

THE RECONCILIATION AND DEVELOPMENT ASSOCIATION.



RADA
Reconciliation and Development Association

A REPORT ON THE RENEWABLE ENERGY SYMPOSIUM

By the Environmental Protection Department.

21st NOV 2023

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23/11/2023.

Organized by: Environmental Protection Department - RADA.

Compiled by: Othniel Bungo M and Nkwentet Christel

Reviewed by: Merveille Ngueubou and Chenwi Claris

Approved by: Mr. Ferdinand M. Sonyuy

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Acknowledgements

*We sincerely wish to thank and acknowledge the speakers of this symposium in persons of **Mr. Asanga Justice, Mr. Nyoul Paul and Mr. Gwagsi Elvis** for taking out time to share their expertise on renewable energy during this symposium.*

*We also want to sincerely appreciate the Environmental Protection team in persons of **Munang Othniel Bungo and Nkwentet Christel** for their hard work in organizing this symposium.*

The Communications and IT team for the extra efforts set in place for the success of this event and to the CEO, we say thank you for letting this event happen.

BACKGROUND

Renewable energy is becoming increasingly important in the world today, as countries seek to reduce their carbon footprint and transition towards more sustainable forms of energy. Cameroon and Africa as a whole have vast renewable energy potentials, but are to harness them. Bamenda, located in the Northwest Region of Cameroon, like many other urban centers around Africa, faces the challenge of meeting its growing energy demands while minimizing its environmental impact. In recent years, there has been a gradual shift towards renewable energy sources as a sustainable solution to this energy dilemma.

According to World Bank 2021, renewable energy refers to energy derived from natural resources such as sunlight, wind, water, and biomass that can be replenished at a faster rate than they are consumed. Renewable energy offers a clean and limitless alternative that mitigates the negative effects of greenhouse gas emissions, pollution, and climate change. Cameroon, with its abundant natural resources and favorable geographical location, offers an ideal environment for harnessing renewable energy. This online symposium aims to bring together renewable energy experts and the public to discuss the challenges and opportunities of renewable energy in Cameroon and Africa, and to explore ways to accelerate its adoption.

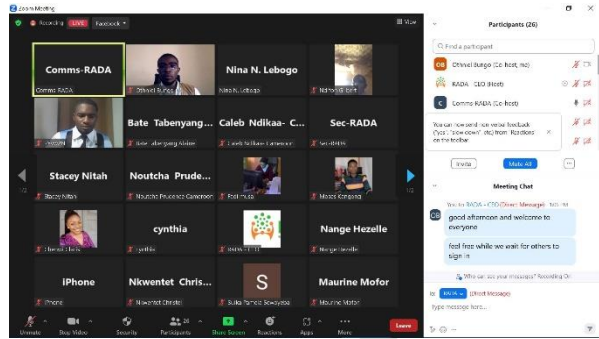
This symposium, which organized by the environmental department of RADA together with its partners saw the endorsers like the Minister of Energy and Water, Ministry of Environment, Nature Protection and Sustainable Development and other stakeholders, students and experts. We had three guest speakers in the persons of Mr. Asanga Justice, Mr. Nyoul Paul and Mr. Gwagsi Elvis in the renewable energy sector, took place on November 21, 2023 at 1pm to 3pm via Zoom and Facebook live. Had over a registration of over 54 persons with and an attendance of 32 via zoom and 79 views on our Facebook live broadcast.

The Objectives of the Symposium were:

- 1- To increase awareness and understanding of renewable energy sources, specifically Bio gas, solar energy and Hydroelectricity
- 2- To facilitate the sharing of knowledge and collaboration among experts, researchers and policymakers in the field of renewable energy.

3- To identify challenges to renewable energy adoption in Cameroon and explore possible solutions

4- To identify and map out some stakeholders working on Renewable Energy in Cameroon.



Expected Outcomes

From this symposium, we were able to achieve the following outcomes:

1. The participants' knowledge and skills on renewable energy technologies, policies, and best practices was enhanced

2. Partnerships and collaborations among renewable energy stakeholders in Cameroon were strengthened

3. Key barriers and challenges to renewable energy adoption and potential solutions identified.



Miss. Merveille Njantio the Communication officer for RADA who welcomed and thanked all participants for joining the meeting chaired the renewable energy symposium.

Mr. Othniel Bungo M, the Environmental Protection Officer for RADA who introduced the session by briefing about the symposium. He began by explaining why Renewable Energy is a call for concern, as many countries focused on the reduction in the burning of fossil fuel, which increases greenhouse gases emissions into the atmosphere, reduction in the effects of climate change, which is affecting the world today. He laid emphasis on the need to look for ways further to mitigate and adapt to climate change. This symposium was organized to bring together stakeholder and experts on renewable energy in Cameroon as he recognizes the efforts of others in this domain and that of others stakeholders present during the symposium.



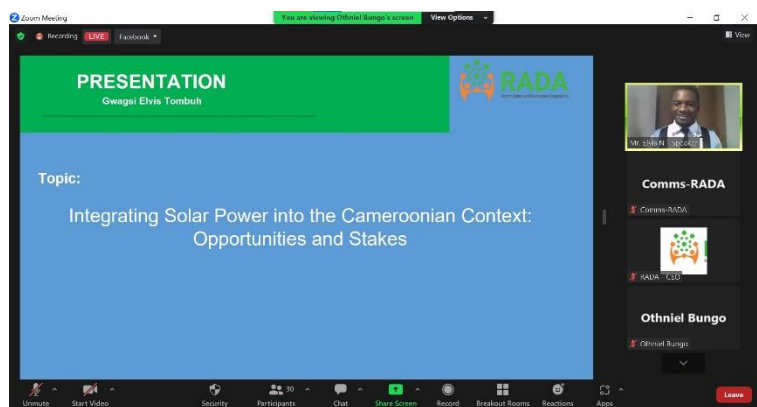
Merveille Njantio went forward to introduce RADA's Mission, Vision, Activities and Programs, and handed over the floor to the CEO of RADA Mr. Ferdinant Sonyuy who gave an insight of what the department of Agriculture and Environmental Protection and other cross cutting departments have put in to prepare for this program. He also mentioned that its necessary that all participants who have interest in energy to participate actively and he equally encouraged and urge all participants and share their ideas on Solar energy as we listen to each other speak.

The first speaker Mr. Gwagsi Elvis Tombuh is a solar energy technician at the Confidence Solar Power Douala; he has been working with solar energy from 2017 until date. He recently participated in a solar training program with Huawei solar



company Douala, and he began the global solar energy awareness campaign where he taught students on solar energy during the holidays. He Spoke on; **Integrating Solar Power into Cameroonian context Opportunities and Stakes.**

- **Solar energy conservation**, according to him, it is the most affordable, sustainable and reliable source of energy in our society today as we talk Solar Energy it is a necessity for us to look at how this energy can be integrated into our own context in Cameroon. Installing solar plants, solar energy market, solar energy conservation are the key areas we will be looking at. Solar energy has to be intergraded into our own context, as we still have a low integrated statistics of about 0.22 percent (0.22%). It is one of the cleanest sources of energy we can think of and can be installed anywhere, which we can integrate it in our own context.



Therefore integrating it in our own context, first we have to start building solar plants on non-agricultural lands, second is the installation of Agro-Voltaic solar plants, e.g. like the solar plant powering the Douala Airport, so integrating it in own context we should create space for the available piece of land. Being sustainable as we locate the non-agricultural land for the solar plant installation, this is because agriculture is a vital aspect as we all know therefore installing solar plates in agricultural land will boost negative effects in the agricultural sector. So we need to think of installing solar in a non-agricultural land and secondly we need to think of installing agro –voltaic solar plants that’s looking for large piece of land and installing solar there and on this same piece of land can still be used for agriculture, it’s called agro-voltaic plant.

Conclusion

- **To Integrate This Energy Into O**
- **Building Sustainable Solar Energy Plants**
- **Putting in place the above policies for so**
- **Putting in place the above policies for er**
- **Introducing the curriculum into our basi**

Participant list:

- Mr. Eho N. Soudou
- Offre N. Bangou
- RADA - CEO
- Aberge J. B. B. B.
- Nina N. Lebogo
- Ndifon Gilbert
- Bate Tabenyang Alaire
- Caleb Ndikaa Cameroon
- Sec-RADA
- Noutcha Prudence Cameroon

Generating the energy, we have to look at the market place that is setting up a quality control for solar market place. The solar materials to ensure that customers are all satisfied, this is because some materials are of low quality therefore quality control measures are to be put in place to ensure that what is served of quality and the customers are satisfied with the quality that is offered them therefore we and to put a policy in place, so it’s not just about generating the energy but ensuring that its of quality.

Looking at us using the energy, it’s like a chain from generation to generation which led to solar energy conservation from this point we are looking at energy from conserving it for our usage for it to be sufficient for our

Solar Energy Conservation

- **Energy efficient infrastructures**
- **Energy efficient appliances and**
- **Design buildings with rooftops f installation.**

Chat window:

RADA - CEO to Everyone else all

How can we advance the availability of energy saving appliances and equipment suitable for solar energy in Cameroon? Do we need to think of mass production? research and industry?

Who can see your messages? Recording On

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usage and knowing how to use the energy the right way. It is necessary to know how to use it, conserve it, and start putting up the infrastructure. E.g. building, and structures that use more of natural sun light, run more of air cooling than air conditions, because solar energy is installed and

stores battery that more is being reserved meaning the infrastructure plays a better role. The appliance are supposed to have a very high efficiency than the second hand products we have in our markets that are not efficient but that which has much energy from the sun that can operate through the appliances that will be put in place to generate the needed energy. Also designing structures with roof tops that can absorb solar, that will be able to convert solar into useful energy, to have this success we need the necessary materials such as; appliances that conserve this energy, solar batteries that stores energy.

He concluded by explaining that, in order to successfully integrate this energy in to our context we need to;

- Build sustainable solar energy plants
- Put in place the above policies for solar market
- Put in place the above policies for energy consumption
- Introducing the curriculum into our basic education system

The second speaker was Mr. Justice Asanga N; he is the Executive Director (CEO) of Del-Jaynie Corp the mother company of SUNWORKS. He is a young entrepreneur, a mechanical engineer, and a former lecturer at the University of Bamenda, he spoke on, **Promoting Biogas as a Solution for Waste Management and Energy Generation in Africa.**

He began his presentation by defining what Biogas is, he said that Biogas is a product of an anaerobic bi-product, that is anything thing that can get rotten that can be digested to produce Carbon tetroxide (CO₄) and Carbon dioxide (CO₂) (put it in full). Moreover, a chemical gaseous matter can be converted into anything we need efficiently depending on our needs, for example, heat to electricity. e.g. refuse from the waste on Bamenda (mile 2) dumped close to his resident that can

Introduction of Speakers

First Speaker



Asanga Justice N

*Executive Director Officer (CEO) of Del-Jaynie Corp,
Mechanical Engineer*



produce methane, is just polluting his environment, instead if we can produce methane in controlled organic ways. We can reduce greenhouse emissions and whatever waste like heat,



electricity even in our homes where we have excess production from septic tanks, and also landfills like that of mile 2 Bamenda. Where the organic waste of Bamenda is being dumped there which produces methane and pollute the whole environment. If we produce

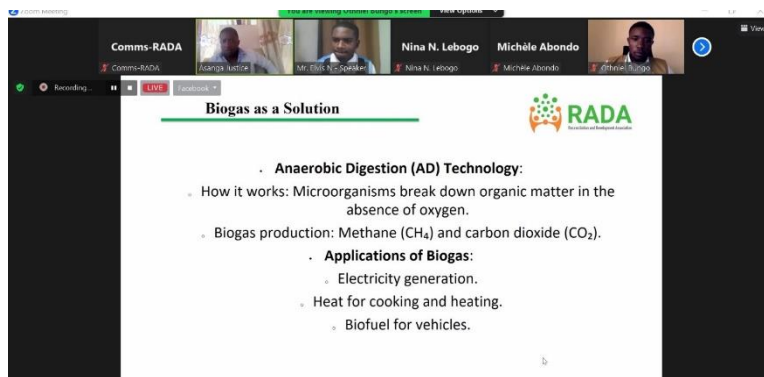
methane in controlled organic ways we can reduce greenhouse emission, we can convert whatever organic waste in tones on a daily basis into practically valuable energy we can consume in our homes, irrespectively of the other energy forms like photovoltaic, hydroelectricity etc. It's a form of solving Africa's most pressing issues.

He used Africa as an example to explain the issue of waste as one of Africa's most serious problems, Africa being a low and middle income region with developing countries Cameroon inclusive with the negative effects that come along side are rapid urbanization and increase pollution once there is a change from rural to urban community, we will see that there is increase in waste production, over loading of landfills and its impossible for waste industries to adequately dispose of this waste which led to pollution. It is important to note that once there is land fill there is definitely nothing one can do about it, as there is land degradation and poisoning of our water systems, inevitably will destroy the ecosystem, organisms and organic materials as that of humans lives are treated with things like cholera out breaks and more.

For us to mitigate this situation, we need to understand how to use the waste that we generate daily and understanding how we can use the materials.

Anaerobic digestion (AD) meaning in our landfills we collect every material that can decompose and put in a heated environment of about 25°C, and from the digestion that come from this system. We close it from any oxygen to get in and let the natural product that take place from everywhere in the planet and the digestion take place and produce the gases we can collect and transforms it into any energy form we want. Getting biogas comes in two forms that is the digestion chamber

or suspension chamber, which we can digest into any form, digest in either the suspension chamber or floating chamber. The two ways are both reliable but the floating chamber is more preferable it



is easy to plug and play wherever you are; the difficulty is that it is difficult to expand them. So when microorganisms break down in the absence of oxygen they produce methane gas. Methane gas which is the primary fuel of what we call

biogas is produced along side CO₂, which is harmful to the environment can be converted into energy; you are preserving the state to which they were formed and not allowing them to affect the environment in one way or the other. Therefore, we could use methane to produce electricity at homes for heating and to compress methane into biofuel to power our vehicles in Cameroon and in Africa that we can continue to develop in the same trends of other developing countries.

He further explained that it is difficult to incorporate biogas into our African society without a system that incentivizes its production. For example, if we continue to rely on our traditional sources of energy where we have a lot of natural gas like petrol, diesel, and these sources are adding to the already existing pollution of the environment. Instead, biogas is a circular gas that adds into the system where food is produced and eaten by all everywhere in Africa, we consume and produce the food waste material from these products be it cow dung, food waste, and excess food waste. This is going to be digested in that chamber and gas is going to be produced from it that produces electricity that will be used to power home to store your poultry farm, heat energy as well as provides biofuel for vehicle without necessarily affecting the environment. We just need to convert what we already have to produce and there is a by product for anaerobic product which is the sludge we already have to fertilize the soil and grow more crops, so it's a complete circle which does not deplete. So long as there is waste there will always be biogas and fertile soil to produce biogas. For us to be able to transform biogas we need to be able to go industrial with it, to comfortably use it we need regulations, policies have to be put in place to incentivize people on the forms of waste management by solving the solution of waste management which is going to help not only us but to help us have a certain balance in the society.

For us to get to the point where we are energy sufficient, it is essential for us to look at the problems we are facing which is first pollution, increase population in waste leading to lots of health crisis and more. We can take this particular TRASH and turn it to TREASURE and transforming it into energy it will help us as a society to grow quicker, and at the same time it produces more jobs in the sector is going to educate the population to look for solutions to problems. It will help us get to the level where the bi-product of the bio gas is going to be sufficient enough and not to change the way we live our lives already but improve our levels in terms of agriculture, creating more farm lands and not just focusing on fractural development but fertilizing our farmland from biogas products. He gave examples of biogas in South Africa of a 3.5MW large-scale biogas plant powering communities, and integrating with wastewater treatment. It runs our home, the gas line turbines in the communities. It is also possible to collect all the waste that is being dumped in the communities to produce electricity that will be supplied in the grids.

Conclusively, biogas is a win-win solution for waste management and energy needs for communities, regions, continents and for whoever possible is interested in this field even in the future to come together to make a change in biogas production as well as to collaborate to promote sustainable practices.

Third speaker, Mr. Nyuoh Paul. He is an entrepreneur, the chief technical officer at Rural Electrification Consultancy Group (RECG). He is the project coordinator/field engineer at CamTech.

He said hydroelectricity is energy harnessed from water; examples include the Mendelay dam, Edea dam, Songlolo dam and so many others. Micro hydropower energy is energy produced from 10KW up to 100KW; this is because Cameroon's policies say we cannot just generate energy exceeding more that 100KW without authorization from ACSEA.



The slide features a green header bar at the top. Below it, the text "Introduction of Speaker" is displayed in green, with "Third Speaker" underneath in a smaller font. To the right is the RADA logo, which consists of a stylized green and orange icon followed by the text "RADA" and the tagline "Rural and Agricultural Development Agency" in a smaller font. In the center, the name "Mr. Nyuoh Paul" is written in black, followed by his title "Director of Cameroon Renewable Energy (RENEWCAM)" in a smaller font. To the right of the text is a circular portrait of Mr. Nyuoh Paul, a man with a beard wearing an orange jacket. The slide is framed by horizontal lines above and below the content area.

Challenges

The challenges include;

There was an issue with connectivity, the network was pretty bad which hampered the dissemination of information during the webinar.

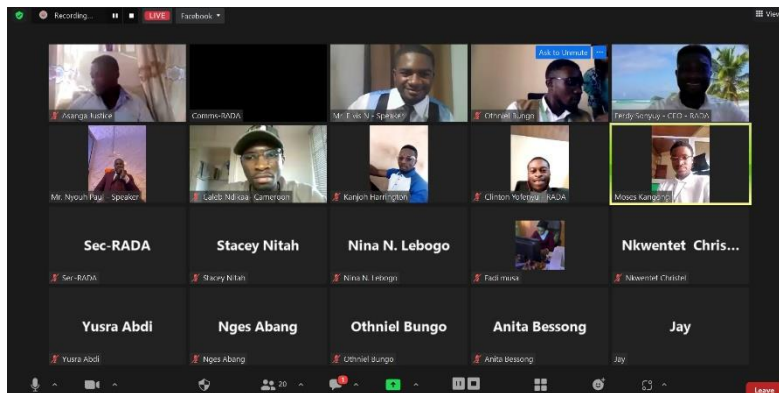
No attendance from the ministries whom we invited, they neither sent their representatives and they also reverted/responded to our invite late.

The turnout of the participants was not encouraging, as we were expecting at least 50 participants and only 32 participants showed up.

Conclusion:

Conclusively, the symposium led by the Environmental Protection department of RADA provided valuable insights into the advancement of solar energy integration in Cameroon.

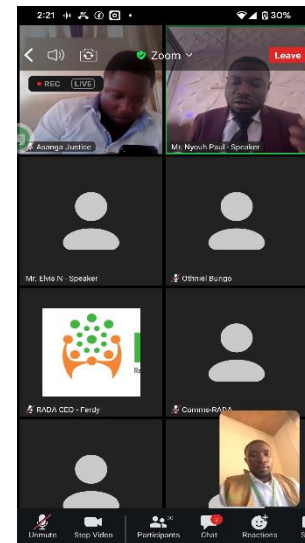
The discussions highlighted the importance of favorable market policies, sustainable plant development, and effective energy conservation measures. By implementing these mechanisms, Cameroon can



accelerate the adoption of solar voltaic systems and pave the way for a greener and more sustainable energy future.

In order to enhance energy conservation, participants emphasized two key measures. Firstly, the development of energy-efficient infrastructures that rely more on natural energy sources for lighting and cooling systems was highlighted.

Secondly, the implementation of policies to regulate the marketing of solar materials and ensure the availability of energy-efficient appliances. Currently, the market is flooded with second-hand appliances that demand excessive energy. By controlling the quality and efficiency of appliances, users can optimize the solar energy generated, resulting in more sustainable and cost-effective usage.



The symposium ended with a question and answer session where participants posted their worries, concerns, and satisfactory responses given to them by the speakers, and closing remark from the CEO of RADA.

Some Questions Asked Included:

1) Are there any existing companies specified in the field of renewable energy in Cameroon?

YES, we have many renewable energy in Cameroon more than 50, but the problem here is that most of the companies are specialized just in one aspect e.g. biogas, solar etc. which instead it has to be an incorporation of the different renewable sources. RENEWCAM is a good example it has almost all aspects of renewable energy it is a renowned company in Cameroon.

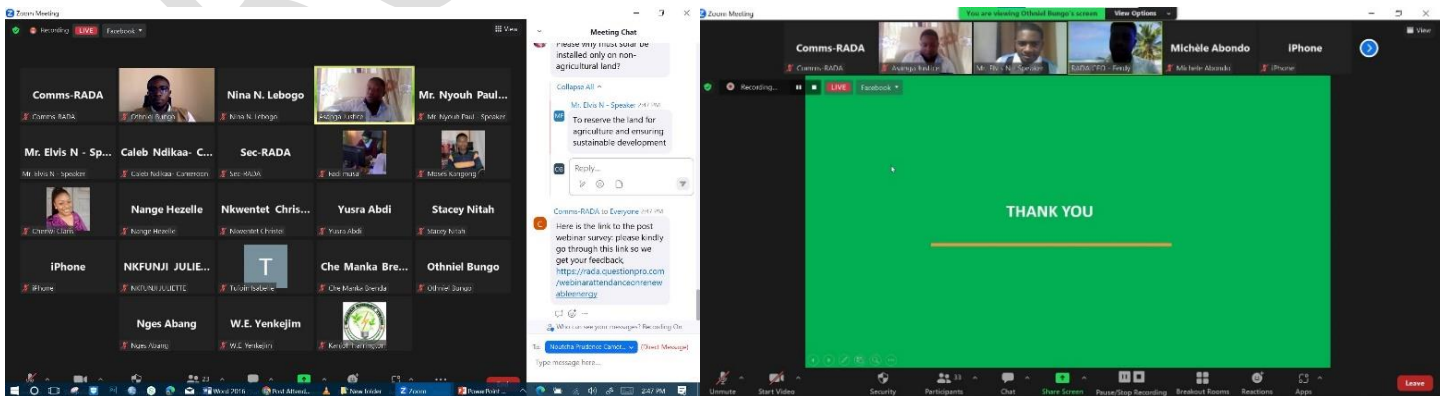
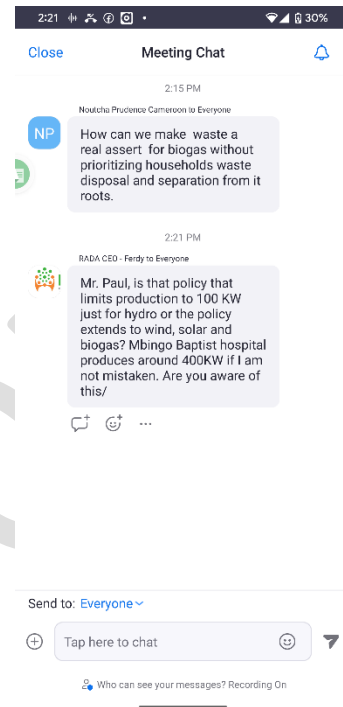
2) Between solar energy in Cameroon, which is more affordable?

Solar is more affordable, with a good solar panel and battery installed, it is 100% guaranteed that you would always have lights

3) How can we reverse energy when we do not have enough?

Talking about solar is for the future, at the level of the future, for it to be better used; we have to learn how to manage the little we have,

4) Why must solar be installed only on non-agricultural land?



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