

# Towards Universal Energy Access in West Africa: The Role of Distributed Energy Solutions for the Post-Ebola Recovery in Sierra Leone

—Transcript of a webinar offered by the Clean Energy Solutions Center on 30 March 2017—  
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## Webinar Panelists

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<b>Aminata Dumbuya</b>	Power for All
<b>Alexandre Toure</b>	Easy Solar

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## Stephanie

Hello, everyone. I am Stephanie Bechler from the National Renewable Energy Laboratory and welcome to today's webinar which is hosted by the Clean Energy Solutions Center in Partnership with the United Nations Foundation Energy Access Practitioner Network.

Today's webinar is focused towards universal energy access in West Africa, the role of distributed energy solutions for the post-Ebola recovery in Sierra Leone.

Before we begin, I'll go over some of the webinar's features. For audio there are two options. You can either listen through your computer or over the phone. If you listen through the computer, please select the mic and speakers option in the audio pane. And if you choose to dial in by phone, please select the telephone option and a box on the right-hand side will display the phone number. If anyone is having technical difficulties with the webinar you can connect to the GoToWebinar help desk at 888-259-3826 for assistance.

If you would like to ask a question during the webinar, and we encourage that you do, please use the questions pane provided in the toolbar. If you are having any difficulty viewing the materials through the portal, you'll find PDF copies of the presentations at [cleanenergysolutions.org/training](http://cleanenergysolutions.org/training).

Also an audio recording will be posted to the Solutions Center training page within a few days of the broadcast and it will also be added to the [Solutions Center YouTube channel](#) where you can find other informative webinars as well as video interviews with thought leaders on clean energy policy topics.

One important note of mention before we begin our presentations is that the Clean Energy Solutions Center did not endorse or recommend specific products or services. Information provided in this webinar is featured in the Solutions Center's resource library as one of many best practices, resources reviewed and selected by technical experts.

Today's webinar agenda is centered around the presentations from our guest panelists, Yasemin Erboy Ruff, Aminata Dumbuya, and Alexandre Toure, who have joined us to discuss the impacts to date, current opportunities, and remaining challenges in scaling distributed energy solutions in West Africa, focusing on Sierra Leone.

Before we jump into the presentation I'll provide a quick overview of the Clean Energy Solutions Center, and following the presentations we will have a question and answer session moderated by Yasemin. And then we will open it up to the audience for questions that are submitted through the questions pane. At the end of the webinar you'll be automatically prompted to fill out a brief survey. So we thank you in advance for taking a moment to respond.

The Solutions Center was launched in 2011 under the Clean Energy Ministry. The Clean Energy Ministerial is a high-level global forum to promote policies and programs that advance clean energy technology, share lessons learned and best practices, and to encourage the transition to a global clean energy economy. 24 countries and the European Commission are members, covering 90 percent of the clean energy investment and 75 percent of global greenhouse gas emissions. The webinar is provided by the Clean Energy Solutions Center which focuses on helping government policymakers design and adopt policies and programs that support the deployment of clean energy technologies. This is accomplished through support and crafting and implementing policies related to energy access, no-cost expert policy assistance, peer-to-peer learning and training tools such as the webinar you are attending today.

The Clean Energy Solutions Center is co-sponsored by the governments of Australia, Sweden, and the United States with in-kind support from the government of Mexico. The Solutions Center provides several clean energy policy programs and services, including a team of over 60 global experts that can provide remote and in-person technical assistance to governments and government-supported institutions, no-cost virtual webinar trainings on a variety of clean energy policy topics, partnership building with development agencies and regional and global organizations to deliver support, and an online library containing over 5,500 clean energy policy-related publications, tools, videos, and other resources. Our primary audience is made up of energy policymakers and analysts from governments and technical organizations in all countries. But we also strive to engage with the private sector, NGOs, and civil society.

The Solutions Center is an international initiative that works with more than 35 international partners across a suite of different programs. Several of the partners are listed above, including research organizations like IRENA and IEA, programs like SE4ALL and regionally-focused entities such as the ECOWAS Center for Renewable Energy and Energy Efficiency.

A marquee feature of the Solutions Center is a no-cost expert policy assistance known as Ask an Expert. The Ask an Expert service matches policymakers with one of more than 50 global experts selected as authoritative leaders on specific clean energy finance and policy topics. For example, an area of grid integration, energy management and resource assessments, we are pleased to have \_\_\_\_\_, consultant and energy infrastructure expert serving as one of our experts. If you have a need for policy assistance in grid integration and energy management, resource assessments or any other clean energy sector, we encourage you to use this valuable service. Again, it is provided free of charge. And if you have any questions for our experts, please submit it through our simple online form at [cleanenergysolutions.org/expert](http://cleanenergysolutions.org/expert). We also invite you to spread the word about the service to those in your networks and organizations.

I would now like to provide brief introductions for today's panelists.

First up is Yasemin Erboy Ruff. She is a Senior Officer with the UN Foundation's Energy and Climate Team, primarily assisting in coordinating efforts to scale up energy access in developing countries.

Following Yasemin we'll hear from Aminata Dumbuya. She leads the Power for All campaign in Sierra Leone and secured the campaign as a sector leader and the go-to on energy access and specifically decentralized renewable energy issues in the country.

Our final speaker today is Alexandre Toure. He is the CEO and co-founder of Azimuth in a West Africa, a West African country distributing pico-solar products on a rent-to-own basis and operating in Sierra Leone under the name Easy Solar.

With those introductions, I would like to welcome Yasemin Erboy Ruff to the webinar.

**Yasemin**

Thank you very much, Stephanie. Give me a second to set this up. Can you see my screen okay?

**Stephanie**

That looks perfect.

**Yasemin**

Okay, great. Good morning everyone, or good afternoon if you are joining us from Sierra Leone or around the world. Thank you so much for joining our webinar today where we'll be looking at universal energy access in Sierra Leone sort of as that's representative more broadly of West Africa.

I am just going to give you a brief overview of our work at the UN Foundation and particularly the Energy Access Practitioner Network for those

of you who might be joining us for the first time. Many of you I'm sure have heard this before, so I'm going to try to keep it short and sweet. Give you a little primer on Sierra Leone and then I'm going to turn it over to our panelists.

As many of you know, we continue to have over 1.1 billion people around the world with no access to electricity and many who have limited access. So the Energy Access Practitioner Network was established in 2011 by the United Nations Foundation as a contribution to the Sustainable Energy Pearl Initiative to serve as now currently the largest global network of a very mixed bag of stakeholders. We have primarily small and medium enterprises, practitioners, energy service providers in our network. But we also have many social enterprises, civil society, academia, government agencies, individuals. Anybody who is looking at scaling energy access, particularly in developing countries primarily for rural electrification, last mile distribution, market-led solutions. All are welcome to join. There is no fee to join and it is as much as every member makes of it.

So the main goals of the practitioner network is to contribute to a sustainable development goal of universal energy access by sharing knowledge. So we have a number of what we call doorstep service including our monthly webinars, one of which is happening today, our monthly newsletters, direct emails, our website resources. Different ways through which we virtually try to share as many news and opportunities that are happening in this very fast-moving space with all of our members. We now have over 2,500 members from 170 countries. So that is a very large network of people that we can leverage for different purposes around scaling energy access and catalyzing action, one of which is also building partnerships. So we try to build partnerships between practitioners, but also between practitioners and investors, facilitating increased funding and financing of decentralized energy solutions to the space.

Now coming to this particular webinar. We are hoping to highlight the challenges and also the impact to date of scaling the distributed energy solutions in West Africa. Again, as I mentioned, focusing on Sierra Leone. This webinar is the third in the series of country-focused webinars that we have established this year to delve into the state of energy access across the globe country-by-country. This was a request directly from our members and partners of the practitioner network to look at country-level engagement and also hear from in-country organizations. So we are very happy to have both Aminata and Alex with us today and it is a pleasure also to be collaborating with Power for All on this particular webinar.

Looking at our membership, we have over 50 practitioner network members and organizations currently operating in Sierra Leone. And we're also going to be live tweeting this webinar for those of our members who are not going to be able to join us on time. So you can follow @energyaccesPN using #PNwebinar for content related to this webinar.

Quickly looking at setting the scene up for energy access in Sierra Leone. This is a quick heat map courtesy of Sustainable Energy for All that shows

the large gap countries. So Sustainable Energy for All has established a number of priority countries under three different headers. Large gap countries, which is pretty self-explanatory. These are the countries where there is still a very significant gap in energy access. High impact countries where scaling energy access would make the most impact—so the largest number of people. And fast moving countries where policy and in-country actions are moving very well. And these are sort of the countries we are looking to as great examples for others to follow upon. As we can all guess, Sierra Leone falls under the 20 countries with the lowest electrification rates.

And here we can see these large gap countries laid out by total rural and urban population and the energy access rates both for urban and rural. And we can see that the rural population has a dismal one percent energy access. So it is definitely a very challenging country.

And here is some very recent information from the Regulatory Indicators for Sustainable Energy, or RISE, which was just launched I believe about a month or so ago. So this again shows the lack of energy access in Sierra Leone, the overall score from 1 through 100, 100 being great. Obviously Sierra Leone with a score of 14 definitely has a long way to go. But what was interesting to me when looking at the RISE data was that—I've highlighted it for you here—the framework for grid electrification received a score of zero, which is obviously not good. But the framework for minigrid standalone systems and the consumer affordability of electricity all seem to have much higher scores. Again, still not probably as high as it should be, but this to me is very encouraging for the role of decentralized energy solutions in Sierra Leone.

So with that I am going to turn it over to Ami and Alex to hear from them directly how this might be the case. Thank you very much.

**Stephanie**

Thank you so much, Yasemin. And next we will go to Aminata Dumbuya.

**Aminata**

Hi. Thank you very much Yasemin, thank you Stephanie. This is a great opportunity to be a part of this session. And I just want to echo from the last slide that yes, as much as Sierra Leone is scoring 14, and just like Yasemin said, the opportunities for minigrid and standalone systems as well as affordability are quite promising.

With that said, I'm going to talk a little bit about the Power for All campaign as well as talk about the Sierra Leone environment in terms of what the Ministry of Energy is doing and what Power for All is doing locally to support the campaign.

To start off, Power for All is a global campaign that works to accelerate that advocates decentralized renewable energy—well, globally—sorry, I just got an interruption. So a global campaign that focuses on advocating for decentralized renewable energy. And we are activated in three markets; Sierra Leone, Nigeria, and Zimbabwe. And our work here in Sierra Leone is as a result of the Sierra Leone Energy Revolution and the Energy Africa Compact that the Ministry of Energy \_\_\_\_\_ Sierra Leone and the U.K. government

entered into about a year ago. And what the campaign has been doing is to support the government in terms of implementing on its commitments.

So what we see here in Sierra Leone is that [Break in audio] integrated approach to energy access. [Break in audio].

**Stephanie**

This is Stephanie. I'm sorry to interrupt. Aminata, are you able to hear me? It sounds like we're losing a little bit of Aminata's audio right now. So I'm going to try to connect with her and see if we can strengthen the audio. In the meantime, Alex, if you wouldn't mind, I think we're going to skip to your presentation right now and see if we can work with Ami in reestablishing her connection.

**Alexandre**

Sure. Yes, that's fine. I hope my internet connection will work as well. I'm sure we're not very far with Ami. But no, that's fine.

Can you see my screen?

**Stephanie**

Yes, we can now. That looks great.

**Alexandre**

Okay, fantastic. Thanks a lot for the introduction. Very happy to take part in this webinar. I just wanted to start very quickly by providing you with a little bit of background on what we do at Easy Solar to hopefully give you some perspective on the comments I'll be making on the Sierra Leone and West African market are coming from. We are basically an eco-solar \_\_\_\_\_ company. And if I should give one sort of specificity of our company, it is that we are distributing a fairly large range of products from very small ventures all the way to fairly large systems, roughly 70 watts. And each of our products including the \_\_\_\_\_ is available on a payment plan. And I'll try to get into why we believe it's important and relevant in the Sierra Leonean market later in the presentation.

We have been \_\_\_\_\_ full-time \_\_\_\_\_ for almost seven months now. And we are happy to have a few thousand customers with us. And when we created the company, we really [Background noise] this model we really looked at at the East African companies, trying to understand what was working and what was not working, and most importantly trying to see how we could port this into the context and the specific challenges of West Africa. And I think that's what I would like to focus on in this presentation, is taking you through two of those specific challenges and talking about how we are trying to address them.

I think the first one, which is probably not a surprise to a lot of people listening today, is the lack of mobile money. In Sierra Leone specifically there are only three MMOs. And actually the third one, Smart, is sort of dying at the moment. So you actually have two MMOs, Airtel and Africell. Airtel has sort of been leading with their Airtel money service. But they really have focused on the more urban centers and haven't reached at all the rural areas of the country. Africell on the other hand has only recently—and when I say recently it's like a couple of weeks ago—launched their mobile money service in Sierra Leone. And they are still sort of finalizing more of the

technical aspects of [Break in audio] and haven't really moved yet into an environment where they are doing more of focusing on marketing and expanding their distribution. So overall a market where we have very little mobile money.

This has had sort of two consequences I guess on our model. The first one is we have had to learn now to scale a distribution network that's based on cash management. And [Break in audio] given the reality when we started selling products amongst our existing customers and less than three percent of them had ever used mobile money. So we quickly realized that we were going to have to learn how to work with cash. And I won't go into too many details, but there's basically three key aspects that are starting to work and are starting to allow us to manage a distribution network that's based on cash management. The first one is really trying to identify any existing distribution network that can allow you to collect cash. So whether it is \_\_\_\_\_ institutions, local banks, even we're looking into some agricultural cooperatives who are helping us collect cash in rural areas. The second aspect of it is technology. There is usually some sort of a belief that mobile money operations is very technology-oriented and cash is going to be very pen and paper. This doesn't have to be the case. And for us investing in the technology that allows us to manage very closely our cash collection process has been very important. And the third and probably most interesting aspect has been really optimizing our distribution network around the reality of the fact that we're going to have to visit our agents extremely frequently to make sure that cash collection didn't go out of hands.

So that being said, we obviously didn't give up on mobile money. We are looking very closely \_\_\_\_\_ Airtel and Africell on integrating their mobile money service into our operations. That being said, I think what's happening and what is interesting is that unlike in East Africa where a lot of pay go solar companies have piggybacked on existing distribution networks from mobile money companies, what we are seeing in Sierra Leone—and this is also the case in a number of other West African countries I believe—is that we as a pay go solar company are at the forefront of the expansion of the mobile money distribution network. And the way this happens is actually that a number of our agents actually are also mobile money agents or are training to be mobile money agents and they are the ones who are introducing mobile money in their communities. So that was it for mobile money.

The second aspect is if you look at awareness around solar in East Africa in let's say 2016 or 2017, it's pretty high. There is some sort of a market awareness around solar. People start look at different brands, they can compare different products. In West Africa and more specifically in Sierra Leone, that's absolutely not the case. There is very little awareness around solar. And when there is, it's around poor-quality solar. A negative image. And I think there has been a lot of research and discussions around how to do \_\_\_\_\_ marketing and ensuring that you can actually increase the awareness and the trust around pay go solar and distributed energy products in general. I just want to focus on one of them which I believe is interesting and kind of unique. I think our best marketing initiative has been our product base. So I

was mentioning initially the fact that we are selling very small lanterns like the one you can see on this slide. And \_\_\_\_\_ on a pay go basis meaning that they are virtually affordable for anybody. We are talking about a lantern that's less than \$20 that people can pay over three or four months. So it's literally [Break in audio] Sierra Leone. And this has been our best way to market solar, to market our brand, to market pay-as-you-go, and to basically put high-quality solar and pay-as-you-go into every house and then work our way up the entry ladder by selecting successful customers and upselling them to larger products.

So that's it on the challenges. I think I could cover many more, but in the interest of time I think it's interesting if we can leave as much time as we can for the Q&A and address questions that are interesting to the audience.

I quickly wanted to mention one very positive thing about Sierra Leone that has happened over the last few months, almost a year now, which is the creation of the Renewable Energy Association of Sierra Leone. It was created actually a little over a year ago. And its vision is to accelerate the adoption of renewable energy for achieving universal energy access in \_\_\_\_\_ in Sierra Leone. And I would really highly encourage anyone on this webinar who shares this vision to get in touch with us and help us in our efforts to promote renewable energy in Sierra Leone.

Some of our key achievements I guess and objectives as well have been overall really coordinating the efforts of the private sector. So bringing them together to create the markets for renewable energy product in Sierra Leone. We have been working a lot with the Ministry of Energy as well as with Power for All and \_\_\_\_\_ to implement a duty waiver on high-quality solar and energy efficiency products. We are working with Central Bank of Sierra Leone for foreign currency issues, global events that are organized to raise awareness around renewable energy. We've worked with the microfinance institutions as \_\_\_\_\_ to promote and encourage them to distribute pico-solar products. And we have a more sort of \_\_\_\_\_ or \_\_\_\_\_ aspects where we're trying to attract also investors and industrial partners to Sierra Leone.

So again, I would highly encourage you to get in touch with the renewable energy association of Sierra Leone if you are either interested in learning more about the space in Sierra Leone or even joining us in this market. And I'm also happy to answer any question you have. Thank you.

**Stephanie**

Alex, thank you so much. That was wonderful. We are now going to try and go back to Aminata and see if she has reestablished the connection. All right, it looks like she has dropped off the webinar. So we'll try to get—oh, it looks like she is reestablishing her connection right now. So we will just give one minute to see if we can get her back online.

**Aminata**

Hello?

**Stephanie**

Hello. Can you hear us all right?

**Aminata**

Can you hear me?



**Stephanie**

Yes, I can.

**Aminata**

Yes, I can. I'm so sorry about this. For some reason—I'm right in the center of town. I wish I had found out where Alex was so I could sit down with him and we could do this together. Let's try it again.

As I was mentioning earlier, I was just giving an overview on what the Ministry of Energy is doing in terms of having an integrated outlook of energy access. They're shifting their focus from just grid and looking at the sector. And as a result they have done a lot of different things policy-wise to deal with \_\_\_\_\_ environment. Like Alex mentioned—I did hear Alex's presentation. And good job, by the way. I think make sure that they include it in the finance \_\_\_\_\_ the 2017 \_\_\_\_\_ tariff waiver as well as import duty waiver. That act has yet to be ratified, but we are hoping that in April [Break in audio]. And this will basically enable companies to have a \_\_\_\_\_ access to be able to get goods out of the port. And also wanted to note that this \_\_\_\_\_ channel is linked to quality products. So it has to be IEC certified for \_\_\_\_\_ companies to be able to take advantage of that. Also there is an Energy Revolution Task Force that we set up as a result of the compact. And that task force basically is a combination of all major stakeholders. So members of the Renewable Energy [Break in audio] seat at the table, ourselves, Power for All, we are the conveners. We have \_\_\_\_\_ that we have been able to look at a market-based program design that looks at policy, creating and building demand, strengthening the supply, which is the sector companies, as well as looking at access to finance for both consumer and capital finance for companies. That's been going very well for the past year. And Energy Revolution program design will be launched for the Ministry to be able to use to get more donor support for the compact. As well as very recently the Ministry has worked with one of the companies—I think it's Ignite Power—where they have mobilized close to 700,000 youths that are in the \_\_\_\_\_. \_\_\_\_\_ is a local teashops that they have across the country that they are trying to indoctrinate into the home solar sector.

Also on the minigrids update, the government is working on the large \_\_\_\_\_ minigrid installations in West Africa. And this is in partnership between UNOPS and DFID. The minigrids will be installed in 50 villages by the end of 2017. And it's a four-year program which will ultimately benefit about 500,000 people. Also WHH, which is World Hunger \_\_\_\_\_, has a project where they are building solar minigrids in six districts. And there is a River Number Two project which has—it's a three-by-one-by-five kilowatts of pico-hydro and a total of six kilowatts of solar thermal plants in Number Two River.

Some of the challenges that the sector is facing here mainly is unlocking finance. And I liked that Alex talked about some of the innovative ways that they are looking to work with mobile. Because of the market in Sierra Leone there are high interest rates from commercial banks that go up anywhere from 18 to 20 percent. And these are limiting growth of the sector. The 4X currency risk heading is high, and that's holding back the sector because obviously companies are having to purchase goods with \_\_\_\_\_ \_\_\_\_\_ is in

local currency. Another challenge that's been faced that we are working as a campaign to support is lack of awareness. Just like Alex stated, the awareness level in West Africa is not the same as in East Africa. However, with that said, as a campaign we have embarked on several road shows. In fact, that's why I asked that we have this webinar at this time. Because we had a road show that happened in the eastern part of Sierra Leone in \_\_\_\_\_. \_\_\_\_\_ is one of the largest mining towns. And that whole town is not connected to the grid. So we went there as a campaign with the Renewable Energy Association, some member companies accompanied us and did a road show and sensitized people on the benefits of the products and the cost savings that they would ultimately have compared to [Break in audio] with their gensets as well as access to affordable for customers is another challenge. Lack of consumer financing. What the campaign did was we convened for the Sierra Leone Association of Microfinance [Break in audio] to get \_\_\_\_\_ with the Renewable Association. Because as we know, the microfinances have a wider geographic reach. They have been able to get into an MOU. And they have over 100,000 clients in their system which is much larger than what the commercial banks offer.

So the hope of the [Break in audio] can then tap into that resource and [Break in audio] market directly to that market segment and get them to take the products. And I believe—Alex, please correct me if I'm wrong—that the project has already been implemented [Break in audio]. Because they have been so \_\_\_\_\_ focused, they have not really had a strong person that's driving the renewable energy aspect of the Ministry. So there is a need for technical assistance [Break in audio] on that so the [Break in audio] in the Ministry that they can effectively deal with that also in turn can interface with other government MDAs. And then obviously there is a lot of technical [Break in audio] to work with the Renewable Energy Association companies to be last-mile distributors. They have access to all the 149 chiefs and they have been working in the chiefdoms. And one of the key things that the Ministry also has been able to champion here is to make sure that they have a bottoms-up approach alongside with them working with all the youths and linking youths up with companies to distribute solar, they have also engaged the local paramount chiefs in all 149 chiefdoms. In fact, when we went just the last couple of days to \_\_\_\_\_, we engaged the chief, and the chief made sure that key stakeholders within that community are brought on board to see the benefits of the sector.

Moving on to the campaign, Power for All has been able to support government, like I said, with the Energy Revolution Taskforce and implementing policies. We have also been able to support the Renewable Energy Association through several workshops that we have convened with— we convened an Access to Finance workshop where we brought together \_\_\_\_\_ financial institutions in one room to see how we can unlock access for companies for the sector. We've also done journalist training workshops to get journalists to know how to report better on the sector and get information out to the people on the benefits of home solar systems and decentralized renewable energy in general. As well as we've worked with \_\_\_\_\_ on getting them to do various recommendations that they can put in front of key

stakeholders, specifically the Minister of Energy. Those recommendations will ultimately go into an MOU between themselves and the Ministry to make sure that as an association they are [Break in audio] government on all companies coming into the sector so that \_\_\_\_\_ and the import duty that government is forgoing is being used in a responsible manner. Like I said, we have also done mass communications around with road shows and different other above-the-line marketing tools.

Just very recently, as recent as last week the campaign wrapped up its first phase and we ended it with a call to action event. And that call to action was where all sector stakeholders from the Renewable Energy Association, from the government, from civil society organizations, from donor organizations as well as ourselves, made good commitments to taking steps and actions to accelerating access. I will share those commitments with you so that you can put them on the link. But that was a well-attended event. And moving forward as a campaign we will be working with all stakeholders that have made those commitments to implement on those commitments.

And that ends my presentation on what is happening with the campaign in Sierra Leone.

**Stephanie**

Thank you so much. And thank you for sticking with us and getting back on the connection. We really appreciate having both presentations.

I will now turn things over to Yasemin to begin moderating the first portion of the question and answer session.

**Yasemin**

Thank you very much, Stephanie. And thank you again, Ami and Alex for joining us. This is the one hard part of doing country-specific webinars is that we understand obviously that the countries that we are interested in usually have energy access and internet access issues. So we really appreciate you sticking with us as well as all our audience bearing with us to get all of this great information. It was very, very informative I thought and very interesting. You actually answered a lot of the questions that I was going to ask in between the two of you, so that's great. I just want to take this opportunity to maybe ask a couple of follow-up questions just to dig a little deeper into some of the things that were already mentioned. And this will be pretty quick and then we can open it up to our audience who I'm sure have great questions for you as well, to ensure that we have enough time for that as well.

But, I just wanted to start with a quick question on the role of all the work that you are both doing both on the coordination and policy side as well as Alex obviously as a practitioner working on the delivery side of distributed energy solutions for the Ebola recovery of Sierra Leone. Since we did mention that in the title of the webinar, I didn't want us to not touch on that. So I guess here the interest that we have is obviously as the Ebola outbreak happened, we kept a close eye on it through our membership sort of trying to figure out what was going on on the ground, who was doing what. It was quite unfortunate obviously with some work that had already been done that had to be halted. We had many members who reported to us that they were

right about to start operations in Sierra Leone but had to hold off. We had one of our own implementation efforts halt because of the same reason. So I was just interested to hear from you since you are in the thick of it how it might have impacted progress. And on the flip side more positively whether it might be an opportunity to move faster on scaling energy access with distributed energy solutions as well as I guess the tension or difference between market-led and humanitarian efforts that might have had to be taken either by yourselves or colleagues that you have, other organizations working in Sierra Leone to be able to respond to this humanitarian issue.

**Aminata** Was that a question for me or was that for Alex?

**Yasemin** It's for both of you. Either one.

**Aminata** Okay. So you were asking if as a result of Ebola did the market stop or did the market—I didn't quite understand the question.

**Yasemin** I guess the question is, yes, exactly. One part was the market impacted and how were your work specifically as well as others that you know in the sector affected and how. And could it be an opportunity to move faster? Has there been more movement now that the outbreak has been contained?

**Aminata** Absolutely. I know for a fact—I think Azuri was one of the early players in the market. And I think when they came in, they distributed over 4,000 units. And then right in the middle of their distribution, Ebola struck. So that immediately halted all of their work. So that's one of the vivid examples that I can recall. As a result though I think the sector has moved a whole lot faster. I can actually confidently say especially for the home solar systems, before the Sierra Leone energy revolution last year where I think it was only 2,000 units that had been shipped in, now I can safely say we are at ten times that number. We are at about 20,000. So maybe it's because of Ebola that we are moving faster now to try to catch up with what's happening in East Africa. But there is a lot of activity going on on the ground. And it cuts across all sectors. Because we did lose a substantial amount of work time as a country. So yes and no.

**Yasemin** Alex, did you want to pitch in.

**Alexandre** Sure. I guess I'll provide \_\_\_\_\_. My answer to this might be a little disappointing. We were not in a country where Ebola hit. I completely agree with Ami and of her stories of people who were in the field at the time trying to do some solar, that it completely destroyed their efforts to implement and develop a distribution network. For us as a private sector company that started operations in 2016, Ebola has absolutely nothing to do with whatever we are doing. We are not doing things because of Ebola; we are not getting funding because of Ebola. If anything, the fact that Sierra Leone is still in the minds of a lot of people one of the Ebola \_\_\_\_\_ more of a negative aspect for us from a funding perspective. Because when you go to private funding venture capital funds, they always are afraid and some people are not completely aware that Ebola is done. Some people aren't completely aware that Malaria is killing more people every year than Ebola killed and those sort of things. And so

Ebola is kind of like the big thing that is scaring away some private capital. I think you would definitely have a very different perspective from a more humanitarian perspective. There's a lot of initiatives for donating solar home systems to Ebola survivors and those programs that are being carried out by UNH and a number of other organizations. But I would say from a private sector perspective our message is more that Sierra Leone has much, much, much more to offer to the development of solar energy and distributed energy than being an Ebola recovering country. And I think Ami mentioned a lot of those aspects \_\_\_\_\_ of the government to move forward, the willingness of some of the financial institutions, a lot of activity in the private sector. We see a lot of things moving forward that I do not think are necessarily related to Ebola.

**Yasemin**

Thank you both.

**Aminata**

Can I just jump in? I just wanted to—Alex touched on something that I forgot in my presentation, which was the civil society bit. We work closely with the likes of IBI and Oxfam. They have been running school campaigns across six districts where they are using schools to get to the teachers and the students, to get to their parents. And what we have been trying to do is to make sure that they don't distort the market by giving out free products. We are trying to see how they link better with the private companies so that when they go and give out free products, at least they can say it's promotional, it's a limited-time promotion. And the private companies can now come in and follow suit.

**Yasemin**

Exactly. That's sort of what I wanted to get out, to make sure that, you know, obviously in a humanitarian crisis market-led solutions don't always work or the market breaks down for a short time or for a long time. But we also want to ensure that any humanitarian efforts are not infringing on the market that already exists. So it is encouraging to hear from both of you that that's not the case and hopefully there is non-Ebola focused work going on as well as of course continuing to rebuild after the outbreak.

And since you both mentioned financing, both in your presentations and just now in answer to my question, I wanted to maybe give you an opportunity to talk a bit more about the type or the amount or the nature of the financing that's missing. You both mentioned lack of local currency as well as from Alex we've heard that investors are still scared to look at Sierra Leone. Can you elaborate on perhaps what kind of financing might be needed? The reason I'm asking is we recently conducted—well, every year we conduct an annual survey of our membership to see where the sector is going, what the impacts have been, what challenges still remain. We have done this for five years now. And again for the fifth survey obviously financing came out to be the top concern for all of our members. And in terms of the type of financing that was needed, \_\_\_\_\_ financing actually continues to rise in member interest and lack of local currency actually also came up as one of the top financial concerns that members had. So what you described sort of tracks with that, but I wanted to give you an opportunity also to maybe talk a little bit more about how we can solve some of these issues and what specifically can be done for the Sierra Leone context.

**Alexandre**

Sure. If I can jump in on this. I think Sierra Leone is very much in line with the results of your survey in the sense that access to affordable working capital local currency financing is still extremely difficult. But I think it's maybe even more difficult in Sierra Leone given the size of the economy, the volatility of the local currency as well. Which means that there is absolutely no foreign exchange risk coverage products on the market. So anything that you're going to find is going to have to go through something like OPEC or MFX or those sort of institutions that provide the coverage necessary.

I would say a second aspect of things is probably more around seed funding. There has been a lot of interest in East African countries. And I think investors investing in East African countries have learned to look at a number of KPIs. And some of them are penetration of mobile money for instance. And so in everyone's mind if you don't have X percent of penetration of mobile in a given country, it's not even worth it. To a similar extent, the fact that Sierra Leone is a fairly small country [Break in audio] the number of people who are actually lacking electricity access is quite a large number of people. But I think those two aspects, the size of the country, awareness of solar and \_\_\_\_\_ the three KPIs that are making it a little more difficult for a company like ours which is based in the U.S. to raise equity. But I think it's even much more difficult for local companies who have less ties I would say with international finance to raise money. And there is a real need on that aspect. And I think renewable energy education \_\_\_\_\_ to some extent or working very hard to ensure that local companies can have access to this sort of financing.

**Yasemin**

Thank you. Ami, did you want to chip in here as well?

**Aminata**

Yes. I definitely agree with what Alex said. And as we are developing the Energy Revolution Program design, and we've made some specific recommendations on both distributor finance, we are hoping that concessional grants and working capital and equity funds can come in to help support loans to the commercial banks. And medium-term debt financing for \_\_\_\_\_ companies as well and working capital to cover high initial capital outlay. So there are specific things. And for me I think most importantly if we can get some kind of concessional grants, especially for the local companies that don't have access to international capital, that would help.

**Yasemin**

That makes sense. Thank you both. So I have two more quick questions. One for Ami and one for Alex. Ami, I was also again very encouraged to hear you mention that there is at least work being done on waiving import duties for distributed energy solutions, if I understood that. But more encouragingly that they need to be IEC certified. This was going to be one of my questions to you about quality assessment. Are there national standards in place? Is there a standards body? Would you mind talking a little bit more about the work that's being done on getting this down and also ensuring quality products obviously \_\_\_\_\_ the country?

**Aminata**

Yes. So there is a standards bureau under the Ministry of Trade. And again, I mentioned earlier lack of capacity is one of the key things that is plaguing government. So there is that there. But what has happened is that we are using

the IEC standards. So what the companies are doing is that they are getting a list of products that—a list of these certified products will now be entered into the import system or the \_\_\_\_\_ system as you will. And that will serve as a basis for the customs to cross-check against the products that are coming in. It's a harder way of doing it, but until the Renewable Energy Association can properly be that vetting entity—because I think that's their main goal; they want to be that arm that vets on behalf of government to say look, we take a stand for quality. And that's actually one of the commitments that they made on the call to actions. All of our members will go through rigorous assessment before they can take advantage of the waivers or the exemptions. So there is a lot of work that's being done, but we don't have—the standards bureau is not up to the task because they don't have the capacity to be able to affirm themselves or exert themselves to be that entity. So the Renewable Energy Association alongside the Sierra Leone Port Authority or the customs will have to work together.

**Yasemin**

Right. And also as somewhat of a follow-up to this, since you did mention minigrids briefly, I also wanted to touch on that so we are looking at both the small scale distributed but also larger scale and minigrids. Could you talk a little bit more about what opportunities you see in the sector for minigrid developers? I guess I'm kind of interested since you did mention the government was placing a lot of interest on large-scale \_\_\_\_\_ minigrids as a government-led sort of initiative. In order to work as a minigrid developer and \_\_\_\_\_ you have to follow government programs or are there incentives for individual developers to come in? Is it a good policy \_\_\_\_\_ environment?

**Aminata**

Well, it has been implemented by UNOPs. It's a DFID funded project in partnership with the government. So I think what UNOPs has done is they have put out several tenders. So developers are coming in and they basically want the private sector to own and add onto these. And Alex, I know you went to a workshop that UNOPs had on this. Feel free to add. I don't know all of the nitty-gritty, but I do know that's it's a private sector led initiative. It's just that UNOPs is coordinating and they've put out tenders [Break in audio].

**Yasemin**

Great, thank you. Alex, did you want to follow up on that?

**Alexandre**

No, I think everything Ami said is very much the case. I would sort of temper a little bit her enthusiasm on the fact that it's I think private-sector led. I think it's really in the middle between what the U.N. would do and what the private sector would do. But the reason is, interestingly enough, I think that the policy framework for private sector operators building minigrids sort of on their own is not completely in place yet. And one of the reasons we need this sort of project is that UNOPS is sort of going to bear the cost of as they develop and as they help the private sector develop this project, they also work with the government on making sure they put in place a kind of regulation that will allow Sierra Leone to attract fully market-led minigrid operators and \_\_\_\_\_.

**Yasemin**

Great, thank you. And then I guess I will close with a question to Alex. Since you have had some experience in Sierra Leone so far, I wanted to give you a

bit more time to talk about maybe not just your challenges but also sort of what kind of advice you might give to distributed energy service providers and practitioners who might be interested in the Sierra Leonean market now that the Ebola outbreak is under control and now that there are these encouraging signs from the government. What has been your biggest challenges, what has been the better aspects of working in Sierra Leone? What would you suggest to people who might be interested in this sector?

**Alexandre**

Sure, yes. Thanks for giving me the opportunity to talk a little more about this. I think the number-one thing would be if you don't know the country, don't make any assumption on the country. It's a very, very different business environment from whatever you can see, especially in East Africa, which \_\_\_\_\_ it's going to be a very different market environment than what you would see in Cote d'Ivoire, in Ghana, in those sort of places. We have actually spent a lot of time and a significant amount of money before moving in doing a very large scale customer survey to have a better understanding of our potential customers. And most importantly we are blessed with one of our co-founders having lived and worked for more than five years now in Sierra Leone and having a good understanding of how the society actually works.

Ami was mentioning earlier the fact that they were involving the chiefs during one of their awareness campaigns. And this is one aspect of the Sierra Leonean society that is very important to understand how it works if you want to establish a successful distribution network. And the chief structure in Sierra Leone is very different from the chief structure in Senegal, and is very different from the power structure that you can find in East Africa where you don't necessarily have the sort of structures still in place. So I think that would be my number-one sort of advice which has saved us a lot of trouble. And so the consequence of that advice is really go out and pilot and survey as early as possible. And I think this is true not only of Sierra Leone, but of all those markets that are all less explored. And that has been really helpful for us.

**Yasemin**

Great. Thank you so much. Thank you, both of you again for joining us for this webinar. I guess, Stephanie, I'll turn it over to you now to see if there might be any follow-up questions from our attendees as well.

**Stephanie**

Wonderful. Thank you so much. And your questions are actually very much in line with a lot of the questions we've received. So thank you for asking them. I think we've answered a lot of things that have come in.

A few things that people are asking for more information on. Ami, you had mentioned a list of IEC whose products that the government of Sierra Leone is putting together. Some people are asking how can they get that list and also what are the steps to get a product onto that list.

**Aminata**

Okay, I think I said the Renewable Energy Association. So it's not the government, it's private sector companies that are putting that list together. So it's coming from them and then they are giving it to government to say this is our list. And I don't think that list is static. I think it continues to be



added on. And for anyone coming in, like Alex said, it would be a good thing to get in touch with the Renewable Energy Association.

**Stephanie** Okay, wonderful. And in the area of more rural communities can you tell us more about energy access for productive users in those areas and what are the existing solutions and what opportunities are there to provide energy to these more rural areas of Sierra Leone.

**Aminata** Wow. Like I mentioned, this is [Break in audio] because I was just in a community where—it's one of the biggest mining towns, \_\_\_\_\_, and they don't have access to the grid. So they resort to generators. Somebody comes in; they get a generator and connect various homes. And [Break in audio] just to get electricity access. So the opportunities abound. \_\_\_\_\_ and model out various financial models. So I think in the earlier presentation we have about over 90 percent of our population, that's both rural and urban, that has does not have access to grid electricity. So in the rural communities that's 99 percent that doesn't have access. So they are either resulting to expensive generators or they are using the \_\_\_\_\_ torches that are also very expensive because they're having to change batteries all the time. And some are still using kerosene. So with that said, the opportunities are huge.

**Stephanie** Wonderful. And Alex, did you have anything in your experience to add to that?

**Alex** Sure. I think what's interesting is when you talk about productive users, there's sort of two types of scales that you can look at. There is productive \_\_\_\_\_ on the mining company scale, and productive \_\_\_\_\_ on the \_\_\_\_\_ scale. And I think on both of those scales actually there are a lot of opportunities. And as Ami was saying, we see a lot of people relying on local generator \_\_\_\_\_ minigrids. So there's a lot of market and we are actually ourselves distributing a number of \_\_\_\_\_ appliances that our customers can use with solar.

**Stephanie** Wonderful. Another question has come in. Is there any learnings from East Africa that may be applicable or useful in a West African context that either of you have drawn from?

**Alex** Yes, maybe to jump in on this one. Or Ami do you want to—go ahead.

**Aminata** [Break in audio]

**Stephanie** Ami, we are losing your audio again.

**Aminata** Hello. Can you hear me?

**Stephanie** Yes, we can hear you now. Maybe not. Alex, did you want to jump in first and we'll try to get Ami's connection back on track?

**Alex** Sure.

**Stephanie** Thank you.

- Alex** I think the first sets of learnings I would say that we are drawing from East Africa has been more on how to develop the sector fronts. And as the Renewable Energy Association of Sierra Leone, we've looked a lot into what has been done in terms of renewable energy applications. In the Eastern African markets what has been \_\_\_\_\_ they have been working with the government on what kind of policies they have been trying to implement. And this has been very useful. I think that almost most of the learnings from the industry in East Africa are true in Sierra Leone. There's just a few key aspects like anything related to mobile money, what I mentioned before, that are not the case here in Sierra Leone. But take for instance the \_\_\_\_\_ in order to make sure that as a distributed energy company that does pay go you're not going to run into too many default and how to do those credit assessments. I think a lot of the work that's currently being undertaken in East Africa is very, very relevant to what we are doing here in Sierra Leone.
- Stephanie** Thank you. And Ami, I'm sorry, but we are having some connection issues still. But thank you so much for sticking with us. Are you able to hear me now? We weren't able to get your answer to that.
- All right, no worries.
- Aminata** Okay. No, it's fine. I'm was just going to echo what Alex said. So yes, everything that's happening in East Africa we have been able to see how we can adapt to the local market and we are learning a lot from what's happening there. And especially I think I mentioned school campaigns earlier that \_\_\_\_\_ Oxfam is doing. That's a direct replication from a campaign that happened in East Africa and we are hoping that it can now be—instead of just the six districts; it can be replicated across the board.
- Stephanie** Thank you. And we had a specific question come in. And this might be a bit too specific but I wanted to give it a shot anyway. Ami, are you aware of any work being done in bioenergy in the region including clean cook stoves that you could highlight?
- Aminata** There are. Unfortunately, I am not engaged with them. I myself own a waste management company and we will ultimately be doing biomass, waste-to-energy. So I can talk a little bit more about that personally. But in terms of the cook stove, I don't have. Unless Alex is aware of any projects specifically by name.
- Alexandre** No. I know there is actually a manufacturer of clean cook stoves who is a very crafty and smart Sierra Leonean who has developed his own product here in Freetown. But he hasn't really reached a country-wide scale. And just like Ami was saying, I'm not aware of any sort of large-scale initiative on \_\_\_\_\_.
- Stephanie** Okay, wonderful. And actually, we did just receive—Ami, if you would like to elaborate on the—we actually [Crosstalk] like to hear more.
- Aminata** Excellent. Yes, I have a waste management company, Masada. And basically it's two companies. We are doing a waste collection now, but ultimately we

will be converting up to about six megawatts of which—the technology is anaerobic digestion of which we will have two two-megawatt installations that we will fit to the grid. So we are talking with government on firming up our PPA. And we will then have 50 to 100 kilowatt mini digesters that we can directly supply to manufacturing companies, hotels, or any other industries that need that power capacity. Very soon in the next quarter we will be piloting the first 50 kilowatt-hour digester.

**Stephanie**

Wonderful. Thank you so much. That is all we have for questions right now. So I would love to give you all a chance for any closing remarks, something you wish to highlight more before we sign off here. Alex, we'll start with you and then go to Ami. And then Yasemin, if there is anything else you would like to put out there.

**Alexandre**

Thanks. Thanks for the opportunity to take part in this webinar. I think my closing remark would be that when we built this company, we were studying actually, the three cofounders in the U.S, energy access. And it seemed reading all the reports and the literature and all that was happening in the pico-solar from \_\_\_\_\_ most of what had to be discovered and developed was sort of discovered and developed in these markets. And I just want to say that it's extremely exciting to actually work in West Africa where there is actually a lot more to develop, to invent, to create in terms of business and distribution models. And I would really encourage more companies and investors alike to really get involved into the space. Thanks again.

**Stephanie**

Thank you. Ami, anything else you would like to add?

**Aminata**

Yes. I just want to echo Alex's sentiment. Sierra Leone is open for business, especially in the energy access area. The energy revolution is happening here. A lot of things are happening. Government is committed and there is a strong sector stakeholder and engagement that is happening to help smooth things out. So at least when an investor comes in, they have places to go that they are able to [Break in audio].

**Stephanie**

All right, it sounds like we've—

**Aminata**

[Break in audio]

**Stephanie**

All right. Well, thank you so much Ami, it looks like we've lost your audio a little bit again.

Yasemin, did you have anything else you would like to add before we wrap up here?

**Yasemin**

Sure. Thank you again to everyone and especially to Ami and Alex for joining us today. And just to say that this was a great learning experience for myself, so hopefully it was useful for a lot of people. And we will continue to hold some more country-specific webinars with the Clean Energy Solutions Centers. If you have any suggestions or requests for countries in Sub-Saharan and Africa that we should look at, feel free to send them through to Stephanie. Otherwise we'll see you at our next webinar.

**Stephanie**

Wonderful. Thank you all so much for your participation in today's webinar, both to all of our panelists and the attendees. We really appreciate you taking the time to learn a little bit more with us.

We invite you to inform your colleagues and those in your networks about the Solutions Center resources and services including the no-cost policy support through African experts. We also invite you to visit our website, [cleanenergysolutions.org/training](https://cleanenergysolutions.org/training) to view the slides from today and listen to a recording of either today's presentation or any previously held webinars. Today's recording will be posted within a week.

Finally, I ask you to kindly take a moment to complete a short survey that will appear as we conclude the webinar. And with that, please enjoy the rest of your day. We hope to see you again at future Clean Energy Solutions Center events. And this concludes our webinar.

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