

## Effective Supply Chains for Energy Access

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For more information, see the [clean energy policy trainings](#) offered by the Solutions Center.

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**Webinar Panelists**     Richenda Van Leeuwen, Executive Director, Energy Access United Nations Foundation

Coryell Stout, Director of Operations and Sales, One Degree

Katherine Lucey, Founder and CEO, Solar Sister

Kieran Reynolds, Vice President of Operations, Azuri Technologies

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**S. Esterly**     Hello everyone, I'm Sean Esterly with 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 Foundations Energy Access Practitioner Network. Today's webinar is focused on Effective Supply Chains for Energy Access.

One important note of mention before we begin our presentations is that The Clean Energy Solutions Center does 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.

I'd like to go over some of the webinar features for you. For audio you do have two options. You may either listen through your computer or over the telephone. If you do choose to listen through your computer please select the "mic and speakers" option in the audio pane. Doing that will just help eliminate the possibility of any feedback and echo. If you choose to dial in by phone please select the telephone option and then a box on the right side will display the telephone number and audio PIN that you should use to dial in. Just a reminder to panelists that we ask that you please mute your audio device at any point while not presenting. If anyone

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is having technical difficulties with the webinar, or the webinar platform, you may contact the GoToWebinar's Help Desk at the number displayed at the bottom of the slide. That number is 888.259.3826 and they can help you up there.

We do encourage anyone from the audience to ask questions at any point during the webinar. We keep attendees on mute so to ask a question simply type it into the "Questions" pane. Those will be sent to us through that. If you are having difficulty viewing the materials through the webinar portal, you will find PDF copies of the presentations at [cleanenergysolutions.org/training](http://cleanenergysolutions.org/training) and you may follow along as our speakers present. I'll send out that link to everyone shortly as well. Also, an audio recording of the presentations will be posted to the Solutions Center training page within about a week of today's broadcast and just a reminder that we are also adding webinars now to the Solutions Center YouTube channel where you will find other informative webinars, as well as video interviews with thought leaders on clean energy policy topics.

We do have an exciting agenda for you today centered around the presentations from our guest panelists Richenda Van Leeuwen, Coryell Stout, Katherine Lucey, and Kieran Reynolds and these panelists have been kind enough to join us to showcase their respective organizations' approach to building effective supply chains and customer delivery mechanisms and to discuss and contexts, as well as share their respective challenges and successes to provide collective best practices.

Before our speakers begin their presentations I will provide a short informative overview of the Clean Energy Solutions Center initiative. Then following the presentations we will have a question and answer session where I will present questions from the attendees and then we will have a brief survey.

This slide provides a bit of background in terms of how the Solutions Center came to be formed. The Solutions Center is one of 13 initiatives of the Clean Energy Ministerial that was launched in April of 2011 and is primarily led by Australia, the United States, and other CEM partners. Some outcomes of this unique initiative include support of developing countries and emerging economies through enhancement of resources on policies relating to energy access, no-cost expert policy assistance, and peer to peer learning and training tools, such as the webinar you are attending today.

There are four primary goals for the Solutions Center. The first goal is to serve as a clearinghouse of clean energy policy resources. Second is to share policy best practices, data, and analysis tools specific to clean energy policies and programs. Third is to deliver dynamic services that enable expert assistance, learning, and peer to peer sharing of experiences. Then lastly, the Center fosters dialogue on emerging policy issues and innovation around the globe.

Our primary audience is energy policymakers and analysts from governments and technical organizations in all countries, but then the Solutions Center also strives to engage with the private sector, NGOs, and civil society as well.

This slide highlights one of the marquee features that the Solutions Center provides, which is its no-cost expert policy assistance known as “Ask-an-Expert.” The Ask an Expert program has established a broad team of over 30 experts from all over the globe who are each available to provide remote policy advice and analysis to all countries at no cost. For example, in the area of Energy Access we are very pleased to have Ellen Morris, who is the President and Founder of Sustainable Energy Solutions, serving as one of our experts. If you have a need for policy assistance in Energy Access, or any other clean energy sector, we do encourage you to use this valuable service. Again, the assistance is provided to you free of charge. If you have questions for our experts please submit it through our simple online form at [cleanenergysolutions.org/expert](http://cleanenergysolutions.org/expert) or to find out if the Ask-an-Expert service and how it can benefit your work please contact me directly at [sean.esterly@nrel.gov](mailto:sean.esterly@nrel.gov) or at 303.384.7436. We also invite you to spread the word about this service to those in your networks and organizations.

Now, I would like to provide brief introductions for today’s distinguished panelists. The first speaker that we will be hearing from today will be Richenda Van Leeuwen, the Executive Director at Energy Access at the UN Energy Foundation.

Following Richenda we will hear from Coryell Stout. Coryell is the Director of Operations and Sales at One Degree Solar, a venture-backed technology company that designs and manufactures energy solutions to improve connectivity in peri-urban and rural communities with unreliable electricity.

Our third speaker today is Katherine Lucey. Katherine is Founder and CEO of Solar Sister, with the goal of providing a practical, grass-roots, locally generated solution.

Then our final speaker today is Kieran Reynolds. Kieran is Vice President of Operations at Azuri Technologies, a spin off from the Advanced Photovoltaic Research Accelerator.

So now with that I would like to welcome Richenda to the webinar.

R. Van Leeuwen

Thank you very much Sean and good morning everybody.

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I want to provide a little bit of a backdrop for the work that the other presenters are talking about today in terms of the contribution it's making

to the United Nations Sustainable Energy for All Initiative, which has set several global targets for the world to meet by 2030. Many of you will be familiar with this initiative. It was launched by the UN Secretary General in 2011 with one of the areas of focus specifically look at how to address the fact that 1.2 billion people still around the world lack the developmental benefits from having access to electricity and many more still lack through and confirmed access, as well as some nearly 3 billion people depending on clean cooking solutions for their cooking energy.

The Secretary General launched this initiative, partnering with the world bank—with President Kim from the bank, also public sector and private sector as well as UN member states to come together to really focus on how do we solve this issue, first, in terms of driving towards universal access to modern energy services by 2030 and then second and third, doubling the global rate of improvement in energy efficiency. We also know that energy efficiency can be a very strong enabler for energy access as well. Then third, looking at doubling the share of renewable energy in the global energy mix.

Again, as it relates to energy access we see that renewable energy solutions in many instances are particularly applicable for being able to deliver energy solutions and services to people living in rural settings, working with low income—for whom this is the first access to electricity and the benefits from that they are getting.

In 2014 the UN General Assembly members states declared the start of the decade of Sustainable Energy for All, which runs until 2024.

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The UN Foundation, as part of our contribution to this initiative, in 2011 as well, set up the Energy Access Practitioner Network, which is primarily focusing on helping to drive particularly market-based solutions for delivering energy services in developing countries. Why market based? Partly because we recognize the need that, first of all, aid based solutions alone are not going to get us there and second that they did not necessarily deliver the sustainable supply chains over the long-term to ensure that once a solution was in place it was going to be properly serviced and maintained and ultimately really of the maximum benefit to the customer.

So we set up in 2011. We now have almost 2,000 members in 170 countries around the world. Together those members have delivered energy services to almost a quarter of a billion people over the lifetime of their particular companies. We aggregate that through a survey that we do with our membership on an annual basis.

They are really focusing on catalyzing energy service delivery at the country level, promoting adoption of new technologies, innovative financing and business models. We serve as a knowledge platform also,

showcasing best practices and peer-to-peer learning and the webinar that we're on this morning is one of these examples of the way that we utilize this ability to share knowledge of members within the network. We also serve as a network of networks, really trying to be a resource for the sector at large. If you're not yet a member of the network but you're on this webinar this morning, we do encourage you to go to [www.energyaccess.org](http://www.energyaccess.org) to learn more about us and then to join us as well.

The following three panelists after me from Solar Sister, One Degree, and Azuri Technologies, are part of the network. So if you're also particularly interested in learning more about their work as well, by all means, you can contact us after the networks...after the webinar today.

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Specifically, I want to talk about our focus on supply chains because very early on in the work of the network we heard from a lot of our members that, in fact, the whole issue around developing sustainable supply chains, being able to deliver into areas that there wasn't already a distribution channel to build on, was complicated, was challenging, and there were a number of issues to overcome. So we've been focusing on supporting the development of sustainable supply chains and you'll be hearing how that's working in different countries and also using different technologies and different solution sets in just a few moments.

It's a key issue area for us because we recognize that it's not just a one term intervention of sort of dropping a solar panel into a household or community but it's really we are focusing on changing the long-term ecosystem so that companies that are delivering these services have the support that they need, that they can really focus on their core business, and also that other parts of the ecosystem around them are delivering the appropriate solutions—whether it's dedicated workers or other pieces that are needed to ensure that, in fact, we're developing a sustainable market over the long-term.

Some of the challenges that network members have raised with us in the past are just in terms of not only the supply chain for distribution of solutions, but the supply chain of financing and particularly looking at the mechanisms for end user financial services. How do customers afford the product or service? How do they pay for it over time? What supports are there? Attracting growth capital for the enterprise is a key issue for most of our membership—finding the right type of investment support, in the right way, in the right place. This is something that we're working with many partners, both to help to increase the support of capital but also look at the way that it's being transacted and provided particularly more risk capital for earlier stage enterprises that traditionally have struggled to access investment capital. Then, as I already mentioned, a third one is ensuring availability of skilled technologies and employees. We are working also within the broader Sustainable Energy for All Initiative on a

number of different partner entities that are focusing on delivering improved curriculum for training technicians and others working in renewable energy, particularly in Sub-Saharan Africa, to make sure, in fact, that the companies are able to get the type of skilled technicians and employees that they need to be able to deliver their solutions. Again, if you're interested in this we can provide more information after the webinar.

Looking also at the opportunities for wholesale purchasing to bring prices down, we do know that solar PV has come down in price tremendously over the last years but that's not necessarily always reflected at the country level and so we're exploring right now what are the mechanisms that can be used to help to address this at the country level and at the local level. Then also, you will be hearing I'm sure from Katherine and others in just a few moments, specifically around the development of efficient distribution channels for consumer, for customer, level services as well.

Without further ado from me, I'm delighted to welcome and introduce the other panelists that you'll be hearing from this morning who are all members of the practitioner network. If you are interested also in being able to tell us more about some of the issues that you're facing and where you need support, you can go through the Clean Energy Solutions Center, as Sean mentioned, to Ellen Morris or you can contact us directly through [energyaccess.org](http://energyaccess.org). Thank you very much.

Sean Esterly Thank you Richenda and we will turn it over now to Coryell for her presentation.

Coryell Stout Thank you Sean and Richenda. Can you hear me okay?

Sean Esterly Yes we can.

C. Stout Okay, great. So, hello everyone. My name is C. Stout and I oversee sales and operations for One Degree Solar. Gaurav Manchanda, Founder and CEO, unfortunately could not make it today. His flight was delayed and he's actually in route to Kenya as we speak. I have the pleasure for filling in for him and we'll be discussing One Degree Solar's supply chain ecosystem, our approach to last-mile distribution, as well as lessons learned over the years.

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Now, before we dive into the meat of this presentation, I want to introduce you to BrightBox. If you aren't already familiar, BrightBox is One Degree Solar's all-in-one solar home system. It powers lights, cell phones, fans, radios, tablets, and most USB powered devices. We also sell our low watt LED solar lights, which are in the left hand corner separately. BrightBox is our flagship product and we've been selling it since 2012.

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So, why we are all here today—as you can see from this picture distribution is one of the biggest challenges that pico-solar companies face worldwide. Our target market is often located in remote, rural, and un-electrified areas of the world, which is a cruel cruel trifecta and does not bode well for supply chains. Our CEO Gaurav took this picture while working in Liberia, conducting solar installations at remote health clinics. As you can see in the middle of the screen, in the distance there is a truck and that truck is stuck in mud. It is filled with engineers, yet it still took over two hours to get out and by that time it was too late to complete the installation at the nearby clinic. Now the moral of the story, or if it's a moral at all, even if you may have the best skill sets in the world, or be able to create the best products in the world, or have the best people in the world, roads like this mean that it can take years to reach your market. That's where One Degree Solar comes into play.

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To help mitigate the challenges of distribution, especially last mile distribution, One Degree Solar has adopted an integrated distribution model, whereby we partner with large reputable distribution companies, in target markets, to drive demand to manage, establish sales, and after sales networks, and to build new routes to market. Rather than trying to oversee the entire supply chain by ourselves, we focus on the parts of the value chain that we do best—specifically product design, R&D, and innovation, while closely supporting our distribution partners who sell and service our products.

We ensure that our distribution partners are set up to succeed. We provide them with what we call "business in a box" as well as strategic advisory services, access to software solutions, and a customized SMS platform, which I'll discuss in more detail later in this presentation. In other words, we have built effective supply chains by leveraging our strengths as a company and then establishing partnerships to compliment these strengths.

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Since we began selling in 2012 we have achieved impressive results through our supply chain and distribution model, both within Kenya and without. We're now selling in over 10 countries, have impacted the lives of over 200,000 individuals, and have signed over \$1 million worth in sales contracts for 2015. We are growing and hoping to develop new partnerships in new markets, as well as introduce new products in the coming year.

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This slide offers a great case for how our distribution model works in Kenya and how it allows us to reach different customer segments and channels, thereby increasing our scale and impact. Our Kenyan distribution partner, who has been in this market for decades now, works in multiple East African countries and has over 140 sales outlets in Kenya alone. Our distribution partner also has authorized service centers, with qualified engineers, in the biggest cities in Kenya as well as Tanzania and Uganda. Through our distribution partnerships, and in Kenya specifically, we are able to access these established sales and after sales networks. For us the trick is not to reinvent the wheel but to broaden and deepen it together with our distribution partners.

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In addition to our distribution partner's pre-established channels, we also recognize that many different customer segments exist. So we insure that we fully understand all of our current and perspective customers, their buying habits, behaviors, and beliefs, so that we can work with our integrated distribution partner to understand, identify, and optimize the various routes to market that exist. An example of this is our partnership with Coca Cola. Through the solar kiosk initiative we distribute BrightBox units to Coca Cola business owners. To appeal to the needs and demands of these small business owners we focus on the benefits solar could have in regards to operating expenses, operating hours, as well as sales. Then we prove that. The results were visible instantly, almost a night and day difference. These are the before and after pictures of one kiosk that only had kerosene lamps inside as you can see on the left and then on the right after they purchased a BrightBox.

Nielsen research, who led our feasibility study during this pilot program with Coca Cola, found that an overwhelming majority of kiosks were able to spend less money, while staying open longer. This happened each day since they no longer relied on kerosene.

With BrightBox, Nielsen found that 90% of Coca Cola kiosks extended their operating hours by approximately four hours each day—two in the morning, two in the evening. Nielsen also found that the kiosk owners also increased sales on average by 15% each week. That amounted to about \$20 on a weekly basis. They also reduced operating expenses by about 90%, again on a weekly basis.

So this partnership with Coca Cola is one example of how we are working with [inaudible 24:20] to continue to grow our channels and routes to market across our supply chain. Using the data that we gather and the impacts that we're creating to iterate on what we offer and ensure that we're constantly improving and streamlining our value chain.

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I talked a bit about our model and how our partnerships with distribution partners allow us to facilitate energy access. It's also important to note that we use the power of technology to help build effective supply chains and provide customer support. This is just another mechanism that allows us to scale and grow and deepen our impact.

What this slide is showing is a platform, our SMS, so our text message platform that we actually co-developed and pioneered and in 2012. This platform is used on a daily basis, is overseen by our customer service team, and it allows us to interact directly with our existing customers our potential customers, and retailers all at no cost to them. It's entirely free.

We use this platform to also send out usage tips, provide customer support, run promotions—so marketing, collect business, and impact data via SMS surveys and much much more. It also allows us to build another sales channel, our customer database, which creates a support system. This support system encourages brand loyalty, without the high cost of salesmen or trucks, or materials that are currently being used to reach rural customers. It's interactive. It's real time. Most importantly, it's free to our customers.

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This very very wordy slide shows an example of how powerful this tool is for us and for our partners in the markets where we work. On a single day in December we actually messaged 500 existing BrightBox owners to wish them a happy holiday and also announce that our products were now available in major retailers. Within hours over 200 sent us back messages about how BrightBox has changed their lives. Some of what we received from these SMS messages are captured in the customer testimonials. All last names have been removed for confidentiality purposes. The platform is entirely in Swahili, so they were translated from Swahili into English.

We also frequently conduct impact studies using this platform, again, real time and real results. We conducted a survey back in December entirely by SMS and received over 400 responses in 6 hours. 99% of those whom we surveyed reported savings on kerosene and candles since purchasing BrightBox, on average \$117 saved. 88% reported that they had not bought kerosene or candles since purchasing BrightBox and 94% reported savings on phone charging since purchasing BrightBox, that's on average \$82.

This slide is just a snapshot of how we use our SMS platform to improve what we're doing and what we're offering so that we can streamline and improve the efficiency of our entire value chain. It's through this customer engagement and outreach that we're essentially able to accelerate energy access to those that need it most. We get the feedback we need to improve our [inaudible 29:05] and to scale the customers who demand our product.

Now, this slide really highlighted, or the presentation really highlighted, how we use our distribution partnerships as well as our SMS technology platform to build an effective supply chain, which allows us to bring clean and affordable power to the millions of individuals, households, and small businesses without energy access worldwide. Of course it's important to note that there is no silver bullet. We are learning and we will continue to learn but it is through these challenges and successes that we're growing as a company and creating positive impact. We look forward to seeing what the future holds and also learning from our peers. Events like this are invaluable so on behalf of everyone at One Degree Solar, thank you for having us and I look forward to answering questions at the end and will now pass the baton to Katherine.

Sean Esterly

Yes, thank you very much Coryell. As you mentioned we will now turn things over to Katherine Lucey from Solar Sister.

K. Lucey

Hi, thank you so much Sean and Richenda for having me today. It's a pleasure to be here and talk to you about a sunny topic, such as solar. I'm sitting in the midst of a blizzard so it's a great thing to talk about. I wanted especially to talk today about what's near and dear to our heart at Solar Sister, which is that when we talk about energy access it's a gender issue. It's a women's issue. When we are thinking about who are our customers at the household level for energy, it is predominantly women who are making the daily decision to buy the kerosene. They're the ones who once were walking to market, filling up an old Coca Cola bottle with kerosene, bringing it home, and pouring it into the lamp to run the house. They're the ones, for cookstoves, who are cooking over the inefficient cookstoves, spending hours—maybe with a baby strapped to their back, inhaling the fumes and the smoke, and having the health issues that relate to that terrible indoor air pollution. They're also the ones spending hours a day walking miles for wood for those stoves. Even though, when we talk about technology, when we talk about development, when we talk about energy access, we truly believe in energy access for all. What Solar Sister is, is here to make a case for, when we talk about energy access for all we have to be deliberate and intentional about including women in that definition of all both because they are primarily the ones who are affected by climate change, primarily affected by events such as natural events such as floods or fires or that affect their homesteads, and also, and really importantly, because they are the ones who hold the key to the changes that can affect at the household level what choices are made for energy and changing from inefficient, toxic, smoky, and expensive kerosene and fuels to more efficient, cleaner, and safer fuels.

If you can change the slide. Thank you.

Solar Sister is really last mile distribution at the grass-roots level. We are a network of women, entrepreneurs. We work in Nigeria, Tanzania, and Uganda currently. It is one to one direct sales, something that you may all be more familiar with in something like Avon, which is a cosmetics

company, or Amway, which is a company that sells cleaning products. The direct one to one sales has a real benefit, especially as we are talking about last mile distribution, it means we are bringing the products right to the doorstep of the people who most need it and, because we are using a network of women entrepreneurs, we're reaching across really a gender technology barrier at the household level where what we need to do is when women in the household are making that decision are comfortable with the technology that they're looking at as their alternative. If a woman is going to make a choice to not buy kerosene and instead invest in a small solar lamp or larger home system, she has to be really trusting the source that she's buying that new technology from. We have found by one woman selling to another we really able to build on the natural relationships that develop in communities and that those are very founded in trust, which gives the marketing of a new technology the foundation it needs to really succeed.

Looking at this chart Solar Sisters, it just kind of gives you an idea of what Solar Sisters does. Solar Sisters sells the lamps to the households. There is this kind of ripple effect of benefits, which is at the household level and at small microenterprises, increased income generation, they save money from not having to buy kerosene anymore, brighter light, improved education as children are able to study more hours per night, connectivity for their mobile phones, better health because of not having to breathe the fumes, reduced CO2 for the environment. So this ripple effect of benefits and it comes back for the entrepreneurs themselves, a second benefit—an important one but a second benefit, which is that they earn income on every sale. Solar Sister is in the communities that we are serving. We are truly the last mile, grass-roots, market based model.

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We work with a whole variety of different manufacturers. We are committed to providing high quality solar products, everything from simple solar lamps through large homes systems, through even larger installations. We train our entrepreneurs in sales, in aftermarket service, and in installation so that they are full service providers. Indeed their name is Solar Sister and in most communities they are known as the go to person for solar.

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It is very much a one to one sale. Women are using their natural networks to reach out in their communities. They reach out through their family, their friends, their neighbors, their church groups, their women's groups, the political community, and their children's' schools, in ever widening circles of reach, which gets these products into the hands of the people who need them.

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There's a...the women work together, although they are independent entrepreneurs they come together in teams, which provide peer support. They meet monthly to trouble shoot, to share successes, to update inventories, to make payments, and importantly to get additional training. Solar Sister provides the women, who are the entrepreneurs, with initial training, which gives them information about solar, the technology, and specifically this solar that they will be selling, about business in general, business concepts, and specifically how this business works, and about marketing and sales and leadership and community awareness building. They then support each other in these monthly groups with a Solar Sister entrepreneur coming back and providing a coaching/mentoring role for them and providing ongoing training.

Entrepreneurship is tough. It's very hard to do retail sales at the last mile and giving these women the support over the long-term is something that really differentiates Solar Sister from programs that might do entrepreneurship training and then kind of send the entrepreneurs out into the world to fare. What we do is really build this network of entrepreneurs so that there is this long-term support.

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Last mile is very much last mile. I loved the picture earlier of the muddy roads because we see tremendous challenges as we are delivering products out into the rural areas. Sometimes because of pictures like this it does make people think, oh my gosh, how can one entrepreneur walk so far or travel so far and deal with that. Their market must be very small and they'll tap out of their market. What I would like to point out is that even though many of these roads are quite rural in appearance, they are still quite densely populated so an entrepreneur's market is quite deep. Because there is such little penetration of electricity and even distributed electricity, like solar that we're working with, there is still a tremendous market opportunity out there for the entrepreneurs. Africa, I've read, is the one continent where by 2030 the penetration of electricity—the access to electricity, will actually be lower percentage than it is now because the increase in population is outstripping the increase in electricity access.

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One of the most important aspects with solar or with any technology is that you provide service and sales, after-market sales service, for any warranties, for repair, so we train our entrepreneurs to be equipped to do that. They will be the first person that a customer will come if they have a problem with their solar and they are trained to provide the first line of customer service, which is really education. Often the problem is not with the solar but it might be that the customer did not appreciate some of the necessary—maybe they had to put the panel in the direct sun or they did not know that they had to plug it in. There's a million things that go wrong sometimes when they come back with the solar. We make sure it's not just

an education issue. Once they have determined that it may be a technical issue with the product, we are able to provide in-the-field-service if that is appropriate. All our manufactures that we work with provide warranties. So if it's a warranty issue, then we're able to just swap out the product with the warranty and honor that warranty so that the customer leaves the same day with a working product.

It's been really important to provide customer education on the importance and reliability of warranties because it's not something that they have a lot of experience with or trust. Just as much as we building up that trust base on the products themselves by offering the highest quality products, also we are building up the trust base for those manufacturers' products by being right there and being face with the customer when it is a warranty issue or a technology issue that needs to be addressed.

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Solar energy is so much of a women's issue and Solar Sister incorporates that both in our business model, which has the second benefit of providing the women entrepreneurs with economic empowerment. So the women earn income by selling the products. We seek women who have a desire and really want to be entrepreneurs and then give them that opportunity. It's not for everyone and so what we do is we provide an open hand. It's something that if they want to seek this opportunity we will make it available to them and provide the support. It then becomes a self-supporting and really the women are incentivized through the income that they make to even build their businesses larger. So they get a return and a feedback loop. As they do better, they do better financially, which they then use to support their families. Probably 99% of the women that we have as entrepreneurs, when we ask them what have you done with your income that you've made as an entrepreneur, they almost always tell us that the first thing it goes to is their children's' education. We then hear that they've spent income on health care, whether it's an unexpected or chronic need, and improved income goes to better food or investment in their farming for their families. So we see this incredibly direct link from one's economic empowerment to improved conditions for their families, which has a ripple effect and a generational effect because their children get better educated, better fed, and health care.

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As you can see, something as simple as solar has a world of impact. Energy access and by carrying it out through a woman's network we touch on all of these different areas of impact—entrepreneurship, women's empowerment, education, health, livelihoods, household prosperity, connectivity, clean cookstoves, environment, families, safety, and rural energy access. I would just like to end with coming back to the beginning, which is it's so important to be both deliberate and intentional in including women in this opportunity that is in front of us because of an incredibly

growing and exciting marketplace for clean energy products. If women aren't included both the access won't be successful and we'll be leaving half the population out of an economic opportunity. So, thank you.

Sean Esterly

Thank you very much, Katherine, for that presentation. Now we will turn to our final speaker for this webinar. Kieran? Kieran, just a reminder to unmute your microphone.

K. Reynolds

Thank you. Always the first mistake. Good afternoon or good morning everyone, depending on where you are in the world. Thank you for the opportunity to talk. Today I am going to discuss a bit about Azuri and our business model, which is a little bit different from those of the few speakers we've heard so far, and also talk about some of the challenges and considerations, should I say, of the supply chain in the area we work in these off grid rural areas.

Just to move down. We work exclusively at the moment in Sub-Saharan Africa. We're open to other parts of the world but today there's plenty to do in Sub-Saharan Africa. So that's where our company's focus is at this point in time. At the very start we talked about some fairly startling numbers and I second those. We see extraordinary numbers of people who don't have access to electricity, have frankly terrible energy solutions, and are spending an awful lot of money, actually, this both in real terms and in medical terms for them.

We can position this as an enormous commercial opportunity. Yes, there are all the other benefits that we all know about and have discussed in some depth but actually there is an enormous commercial opportunity here, which we can seize at this point in time. I think the key point that we need to draw out is that although a lot of these populations are off-grid, they are not necessarily unconnected. The penetration of mobile networks has become fairly significant. This doesn't necessarily mean in the individual houses. There's certainly access to reliable or sufficiently reliable mobile phone coverage and also having the mobile phones in the customer's hands is a key enabler. I think we are seeing some of that today in the discussion around SMS messaging for customers. For us it's a critical part of our business plan. We see this enormous opportunity; at least \$30 billion spend per year, in Africa on the combination of fuel based lighting and mobile phone charging. These are clear and present opportunities for us to try and do it better, I think, would be the simplest way to say it.

What we do that's a bit different at Azuri is we work on a pay-as-you-go basis. It's not a retail product. It's a service based product. The entry level product we have is a simple solar home system. It provides two LED, lighting for two into LED making lights, a solar panel—so it recharges the battery box, and we also provide USB charging for mobile phones. This system will provide typically 8 hours of lighting and home phone charging capability. The key element is, I think, affordability because although

these systems are available in the market, they're not necessarily affordable for everyone. The way that we break that problem down is by using this pay-as-you-go mechanism where customers pay a low upfront cost and they pay a weekly cost then, normally for about 18 months. It depends on the territory that we're working in. For that they get clean, reliable, off-grid power. So they get LED lighting. They get mobile phone charging at home, which is an enormous boon to a lot of our customers, and they also have the other benefits that the light is better, it lasts longer, it's not smoky, and so on. Perhaps the key element here is that we can provide this for less than our customers are currently paying for kerosene and phone charging in market stalls. That's a key point.

The first line in customer proposition is it costs you less and then all the other benefits follow. I think as we are focusing today on the supply chain, one of the practical things that you have to get right is distribution and management of these top ups. The top ups are enable to mobile phone connection, which is why the network connecting is so important, either through revelation of the top up card through an SMS mechanism or increasingly in some territories through direct mobile money transactions. Either way it is through a mobile phone.

Just to come back to some of the points I made earlier, we find very much that the last mile is a real challenge. This particular picture is a village in Rwanda where the road stopped and the village is spread out across both sides of the valley. Typically it's a 10 minute walk between houses and small holdings. You've got to be getting these things into people's houses and for that we use an agent network.

I'll talk about the agent network in some detail later on in the presentation. One of the things we were asked to talk about is a bit about how we've managed to reach...so we're currently in 10 that cross the scale of Sub-Saharan Africa. We've got active interest in at least that and more like 15 countries where actually the scale is serious interest at this point in time. The way we're able to do that is essentially we develop infrastructure with our PayGo system that's designed to allow you to replicate it quite rapidly. So, the set up for the distributor is relatively straight forward. They get product. They have a network connectivity solution, which allows the validation through SMS top ups or through mobile money. That takes a little longer sometimes. Then we provide them with a train-the-trainer model, again highlighting some of the points that have been made already. It's critically important that there is effective training down at the agent network right into the global communities that we're working. It is the first point of contact. You can fit as many customer care numbers as you want on your scratch cards or provide documentation. People go to their local agent because they trust their local agent and that's the first point of contact. So, we have a train-the-trainer model where we work with our distributors, we work with our distribution partners, we work with our agent networks so that we ensure that training is implemented at the local level. Then we our distributor, we work on a cloud based information

system, which gives them access the material, both training materials and also information on their customer that is available 24-7. It allows them to understand what their business is doing, where their customers are on their top up cycles, and so on, and also we work very closely with our distributors to provide agent reporting down to the individual agent who understands where their customers are, what their customers are doing. That's critical for success.

Talking about the supply chain structure, when we go to a downstream distribution, we worked through local distribution partners. They typically have existing reach into target markets. That doesn't necessarily mean they are already selling similar products. In fact, they rarely are selling service based products, but they have a reach into the communities because it's important that there is trust in the communities. Again, that goes with some of the points made earlier. We work very closely with them. We can't charge them. It's not McDonalds. We can't say this is what your uniform looks like. This is what your big mac equivalent looks like. We've got to work and adapt our model to fit with their local environment and their existing network because we have to be able to work with what's there and adapt to what's there so that you don't bend everything out of shape. It's got to be functional.

Because we work on these long cash cycles, you know, it takes typically 18 months for a customer to run through the pay-as-you-go cycle. At the end of that cycle they can either upgrade their system and keep on pay-as-you-go and get a bigger system or they can unlock their system. Typically the systems will give them another five years of life. Because of these long cash cycles it's a long-term business relationship. So you've got to get it right. You've got to work very intensely with our distributors in the early days to make sure that we've got the business model right.

Then we have to, as I mentioned earlier, really work on the training and support aspects. We've got to provide the information to our customers. We've got to work with our customers, our distributors, and make sure actually that they grow at the right place, they don't overextend, and also make sure that as we're working across multiple territories, 10 different countries at this point in Sub-Saharan Africa, that we can share the lessons. Not everything works in every territory, but there are some general guiding principles that we pull out.

As I mentioned earlier, and I think Katherine brought the point around, the importance of engaging with women is actually something that we see a lot. Some territories and agent networks are women that work and they are very very effective for the reasons that were discussed earlier. It's critical that there is someone there. The last mile presence is very important. It's typically a local business or local entrepreneur and you help them grow their business. You really work on the basis that these communities are close knit and there is a trust network that you need to develop and you need to provide high quality and provide good support because it's your

product and your name on the product. It's very important that you get it right and you deliver a service to your customers.

For doing that, as I mentioned earlier, you have regular customer reporting. Increasingly the use of smart phones allows us to provide data down to our agents. Supporting that, we provide that in a digestible format—a format that agents can act on and they can track through where their customers are—who's topping up, who might be having some difficulties, be proactive about customer management. Secondly to that we have the service and help desk support available to the agents and also to the customers. We can track our user database so we can look at user behavior and understand and develop leaving indicators to make sure that we head off any problems early and that we don't allow them to grow.

When you think about supply chain, there again coming back to the topic, things that we have to consider as a business working in this environment—one is manufacturing lead times. They vary but typically in silicon production you can be looking at three months for a basic lead time. There are ways to get around that but they're not always easy and they're not always there. So you need to think about long cycles. That comes into working capital commitment, touching back to the point in the very start, but actually working capital and commitment of working capital can be a serious constraint to a growing business. It's something that you need to manage quite carefully.

Physically getting the goods into territories, particularly in [inaudible 56:17] can be quite challenging. One thing for anybody thinking about this is the harmonization codes that are meant to be the same and allow you to very easily import goods into multiple different territories. They're not really harmonized. They don't really work and we often find, particularly with the pay-as-you-go element and that business that actually there is no box that you can check and you normally need to talk and have an open dialogue with the customs agents so that you are clear about where the product is categorized. That has an important impact on duties and taxes, which can change the economic proposition quite a lot. There we would typically work with our distribution partners. They have local clearing, importation, access routes; typically our distributors absorb the participating products so they know. They have their own systems for doing that. It is very important to be on top of this because there isn't a box you can just check to get the systems in and so you'll be proactive about that.

Then there are some territories that have local rules. You know, for example, it's not in some territories...you can't insure the products with an offshore, and international, insurance agency. The insurance must be done through a local insurance and sometimes that's also shipping. There are shipping constraints you have to work through, either government sanctioned or a small mist of suppliers. That doesn't always fit in the game. Having a good relationship with a distribution partner is critical

there. Then, in some territories, foreign exchange can be quite difficult so methods of credit and other mechanisms to do that.

Looking at the downstream consideration, often our partners are from a retail background. Service based business has different requirements. It's about that ongoing provision, making sure your customers are happy and that is often a mindset change that we need to work with our customers, distributors, to develop. Critical at the agent level is the customer selection. You need to select customers who are going to last, of course, and also we need to build a business case for the agent. Here we've talked a bit already today about what the last mile challenges really look like but it's about a critical mass. It's not about having customers 20 kilometers away. It's about having most of your customers on your doorstep. It's possible but it's part of the training and the development of that network. As I mentioned earlier, tracking customers and demographics allows a wealth of data for us but also for our distributors to actually manage their business.

We touched on moving systems to the last mile. We all agree, it's challenging. It can be really quite difficult. We also have the challenge that we needed a constant touch point, particularly where we're using top up cards so it's about getting those processes in place and understanding we can move stuff. You might start the business off in the summer but then the rainy season comes and suddenly the roads are mud so we have to think ahead about those things and also secondly the point about wanting to have adequate support. It's not just possible to be done locally because it is very difficult to move stuff back and it is certainly difficult to move stuff back out of the country. Mobile money would tend to be the kind of obvious choice here. We can take the logistics for the card movements out. That's true. It does work. It's not always straight forward to implement and transition from one form to another. The customers need training. The agents need training and you still need the agents there. It's about developing that business case for the agents in the mobile money plan and actually the widespread and availability of that technology outside of East Africa is not so great. It's coming. It's the future but today, yes, Kenya is wonderful and there are other parts of East Africa too, but then there are territories where it is quite difficult to do this and the penetration is not there yet. So we see that as the future in some of our markets.

I think in conclusion the logistics are somewhat simplistic but really don't underestimate the challenges in simply getting goods moved. It requires a lot of work and a lot of expertise to do that.

In terms of our distribution partners, it's about a deep partnership. It's about developing the business together. We often embed Azuri staff alongside our distributor's project team and you need to develop that business case and every element of it. Also have the data so that you can act on the information that is important to you.

That applies to the agent network. We must train them effectively. We must provide them with a business model that's going to be successful and you must support them all the way through the journey.

If you can do all of that and I think, coming back to the numbers at the start, there is a fantastic opportunity here to genuinely change, to be transformative with your products, and maybe change peoples' lives. We've spoken already today so I won't go on about the benefits but the benefits that have been highlighted before are there for all of our customers. So I think it is a fantastic opportunity here to take this forward. Thank you very much for your attention.

Sean Esterly Thank you very much Kieran for the presentation and now we will move on. We have received several questions from the attendees today for the panelists. We'll go to our question/answer session. Just a quick reminder for our audience. If you have any questions for the panelists you can submit those by typing those into the question pane in the GoToWebinar window. So, I will go back to the first questions we received so this one is for One Degree and it asks—each channel such as governments, supermarkets, etc. would have different margin requirements. How is the margin structured, managed across different channels?

Sean Esterly Coryell, that question was for you. You are still muted so just a reminder to the panelists that if you are muted to come off to answer any questions.

C. Stout Hi Sean, sorry about that.

Sean Esterly That's okay.

C. Stout So just to repeat the question—how do we manage the different margin requirements of the different channels that we sell to?

Sean Esterly Yes.

C. Stout Did I get that right?

Sean Esterly Yes you did.

C. Stout So, we have...you are correct. There certainly are different margin requirements for the different channels. The way we structure the, the way we tier our margins is based on order quantities and really nothing else or nothing too sophisticated. So the margins that customers or those partners will earn will correlate with the amount of units that they buy. The amount of units that they buy, of course, relates to what they demand and what they need. So it's actually tied very well by, again, tying the commission and the margin to the order quantity.

Sean Esterly Great, thank you Coryell. We'll stick with you for the next question. It was also for One Degree. They're asking—what kind of support do you look for from the development organization to support strengthening of the supply chain?

C. Stout Yes, the last part cut out so what type of support do we look for from development organizations and then what is the last half please?

Sean Esterly Yeah, the last half. What support do you look for from development organizations to support strengthening of the supply chain?

C. Stout Sean?

Sean Esterly Are you able to hear me Coryell?

C. Stout It cut out one more time.

Sean Esterly What support do you look for from development organizations for strengthening of the supply chains?

C. Stout Great question! I apologize. I'm in Nairobi and the internet is cutting in and out but what we typically look for from development organization is being more grass roots than our modern tree channels. It's similar to our institutional channels, the big farms, and Saccos, primarily in the Rift Valley—central and western. When we partner with development organizations, and we do with many, we look to partner with them in a way that's similar to our integrated distribution partners. So we provide the development organizations, with whom we partner with, a similar business in a box. All the marketing materials—flyers, posters, t-shirts, as well as sales scripts, and after sales and customer service, FAQs, warranty terms, and recommendations for how to handle inquiries that they may receive before passing them on to us. It boils down to really working with our developmental organizations, providing them with the support that they need to execute, but then also partnering with them so that they can lead more grass-roots initiatives, community-based awareness trainings, or product demonstrations. Once people are able to handle our product we see sales increase tremendously and of course impact goes hand in hand with that.

Sean Esterly Great, thank you Coryell. The next question, moving on, is for Solar Sisters, so it's for Katherine. It asks if your organization, Solar Sister, has a multilevel marketing program?

K. Lucey

Hi, that's a great question. So Solar Sister is designed basically as a single level marketing, direct sales marketing, program. We have some—for people who may not know the difference between multi-level and single level, a multi-level is where the representative, consultant, or agent, whatever the title is, is compensated for the sales they make and they're even usually a greater compensation for bringing in new consultants, agents, representatives. There can be even another tier where if the third level, the second level agent brings in another agent, they get compensated as well. So there is a pyramid of compensation that often increases the number of agents that you have. The focus can sometimes be more on recruiting agents than on selling products because of the way the incentives are built. The reason we have not gone to that kind of multi-tier marketing is two-fold. One is in order to support that, one is a financial reason. In order to support that kind of multi-tier marketing you have multi-tier commissions built in or margins built into that. Most companies that use that kind of marketing are things like cosmetics companies, where the typical markup of product is an eight times markup. We're working in both a financial environment where we're working with margins that are much much smaller than 800%. Much smaller than that. So there frankly isn't room in the distribution channel for that kind of multi-tier. We do provide some incentives for our entrepreneurs who bring in new entrepreneurs but it tends to come in a softer incentive in things like rewards, trainings, support, product, rather than in cash and cash incentive, which is what you get in the multi-tiers. That's...the way our method works is we have the single tier of entrepreneurs who are selling the products. The second reason why we work in that way is the focus is on the distribution of products in a single tier rather than bringing in new entrepreneurs for the sake of bringing in new entrepreneurs.

Sean Esterly

Great, thank you Katherine. I'd like to actually stick with you for the next question, which does touch on or ask about some of the things that you just touched on. Our attendees or one of our attendees wants to know if investment in training and building the supply chain is sustainable solely from your revenues or is it looking to become self-sustainable soon? Then, a second part to the question—what is the support that you get from the manufacturing companies to help build the market supply chain? I'm happy to repeat any of that.

K. Lucey                      Currently, no I think I got it. The first part of the question is—does our current operations income—earned income—cover off the training and market building as well as the direct cost of the distribution? Currently it does not. We are not at a scale yet. It will take...this is a large volume long-tail business. Meaning that the investment that we put in up front, which is substantial in training and market building, will be paid off over the long run as we have numbers of entrepreneurs—more entrepreneurs, selling more product is where we're headed. We do see a crossover point in the future but actually it's a distance away. I wouldn't say we'll get there this year, next year, and every time we open up into a new market we're investing in that market again, and again set ourselves back as far as an entire company, reaching our breakeven point. Investment in growth is delays that crossover a breakeven where operations pay off for not only the direct sales costs but also for the investment in market and training. We do see it in the future so we're hopeful.

The second question was? I forget.

Sean Esterly                Yeah, the second question was—for you to briefly describe what support, if any, do you get from manufacturing companies to help build the market supply chain.

K. Lucey                      Well, I do think we are all in this together and so all of the manufacturers that we're working with, they are, I think their #1 priority would be to have markets for their products and so we do see them investing in their own branded marketing and building out awareness of their solar products in general. We see that in more sort of a big picture way. We work with the manufacturers as a customer. We're their customer and we're buying from b then and then we are on selling to our entrepreneurs who are our customers who then sell to their customers. So we are just a part of the supply chain. We have great relationships with our manufacturers but typically they don't get very much involved in the distribution at the last mile because it is a big investment. It is...they are focusing more on their strengths, which I think is the design. As One Degree Solar talked about, the design, the innovation, the research, the R&D, improving the products, and making them cheaper, and better, which improves the marketing for all of us. Because we have a very specific and I think developed training programs and are in the field doing our marketing, most of our marketing is person-to-person marketing, we don't get a lot of support from the manufacturers on that.

Sean Esterly                Thank you Katherine and now a question just for Kieran from Azuri. One of our attendees asks—of the exemplified products currently being handled by existing distributors, which are the most successful ones in terms of longevity of the relationship?

K. Reynolds                Okay, so, in terms of the Azuri's products?

Sean Esterly                Yes.

K. Reynolds

So, the most successful is our entry level product because it has been on the market for the longest. That is by far and away the most successful product that we've had. That's not really a fair comparison because the upgrade and the larger products have not been around for as long as the entry level product. So for us, the entry level is the two light system and with the mobile phone charger and small solar system. That's been the one that's dominated so far. We think that in time that will change and in certain markets we're seeing that already. There is a push towards larger systems and we're tending to find that at the moment they're two tiers or essentially three tiers of customers that are buying at different levels, but we see relentless pressure to larger systems. Actually, that's a good thing because we also see that retail prices for the smaller systems are falling, which is great because that opens affordability to more people, but the unique certain point with Azuri is that we allow people to access what they can't ordinarily access. People that could potentially buy a pico-solar desktop lamp but are able with our pay-as-you-go to have a full solar home system, as the price of these entry level home systems drops, then our customers may be looking to have a four light system with radio for example rather than just a two light system. So we see dynamics in the market, which will do that, will drive that entry level system up, which I think is a positive thing.

Sean Esterly

Great, thank you Kieran. I'm going to move on now to questions that are generally for all of the presenters. So, please feel free to come off mute and address the question as soon as I'm done asking it. This question states that someone working in Haiti has a similar operation and finds that their resellers sell well for about the first year or so but then for most of them their sales fall off after that once they have saturated their immediate networks. They mostly sell from home, rather than going on the road with the product. Has anyone experienced similar things in the country they operate and how would you address that?

K. Lucey

Hi, this is Katherine. So that's a question. That's something that we look at at Solar Sister a lot. We look at all the entrepreneurs that we have recruited and trained and supported. Then you look at who is currently active. There is definitely an attrition rate. There's also a seasonal activity and there's also a big discrepancy in the level of activity. You're going to have just a few entrepreneurs. You know, there's always the traditional 80/20 rule right? 20% generates 80% of your income. We definitely see that. It might even be more extreme where you have a smaller number of entrepreneurs who really take off and are the superstar entrepreneurs who generate a big bulk of our sales. The next tier of entrepreneurs are entrepreneurs who come on board. They're active for maybe 3 months, 6 months, a year. They do run through their sort of easy market, which is their families, their friends, their neighbors, maybe their church group and then they hit a wall because now it's selling as a profession, which is a little bit different than selling as a hobby, you know, selling to your cousin or your sister. All of those sales are valuable sales. Those sales are reaching people who would otherwise not be reached by current distribution and so we look at all of those kinds of sales as an incredibly valuable way of getting into the market. What it means is two things. One is we provide support to those entrepreneurs when they hit that wall and if they are interested, if it's something that they really want to do, we try to support them to step up to the next level of entrepreneurship, which is where they're selling to people that they don't know. They're selling to people that they don't know and they're in the next town. You know, they're really trying to come up with creative marketing ways to expand their market. There are people that that's not their interest. That's not what they want to do. It's not even an issue that they've saturated their market, as in their community, but they've saturated their market as in who's easy for them to reach. They're not interested in going to that next level. What we do about that is recognize that's a thing and that means we need to find more entrepreneurs, more to come through and build our model, knowing that attrition rate is going to be high. I was talking to someone who runs a multi-level marketing organization and she said that the rule of thumb for the traditional multi-level marketing organization is 100% turnover every year. That's astounding to think that you have to go out and re-recruit your sales force every single year. We don't see that and, again, I think that comes back to we're not really a multi-level marketer. We're building up a network and we have a different dynamic going on but it does put it into perspective. You're not going to get entrepreneurs that will be with you for years and years. There may be a few but a lot of them will go through this. They'll learn a lot. They may find a new opportunity, entrepreneurship opportunity that helps them grow in a new direction. In the mean time they have reached a lot of customers.

K. Reynolds

From Azuri's perspective, some of those things are also true for our network. We have a range of different types of agents. Some of this is a sell alongside existing business, in which case they already have that existing business that supports some of their turnover and were an additional sale. We have dedicated agents who only sell Azuri products. I think because we have the service component as well, there's an ongoing sales and ongoing revenue stream. In fact, we try to incentivize our agents, agent networks, not to be about the install but to actually be about the long customer. That's an important point. Then, at the end of the PayGo cycle for our customers a proportion of them upgrade and take the larger products so you have an up-sale and a long going relationship. For us I think the situation is slightly different but we do see some super agents. We see some superstars that do this and some underperform. Some lose interest and don't want to do it anymore. Then you have to look for us. The challenge is looking after those customers to make sure we have effective networks to allow us to move the customer to under the support of another agent, but yep there is some saturation but I think it's mitigated somewhat in our case by the business model.

Sean Esterly

Great, thank you both very much. I'm going to cut that one off there and move on to the next one in light of the amount of time remaining. The next question asks—given supply chains of some of the larger more populated countries, such as India for example, is it suggested that retail channel sales be pursued or even community level micro-grids? How do you tap into that traditional retail?

R. Van Leeuwen

This is Richenda. I'd like to speak to that one because I think it's not a question of necessarily an either or approach. We're seeing that in many markets in fact that you'll have both companies that are undertaking to develop micro-grids. In India, in fact, it's a relatively low list in terms of the ability to set up the micro-grid as long as you can get a license. We're also seeing at the same time still a lot of expansion around both pay-as-you-go and other approaches to bring small scale energy products and services into the market as well. I don't necessarily see that it has to be an either or. We have many members working on micro-grids across the network as well as some like the ones that you've heard from this morning as well that are pursuing a smaller scale. It's different type of financing. It's a different type of community engagement process you need to work with. It's the difference between an individual customer making a choice around a purchase versus the community engagement, whether setting up an energy committee, how it's structured, or whether it's purely sort of a more commercial transaction creating a sort of micro utility at the community level. There are a lot of new models coming out also in sort of rapid skinny grids, which companies like Devergy and others have been working on also in some of the same markets. It would be interesting to hear from Katherine whether she sees them as a direct competition in Tanzania but I would doubt that's the case at this time.

- Sean Esterly Great, thank you Richenda. I am going to move on to the next question. We have about three more questions that I'd like to get to and only a couple minutes left. This next one, again, is for everyone but if you could just try to answer in maybe a few seconds. The question is—do the distributors get financial support till they reach a breakeven volume. Again this one is for everyone.
- K. Lucey This is Katherine. I'll go. Our entrepreneurs buy into the business and so we do not ourselves provide them with financial support. We do work with women's groups, Saccos, local microfinance organizations, and try to connect them into finance support if that is appropriate for them. They are purchasing their inventory from the start.
- C. Stout This is Coryell here. Just to add on to what Katherine said, I'll clarify by saying that we sell to large multinational companies as our integrated distribution partners. Then from there we have many channels, as I outlined in the presentation. We'll call those other channels sub-distributors just for the purpose of clarity here. How we structure our partnership with our distribution partner is, while we don't provide financial support, we have worked with them in two ways to provide them additional support. We structure the payment plan so that it is more favorable for them. We don't require complete upfront payments, but rather allow some more time for them once the shipment lands in the port. Secondly, we will work with them in accessing. We work closely with Kiva. So we'll work closely with our distribution partner to access microloans that they then will provide and facilitate to retailers and entrepreneurs. Along those lines with the sub distribution partners, we work with Kiva to provide them with low interest loans as well as tap into community based Saccos for savings and credit.
- K. Reynolds This is Kieran. I'm from Azuri. We typically, our larger distribution partners are fairly significant organizations since they are able to fund their inventory themselves, either through the balance sheet or through their own arrangements. We have a range of smaller partners who can be supported. Essentially the pay-as-you-go can go down to them as well or we can be enforcing them as their customers top up, to a mixed model where they may purchase some upfront and then have a tail, which comes after of effectively benign payment terms. Typically the larger partners will tend to be large organizations and they will just do it themselves. They have then a different range of models of sub distribution which may be at their own network, so they are working with their salary employees already or they may be independent organizations. In fact, we see the whole spectrum actually and really developing the business case for all different business opportunities. One of the things that we do with our distribution partners is we develop that partnership that we have with them to make sure everybody is successful.

- Sean Esterly Thank you Kieran. We have time for one more question so in 30 seconds or less from everybody. What do you need from governments in the countries that you work in or what would you like to see to be able to perform in or expand your business?
- K. Lucey This is Katherine. For us it still comes down to if we could have healthy supply chains behind us, meaning that we're able to access product at great prices without tariffs built in and difficulty in getting the physical product in the country. That reliability and security, knowing that we've got product coming in when we need it and at a price that we can then pass on to our customer, is the thing I would like to see the most.
- K. Reynolds I'll second that. This is Kieran. Shall I go? I think I'd second that. Duties and taxes can be crippling. Having consistency there and wherever possible, particularly where there's no alternative, which is in most of turf that we work in, having waivers for those. We can often justify that to the governments because often there are kerosene subsidies to get to rural communities so actually it can save them money, then really, infrastructure inside the country. If the roads are better than that makes lives easier. I think that's the key thing but for us it's about creating sustainable businesses. We're not necessarily looking for grant funding, of course that's always very nice, but actually long-term it's not what we're about. We're trying to develop sustainable businesses here rather than, I think it was mentioned earlier, one shots. The idea is this is a growing business and it's sustainable on its own two feet.
- Sean Esterly Thank you Kieran and Coryell, real quick?
- C. Stout Yes and I will add on to what both Katherine and Kieran said. At the end of the day, of course, greater consistency or lower taxes, duties, subsidies, all of that is incredibly important to One Degree Solar but we need infrastructure. Back to the photo of the truck stuck in the middle of the road. Without good roads it's very hard to distribute. I will also third the vote for infrastructure.
- Sean Esterly Great, thank you so much everyone. We are unfortunately out of time for questions. I know that there were a number of questions that I wasn't able to get to. I will gather those together and send them to panelists so that they can respond through email. Your questions will get addressed at least. Sorry we couldn't do that now though.
- We do, real quick, before we wrap up have a very quick survey for our attendees. It's just three questions. If you could help us evaluate how we did and improve our future webinars. First question says—the webinar content provided me with useful information and insight. You can respond to that right in the window there. The next question—the webinar's presenters were effective. The final question—overall, the webinar met my expectations. Great, thank you very much for answering our survey. On behalf of the Clean Energy Solutions Center I would once again like to

thank each of our expert panelists and also our attendees for participating in today's webinar. We very much appreciate everyone's time and I do invite our attendees to check out the Solutions Center's website if you'd like to view the slides and listen to a recording of today's presentation, as well as any previously held webinars. Additionally you will see information on upcoming webinars and other training events. Just a reminder, we are now posting webinar recordings to the Clean Energy Solutions Center YouTube channel. Please allow for about one week for the audio recording to be up on the website and we also invite you to inform your colleagues and those in your networks and organizations about Solutions Center resources and services, including the no cost Ask-an-Expert policy support. With that I hope that everyone has a great rest of your day and we hope to see you again at future Clean Energy Solutions Center events. This concludes our webinar.

DRAFT