissions. In terms of regulatory system, there is a governing body that puts in place the rules and legal obligations between buyers and sellers.

There is a national framework for this carbon finance, carbon credits. First estimate potential tons of carbon dioxide that you are removing or avoiding, and identify different ways of metering your appliances which will help to know the level of carbon emission removed/ avoided so that you can be able to sell the balance.

Energy Week 2024

Day 4

Site visit: Rusumo Hydropower Plant Visit



Productive Use of Renewable Energy: ARC POWER, CET and E-mobility Visit



EPD awarded members and Partners



Closing Remarks



Mr. Emmanuel NDAGIJIMANA

Head of business Development / EPD

The four-day conference & exhibition was officially closed with gratitude expressed to the Rwandan government, Development Partners, Financial Institutions, Ministry of Infrastructure, Ministry of Agriculture, Ministry of Environment, Ministry of Education and other regulators for their pivotal role in shaping policies that drive sustainable energy transition.

These key players were encouraged to keep creating and enforcing laws that promote integration of renewable energy, innovation, and fair access for everyone. EPD acknowledges financial institutions' assistance in facilitating the expansion of solar technologies, the advancement of clean

cooking solutions, the implementation of climate adaptation and mitigation projects and called on them to invest strategically in renewable energy and supporting both pioneering and proven initiatives.

Academia and researchers were recognized and encouraged to contribute to policy discussions and drive forward research that addresses energy needs and sustainability goals.

Appreciation was extended to the experts and development partners whose collaborative efforts have supported the conference and EPD's wider efforts to overcome the different barriers that exist in energy sector. Collaboration is key to accelerating the adoption of renewable energy technologies and supporting vital capacity building.

The role of media was acknowledged, specifically the importance of raising awareness and educating the public on renewable energy benefits and climate action. They were encouraged to keep up their activities and create a platform for amplifying voices, sharing success stories, and fostering a culture of sustainability.

EPD's Head of Business and Development expressed gratitude for the role of women in advancing energy solutions and gave suggestions to ensure that gender inclusivity remains a core focus in all energy-based initiatives, empowering women leads to stronger and more resilient energy systems.

He concluded by mentioning the 10 years milestone of EPD and called for working together as the journey ahead demands unwavering dedication, collaboration and innovation.

Key Take Home Recommendations

- Bridging Academia and Energy Sector
 - Research gap elimination in energy sector, universities and private sector collaboration for joint research
 - Industrial attachment for fresh graduates in the energy sector
- Technological Improvement, Capacity building and Awareness
 - Infrastructure modernization to accommodate renewable energy sources, smart technologies and capacity building for adoption of green transport
 - Capacity building for engineers, especially technical skills for electric cars, clean cooking technologies, and productive use of renewable energy
 - Technology transfer for local and international companies
- Access to Finance
 - There is high initial cost/ large capital investment for renewable energy projects, and the current debt products from financial institutions is not economically viable for developers.
 - Capacity building on green investment and access to carbon markets
- Female Inclusion in Energy Sector
 - Females in energy sector counted to only 5% in a recent survey - recommendation that all stakeholders ensure that gender inclusivity is mainstreamed in all energy-based initiatives
 - Specific female targeted capacity building and mentoring programs
- Advocacy for Regulation and Policy
 - Review and updating of regulation and legislation that facilitates increased deployment of distributed generation
 - Stakeholders specifically requested EPD to advocate with Rwanda Utility Regulatory Authority (RURA) on reformation of the law on electricity generation for minigrids and C&I solar limiting installation to 50 kW peak.
- Social and Environmental
 - Collaborate to increase access to clean energy and fuel for lighting and cooking - providing improved cook stoves and rooftop solar system especial for low-income households in off-grid zone.
 - Market assessment for agro-voltaic farming to enhance Productive Use of Energy

Conclusion

The three-day Conference & Exhibition was organized to engage the Rwandan renewable energy sector and provide an international business and partnership platform for both public and private sector players. The government of Rwanda recognizes and appreciates the efforts of the private sector and creates a conducive business environment for investors to achieve sustainable growth in the country. They recommend that initiatives like those by EPD be a continuous platform to address challenges in the energy sector.

The conference provided an opportunity for participants from across the world to exchange knowledge and ideas, explore advanced renewable technologies to accelerate rural electrification, and power agriculture. Among the challenges, access to finance and carbon credits remain the most critical obstacles for many countries.

The Energy Private Developers Association (EPD) is excited to invite all stakeholders, partners, sponsors, and exhibitors to the upcoming Energy Week Conference in Kigali, scheduled for the second week of September 2025. The conference will serve as an ideal venue for discussing key issues such as access to finance and carbon credits, and others which remain major hurdles for many nations. We invite you to be part of this pivotal event, where you can exchange ideas, explore cutting-edge renewable technologies, and contribute to Rwanda's ambitious goal of sustainable growth through innovation and collaboration.

CSR Activity: Energy Private Developers Association in partnership with BK Foundation Improved lives of 141 Households



During the Energy Week conference, the Energy Private Developers Association (EPD) launched a pioneering initiative focused on empowering households in off-grid areas by providing solar lighting solutions and improved cooking stoves (ICS). This initiative reflected EPD's dedication to not only promoting sustainable energy but also fulfilling its social corporate responsibilities.

The BK Foundation, understanding the profound impact of such projects, joined forces with Energy Private Association (EPD) to contribute to Rwanda's sustainable development efforts. On December 13, 2024, they delivered solar lights and improved stoves to 141 households in the Nyanza and Ruhango districts, marking a significant step in advancing the country's energy goals.

The "Brightening Lives" project was designed to address two critical issues: providing access to clean energy and reducing the dependence on biomass for cooking. These efforts aligned with Rwanda's ambitious goal of decreasing biomass use from 83% to 42% by 2024.

In rural areas that still lacked consistent electricity and relied on inefficient cooking methods, this initiative offered both immediate and long-term benefits. By introducing solar lighting and cleaner cooking solutions, it paved the way for healthier living conditions, increased safety, and reduced environmental impact.

This project was a vital contribution to Rwanda's vision of achieving universal access to electricity and fostering a greener, more sustainable future. By alleviating the challenges of inadequate lighting and harmful cooking practices, the initiative not only enhanced the quality of life for rural households but also supported national goals for sustainable development.

As Rwanda continued its progress toward a more energy-efficient and environmentally conscious future, partnerships like the one between EPD and the BK Foundation played a crucial role in driving meaningful change.



Serge Wilson MUHIZI

CEO of Energy Private Developers (EPD)

In his speech, he highlighted that this initiative is part of a broader program launched during Rwanda Energy Week

Conference in September, focused on finding affordable and rapid solutions for delivering electricity to Rwandans and beyond. The goal, he emphasized, is to ensure that electricity access becomes a reality for everyone.

He explained, “This activity was meant to follow up on that discussion, as part of our commitment to giving back to the community. We had planned to light up over 100 homes, and through this project, we’re able to contribute something meaningful ahead of our conference.”

He further shared that social responsibility is at the heart of their ongoing efforts, with multiple initiatives underway. The team sought out like-minded partners and found the BK Foundation to be the perfect collaborator, united by a shared mission to bring electricity to all Rwandans.

While today’s initiative has already supported 141 households, he emphasized that their work is far from over, as there are still many more residents in need of reliable lighting and improved cooking solutions.

**Ingrid KARANGWAYIRE****Executive Secretary of the BK Foundation**

Shared that their environmental conservation project is focused on reaching underserved areas in collaboration with the government.

Within two months before the end of 2024, BK Foundation have managed to support 141 households and are planning to expand their impact in the coming year, with plans to include even more households in their budget.

Pointed out that “BK Foundation’s goal is to bring light to homes, enhance children’s education, and contribute to environmental protection.”

**Felicien NKUNDAKOZERA**

One of the grateful residents who received the solar lighting solutions and improved cooking stoves from EPD shared how life-changing the support has been.

Previously, he struggled with basic tasks like charging his phone, often walking long distances just to find a charging station. Now, he’s thrilled to be able to charge his phone at home and use the new improved cooking stove, which significantly reduces his reliance on firewood.

He shared, “Before, I had to walk kilometers to charge my phone. Now, I can do it right at home! And with the improved cookstove, I’m using less wood—what used to last only three days now lasts about two weeks. This has made a huge difference in our daily lives.”

**Anne Marie TWAGIRIMANA**

Resident of the Muyira sector in Nyanza District, passionately highlighted the transformative impact of solar lighting on her

community. She expressed how the new lights will not only brighten homes but also support school children in their studies and enhance safety for everyone.

Reflecting on the challenges of living in darkness and relying on wood for cooking, she emphasized that these issues are now being addressed.

“The smoke from our old cooking methods was harmful to our health, often leading to respiratory problems. It was also damaging to the environment,” she shared. “Now, with solar lighting and improved cooking solutions, we’re seeing a brighter, healthier future.”

**Marion NIRERE**

Energy Coordinator at MININFRA

She underscored the crucial role of energy infrastructure in driving the country’s development across all sectors, noting its transformative impact on Rwanda’s growth.

“We ended NST1 with a 77% electrification rate, falling short of the 100% target,” she said. “However, our goal is to ensure that by 2029, every Rwandan household has access to electricity. We’ve seen firsthand the remarkable changes in communities where electricity has already reached.”

She further stressed that achieving 100% electrification will require strong collaboration with the private sector and others who view this as a shared social responsibility. She called on everyone to continue partnering with the government to make this vision a reality.



Patrick KAJYAMBERE

**Vice Mayor in Nyanza district in charge of
Economic Development**

The mayor proudly shared that in Nyanza, electricity access has reached an impressive 77%, with 42% relying on conventional power and 35% benefiting from solar energy. Thanks to a generous grant and strong collaboration, the region has seen a 2% boost in its electrification rate, further advancing the community's access to power.

He emphasized the importance of preserving these valuable resources, urging recipients to take responsibility for what they've received. "You have been trained to monitor and care for these systems," he said. "By doing so, you ensure that future support will go to those who have yet to benefit, rather than being rerouted to areas that have already received assistance." His message underscored how crucial it is to sustain progress and ensure that no one is left behind in the journey toward full electrification.

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