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Mobilizing Commercial Finance to Achieve Universal Energy Access Across Sub-Saharan Africa

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Webinar Panelists

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Johanna Diecker GOGLA
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Katie

Hello, everyone. I'm Katie Contos 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 on Mobilizing Commercial Finance to Achieve Universal Energy Access Across Sub-Saharan Africa.

Before we begin I'll quickly go through some of the webinar features. For audio you have two options: you may either listen through your computer or over the telephone. If you choose to listen through your computer, please select the "mic and speakers" option in the audio pane. Doing so will eliminate the possibility of feedback and echo. If you choose to dial in by phone, please select the telephone option and a box on the right side will display the telephone number and audio PIN you should use to dial in. If anyone is having any technical difficulties with the webinar you may contact the GoToWebinar's helpdesk at 888-259-3826 for assistance.

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Finally, one important note of mention before we begin our presentation 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 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: Dan Murphy, Sam Parker, and Johanna Diecker, who have joined us to discuss mobilizing finance to achieve energy access across Sub-Saharan Africa. Before we jump into the presentations I will provide a quick overview of the Clean Energy Solutions Center, and Jem Porcaro from the United Nations Foundation will provide a quick overview of the Energy Access Practitioner Network. Then following the panelist presentation we'll have a question and answer session where the panelists will address questions submitted by the audience. At the end of the webinar you will be automatically prompted to fill out a brief survey as well, so thank you in advance for taking a moment to respond.

The Solutions Center was launched in 2011 under the Clean Energy Ministerial. The Clean Energy Ministerial is a high-level global forum to promote policies and programs that advance clean energy technology, to share lessons learned and best practices, and to encourage the transition to global clean energy economy. Twenty-four countries in the European Commission are members, covering 90 per cent of clean energy investment and 75 per cent of global greenhouse gas emissions.

This 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 the support and crafting and implementing policies related to energy access, no-cost expert policy assistance, and peer-to-peer learning and training tools, such as this webinar. The Clean Energy Solutions Center is co-sponsored by the governments of Australia, Sweden, and the United States, with in-kind support of the government of Chile.

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 the governments and government-supported institutions, no cost in virtual webinar training on a variety of clean energy topics, partnership-building with the development agencies, and regional and global organizations to deliver support, 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 government and technical organizations in all countries. But we also strive to engage with private sectors, NGOs, and civil society. The Solutions Center is an international initiative that works with more than 35 international partners across its suite of different programs. Several of the partners are listed above and include resource organizations like IRENA and the IEA and programs like SEforALL, and regional focused entities such as ECOWAS Center for Renewable Energy and Energy Efficiency.

A marquee feature of the Solutions Center provides as a no-cost expert policy assistance known as Ask-an-Expert. The Ask-an-Expert service matches policymakers with more than 60 global experts selected as authoritative leaders on specific clean energy, finance, and policy topics. For example, in the area of finance for energy access we are very pleased to have Harish Hande, Founder and Chairman of SELCO India, serving as one of our experts. If you have a need for policy assistance in finance for energy access or any other clean energy sectors we encourage you to use this valuable service. Again, this assistance is provided free of charge. If you have a question for our experts please submit it through our simple online format, cleanenergysolutions.org/expert. We also invite you to spread the word about the service to those in your networks and organizations.

Today's webinar is co-moderated by Jem Porcaro, who is the Senior Director for Energy Access at United Nations Foundation. And now I'd like to provide brief introductions for today's panelists.

First up is Dan Murphy, the Director at Catalyst Off-Grid Advisors. Following Dan, we'll hear from Sam Parker, a Director with Shell Foundation. And our final speaker today is Johanna Diecker, Director of Policy at GOGLA. And with those brief introductions I would like to welcome Jem to the webinar. Jem.

Jem Thanks, Katie. Can you hear me?

Katie Absolutely. Wonderful. Welcome to the webinar.

Jem Thank you very much. I'm going to just try to share my screen. And thanks, everyone who has joined us today. Again, I'm Jem Porcaro; I'm the Senior Director of Energy Access at the UN Foundation. Welcome again to our first webinar of the year.

Let me start off with a little bit of a background for those of you who are new to our webinars. For those of you who are not familiar with the Energy Access Practitioner Network, we are a global platform that connects energy access practitioners from around the world to each other to information and resources. And we help elevate the disputed energy access sector on the global agenda. We do that namely through creating market intelligence by conducting regular market surveys, convening the sector, offering opportunities for peer-to-peer learning and matchmaking. We curate knowledge about key barriers and lessons learned. We communicate up-to-date and relevant news, resources, and opportunities regarding industry, financing, policy developments. And lastly, we advocate and promote for the distributed energy access sector and its role within broader electrification efforts.

To date we have about 2,500 members representing roughly 1,400 organizations. Our membership has grown from about 20 to 2,500 in the last seven years. Our members are active in over 170 countries and they really span the ecosystem of types of organizations that live in this sector.

So, today's webinar, which is the third in our new Financing Webinar series is all about the challenges and opportunities for mobilizing commercial finance for energy access in Sub-Saharan Africa. And it features some really eye-opening and groundbreaking research commissioned by the Shell Foundation in particular, along with their partners, that shows that the off-grid energy industry in Africa really requires a massive increase in investment.

And gauging by the number of people who were registered for this webinar as of this morning, which was roughly about 542, the most that we've had in at least the last two years, this new study commissioned by Shell and the topic of financing energy access more generally is really of interest to our members and our community. In fact, according to our latest Energy Access Practitioner Network survey, which we are in the process of analyzing and will be publishing later this year, access to finance, both for consumers and enterprises, is by far the highest ranked barrier to the growth of the off-grid market. And this is just a little bit of a preview of some of the results that are coming out of our survey. This is reinforced by a look at the relative ranking of customer concerns about purchasing distributed energy products; upfront cost ranks number one. And then similarly, if one looks at the mini grids market you see a very similar trend with limited access to financing ranking technically as the second-highest barrier, but as you can see, in essence tied with policy and regulatory issues.

So, I just wanted to provide that, a little bit of a context to say I think this webinar is really, really exciting; very timely; and of interest to many of our members. And so, without further ado I'm going to hand it over now to Dan to kick off the presentation. Over to you, Dan.

Dan Thanks very much, Jem. Actually, I thought—I believe that Sam was going to kick things off with a few remarks to start us, then I will _____.

Sam Okay. Thanks very much, Jem. So, I guess you guys can hear me and I'm on. So, my name is Sam Parker, Director of the Shell Foundation. And just a couple minutes to introduce this research. I would say I guess what brought us to this in the first place, we are a foundation and we're dedicated to just two sectors around accelerating progress towards the STGs: one is access to energy, and the other one is access to sustainable mobility. So, given that we're focused on just two sectors and given that we had the STGs being agreed in 2015, clearly for us one of the most obvious questions to ask is that there is now 13 years to go before 2030, there is an identifiable number of people without access, therefore surely we need to ask ourselves or somebody needs to know roughly how much this will cost to achieve. We've found that that data wasn't really readily available, and so without knowing how much it will cost and without knowing what type and quantum of capital is needed it's difficult to know or calculate whether it's available and whether it exists or not, and if it doesn't, how are we going to mobilize it.

So, that's really what brought us to the very simple question of how much is this all going to cost. And along with our partners, DFID, USAID, and others, we thought this is a question we really need to answer. We went to Dan and Catalyst because we felt they were, A, extremely knowledgeable about the space, they were independent, they came from a finance background, and actually from a mini grid development background, one of the team. And we felt that they were uniquely positioned to give us an objective, very, very detailed, and credible answer to that question.

So, I guess why SF is even asking this question and why we felt that we had some useful data to share was that we've been working on this challenge for over ten years now, and we felt that after building a portfolio of between 40 and 50 off-grid energy companies that are really addressing the SDG 7 challenge, we have a reasonable idea about what it actually takes to build these businesses. In other words, what does it cost, what are the kind of people that you're looking for, how much time do you need, what are the hurdles in the way. We felt that we knew fairly intimately the entrepreneur journey, what does it feel like for an entrepreneur to actually move their way through the continuum of different types of finance that they need to actually grow their businesses as they go from stage to stage. And I think that's what made them feel, "Well, we have some useful information to share for this study."

The second thing is the reason why we felt we should tackle this is that there were two or three learnings that we've really developed over the last ten years. Number one is that off-grid enterprises, social enterprises are not primarily driven by achieving the SDGs. So, we cannot expect—those of us who are fundamentally existing to help achieve SDGs, we cannot expect the private sector to behave primarily driven by SDGs, but instead they are driven, quite rightly, by their business objectives. So, we can't just sit back and expect them to be able to do the job for us, if you like. They will do what they do in terms of their business priorities.

The secondly is that what we're seeing, and this is a phenomenon over the last two to three years, we're noticing that governments, instead of seeing off-grid energy as, if you like, an interesting sideline, we are now seeing an increasing number of governments in Africa counting on off-grid energy to actually meet their national goals. That's a very important shift in the narrative and now we're seeing—we're really now in a situation where the private sector needs to deliver a significant part of the energy access in these countries and people are counting on it, particularly government. And finally, before I hand it over to Dan, to say that from our learning you really need to incentivize businesses to go to marginal markets. So, the expectation that even if markets are really, really tough, the headwinds are very strong, we don't believe that businesses are going to go where it's just too marginal in terms of risk and reward, so therefore one needs to think about how do you incentivize private sector to do it.

So, that's why by way of introduction as to why we are doing this, why we started doing it, and why we felt we had some unique experience to bring to the table. And with that I will hand it over to Dan for telling us about how we went about the study.

Dan

Great. Thanks very much, Sam. What I'd like to do to kick us off is to take a few minutes to explain the approach that we actually took to answer this challenging question of what sort of capital, both in terms of quantum and blend, as Sam alluded to, is required to achieve universal access in Africa by 2030.

So, what we did is we have two basic units of analysis that we've framed throughout the research and we actually developed two separate models around each of those units of analysis. So, the first is a continental wide lens, and this basically enabled us to frame Africa's SDG7 challenge. And then the second lens, as Sam alluded to, is focused on enterprises. And this is because we realized and fully appreciate the way that energy access gets delivered is one household at a time, so it's one solar home system at a time, it's one mini grid connection at a time. So, we felt it was really important to take that bottom-up approach in addition to the top-down analysis that we did. And so, it's the combination of these two models that gives us the answers related to the so what in terms of what number of deployments and energy service companies do we need across the continent, what quantum and blend of capital is that going to necessitate, and what are some of the other critical success factors that we feel need to be in place to achieve SDG7 in Africa.

So, moving on to the next slide, I'm going to take a couple of minutes to walk you through the structure of the top-down predictive model. So, this is the continental lens, and this is an empirically derived excel-based model that we built that helps us to understand the current situation in Africa vis-à-vis SDG7 and to yield various scenarios. So, it's going to help us to answer the core question of where we are today and what does the data tell us where we're headed.

And so, what we did was to take several different data sets off the shelf to build out our core assumptions around the market size. Here, in terms of market sizing it's very important to note that we did model out forward projections of population growth. We also modeled technology size and costing and we modeled household affordability. And we took those data sets and we were able to flex a second set of assumptions around them. The first was around the pace of electrification, and here, most noteworthy is the pace of grid expansion across the continent. And basically, what that does is then establishes for us a gap that we know must be met by either mini grid or off-grid solutions.

Another assumption that we were able to flex was the blend of capital. A third was the cost of capital. And the fourth was the blend of technology to deliver energy access across the continent. So, depending on how we set those different assumptions, it yielded different intermediate outputs relative to the number of households with new access, the levels of service achieved, and the affordability gap associated with it. Which then, as a final step, yielded the total capital requirements for the continent relative to SDG7.

So, moving to the next slide, what does this yield in 2030? So, our base case, our business as usual case in 2030, if everything stays consistent today in terms of trends in the off-grid solar and mini grid sector and also trends with respect to both population growth and grid expansion, what will happen is that we'll have 51.5 per cent of households connected to the grid. That's contrasted to 40 per cent today. Mini grids will be at 0.4 per cent, again, contrasted with 0.2 per cent today. And off-grid solar will be at 13.1 per cent, relative to 2 per cent today. So, in total, that summed up gives us a 65 per cent total access rate, and instead of the 125 million off-grid households that we have today, we would have made a dent in that and we would have 104 million off-grid households. And in order to achieve that, solar home systems and mini grid businesses would absorb $11 billion in this scenario.

So, moving to the next slide, this is where we basically set the levers to their maximum; we crank everything up, including setting the total outcome at SDG7. So, basically what happens is that whatever the grid and mini grid can't do, off-grid solar has to step in and cover that difference. So, our most bullish scenario has total grid penetration across the continent at 62.9 per cent. Mini grid penetration, as I alluded to earlier, at 2.5 per cent. And then off-grid solar having to backfill a rather staggering 34.6 per cent of access. And all of this would require $31 billion of capital for mini grids and off-grid solar.

So, now what I'd like to do is shift over to the bottom-up model, the enterprise-level model. And as I talked about earlier and as Sam spoke about as well, it's really enterprises that are going to fuel the progress towards the achievement of SDG7. So, the first thing that we did was to split the continent into two. First, we identified active markets, and our definition of an active market are those where there are at least more than one off-grid solar company that has in excess of 20,000 customers each. And as it turns out, there are four markets that meet those criteria and all of those are in East Africa. The remainder of the markets across the continent we've characterized as latent markets, and these are relatively untapped with no more than one actor operating at scale in those markets.

So, in the active markets some of the assumptions that we made and that are important to know is that we assumed that the Big Ten, as we call them, first generation off-grid solar companies, that they will capture 75 per cent market share in those four active markets. And then what we need are second and third-generation companies coming in and capturing the remaining 25 per cent of the market. And what we did was to cap each one of those second and third gen deployments to 250,000 customers each per market.

So, in the latent markets, on the next slide, the assumptions that we made there were to assume that the Big Ten first generation companies would capture 40 per cent of total market share, while the remainder, that is 60 per cent, would be captured by second and third generation enterprises. And here I just want to make quick reference to the fact that there's a lot more detail, sub-regional and in some cases country details that you can see both in the report and in the infographic that are on the Shell Foundation website.

Now we move to the next slide, which is arguably the most important slide. And what this does is it builds on the methodology that I just described above. And then we actually take the venture cycle, that first slide that Sam was speaking to earlier, and we use the numbers there to basically determine the total quantum and blend of capital based on these country deployments. And when I say country deployment, that means that it's either a first-generation company moving out of an existing market and into a brand-new market, or a deployment can be a second or a third-generation company just getting started and scaling in a first market, or one of those second or third generation companies moving into a new market. And, what this yields is the need for 298 new country deployments. All of that would require $26 billion of capital and within that there is the need for about $1 billion of catalytic capital that needs to be deployed in order to kick start these 298 new sets of country activities across the continent.

So, I'd like to shift to the next slide and say a few words about mini grids. You know, we're all very well aware that mini grids are and will be important contributors to the achievement of SDG7, particularly in light of their ability to power productive use at household level and also to power rural small and medium enterprises. So, what we did was to develop what we feel is a very aggressive scenario, which projects a massive increase in mini grid deployments over the next 12 years. And as you see on this slide, this scenario forecasts out that 2.5 per cent of households would be served by mini grids I 2030, which is a huge increase over the current situation, which is about 0.2 per cent that are served today. This would yield 7.5 million households with mini grid connections, and that would require the buildout of 42,000 new mini grid installations across the continent. And in order to do that you would need something on the order of $7 billion of financing.

So, shifting to the next slide, we're also all acutely aware that affordability is a big constraint for households and a big consideration for enterprises. And so, what we did was to develop an empirically derived model to try and do a back-of-the-envelope costing of what that affordability shortfall may be. And based on the model that we built and the assumptions that we made, we projected an affordability shortfall, again, on the consumer side, of approximately $4 billion.

So, just moving to the last slide before I hand back over to Sam, wanted to show a quick side-by-side comparison of the two models and have two remarks that I wanted to flag here. First, as you can see, in what turned out to be actually a nice coincidence, the two models correlate quite closely across the key metrics that we worked through. And the main difference that you're seeing on solar home system connections is because the bottom-up model is static, whereas the top-down model actually builds in, as I mentioned earlier, both population growth and grid expansion. So, that's the reason for that difference there.

So, with that let me pass back to Sam, who will share Shell Foundation's key takeaways from these findings.

Sam

Great. Thanks very much, Dan. So, firstly to say there's a lot of detail behind this analysis. What you're seeing on the webinar is very much a summary. This was about six months of work and there are layers and layers of detail. So, we set out to try and make this as credible and detailed as possible, because the last thing we wanted to do was make conclusions on the basis of derived secondhand data or poor data. So, obviously anyone who is interested to find out what that detail is, I'm sure Dan will be willing to furnish more information. But we, from our side, feel it's credible and we feel comfortable enough to be able to respond.

So, the numbers—what I'm going to do now is just share a couple of insights that we've drawn from this study, which I think indicate for us the direction of travel that we should take as a foundation, and some hints as to what the sector might think about as to what's needed, if we're really serious about getting to that goal in 2030. So, if you think about the $30 billion and you think about the $1 billion and you think about the $4 billion, you then ask yourself, I would say there are three key insights I would like to share. The first is that there's clearly a mismatch today between what's needed and what Dan has described as what's needed and what's available. So, starting with the quantum, $1 billion of grant _____ blended finance we do not see, and we do not believe exists today. If that's the case, then it's difficult to see how that pipeline of new enterprises that seems to be needed will be created. We are more confident that the later stage commercial capital is there, but we don't see how the investable pipeline can be created without that billion dollars of capital.

Secondly, on the type, we're seeing that whilst there's a certain amount of early stage funding for early stage granting available loans for startups and significant amounts of later-stage commercial finance, we see it as a gap in what we call "growth stage capital." That would be typically those companies out there in the market today with revenue anywhere between $2 million and $15 million, companies that typically would have between $5 million and $100 million of assets, where possibly they already have a blended capital stack on the balance sheet, validated product, but still not EBITDA positive, but with good management. We're finding that there's a lot of companies out there in that stage of development.

We also find that the CEOs and the senior management teams of those companies spend 80 per cent of their time on airplanes, fundraising, because the capital to help them grow at that stage in their operations is very, very difficult to find. So, the second insight that I would think we would pull from this study is that the assumption that one could make finance institutions and DFIs and other institutions change the way they operate overnight is unrealistic, but we can potentially aspire to organize the capital in a different way and blend it in new ways that may actually be able to deliver what's needed.

So, to the billion, I mentioned in terms of the grant and the blended finance for that $1 billion there is some amount available, but it's not enough. So, clearly there needs to be syndication between venture philanthropists, like ourselves, DFIs, corporates, impact investors, to actually mobilize more early stage patient grant and blended finance capital.

The second, in terms of the growth stage, I think that this is the big gap we see, and this is where we think we need to have fresh thinking and organize the sector—try and organize the sector in a different way. So, if you think about the enterprises I just described, they need finance that is more tailored to the needs of their growth path. They need a range of investment instruments, like mezzanine finance, early stage equity, guarantees, revenue-based finance. This is the sort of finance that these growth stage companies are looking for and can't find. This finance needs to be return-seeking, but it needs to be more flexible in its terms and have the appetite for higher risk. Inevitably it will be created and facilitated by blending capital from different investors. And what we're really looking from the SME's perspective is that it's flexible, affordable, and accessible, and at the moment that is the diametric opposite to what the market is currently offering, which is finance which is, for those sorts of companies, which is inflexible, high transaction costs and expenses. And finally, this sort of finance should give later-stage investments visibility on the pipeline for their future later stage investments.

So, I think that's one of the gaps that we think needs to be filled urgently in the market. We've seen examples of this sort of blended finance already, but there are very few and there are certainly not a wide range. There is not an asset class or a category of these types of blended finance vehicles. We think they're needed to be able to grow these companies to the speed required to be able to reach SDG7. We have thought about the idea of trying to pull together a large group of investors to create one single vehicle or holding company or fund, but of course we don't believe that's realistic. What we're more interested in doing is helping the sector figure out how to combine different types of capital so that they can provide the finance that the enterprises need at that growth stage.

When it comes to later stage investors we believe that the best people to be involved in this midstage finance are actually the later stage investors themselves. We hear often the refrain from the investors that there's not enough investable opportunities; at the same time the enterprise is saying there's not enough funding. Well, if the later stage investors were actually able to participate in the early stage they would be able to see the pipeline and actually help to build their own pipeline. So, if you could imagine a scenario where the later stage investors, for every $10.00 that they had available, $9.00 remains under the current mandates of return and hurdle rates and so on as they're familiar and they're set up to do. But if they carved out $1.00 to provide this growth stage, which is the blended capital that we're talking about, that would build their own pipeline and would be returnable, but be able to, if you like, it would not have to be constrained by the high hurdle rates of their later stage commercial funds. So, very simply put, in order to facilitate or mobilize that $1 billion, our view is that the larger institutions are going to need to find a way of carving out an allocation to the growth stage finance which we believe is needed.

Finally, to say that one of the other insights that we got from the study clearly was that there's a whole number of markets which currently are not attractive to the private sector, and our sense is that they will require incentives to get the private sector to actually participate in those markets. At the very least those are countries which would need to provide a supportive environment for private sector. These are countries where maybe the regulatory and the size of the market and the difficulties of operations are so high that we don't believe private sector are going to go.

Having said that, we think that governments are going to need to go further. We think that there's a range of measures that government can take in order to try and entice private sector to come and actually participate. In other sectors we've seen successes from governments bidding to companies to participate in markets where there's clear regulation around that. We've seen successful use of licensing, of tenders, of results-based financing, smart subsidies and tax exemptions. All of these are measures, these are tools that countries can take that we believe that whilst governments are definitely growing in interest in attracting private sector, there's not yet a lot of in-country experience about how to do that, and therefore our sense is there needs to be some locally developed and tailored measures that countries take that are non-distortive, light as touch as possible, and in an ideal world they wouldn't be needed, but our sense is that they're going to be if we're going to get to SDG7.

So, we think that better than waiting for the market to actually reach these more marginal countries is to actually provide incentives, and better to try them, rather than wait and find that the participation from private sector is zero. At the same time there's the aspect of in-country capacity. In order to do this there's clearly a need to share some of the ecosystem that has been developed in East Africa across the rest of the continent, and there's clear opportunities for sharing information between governments and actually supporting governments who are interested in doing this. And I think that—well, you'll hear from Johanna in a minute, there's an increasing number of governments approaching organizations like GOGLA, saying, "Look, what do you think we need to do to make our markets more attractive?"

Finally, to finish off, I would say in terms of how we're responding to this, firstly, we have to recognize that finance is only one ingredient here. This is not going to be the thing that solves it, but it is absolutely essential. So, the support to build companies, the supply chain, and the access to human capital, access to all of the regulatory and policy aspects is clearly important, but without the funding we won't actually—the companies won't actually get there.

We're very pleased to see the entry of some established power companies and telecom companies, and we see that into this on-grid and off-grid combination. And actually, we find that very encouraging; that brings resources, it brings networks, it brings reach, it brings access to finance, too. We see that as a very good thing. And in terms of what the Shell Foundation is doing to respond to this, and with our partners, USAID, and African Development Bank, and DFID, that we're doing two things. We're first of all we're pulling together a team or a consortium of financing agencies who specifically are interested in exploring this idea of blended finance for SDG7, how to fill that growth stage gap. We're going to work intensely over the next

12 months to try and figure out—find solutions, find ways of actually making that finance available for the market. So, that's' one thing that we've committed to do and we're actively working on that the next year.

And secondly, we're working with the same partners to try and provide support and guidance to any government that's really interested to mobilize the off-grid sector with the kind of environmental conditions that we've found is important in other markets. But obviously helping them to tailor that to their own markets. So, we are responding to this study in these two ways, and we very much hope that by the purpose of this analysis is also to trigger interest from other people in the sector, the people on this call. Again, it's trying to put some realism and actual budgets into the challenge.

And looking forward to taking any questions. So, over to you—I think from this point I'm going to hand over to Johanna, who is going to feed back some of her comments from the perspective of GOGLA. Thank you, Katie.

Johanna Hi, everyone. This is Jo from GOGLA. I hope that you can hear me all right.

Jem Yes, we can hear you fine.

Johanna Perfect. Thank you. Thanks then for these very interesting and stunning numbers and this really cool report. So, I encourage everyone to read it.

So, I've been asked to give a bit of an industry perspective view on the report and also share some of the policy insights. So, for everyone who is not familiar with GOGLA, we are the industry association for the off-grid lighting and electrification sector. It is our mission to help our members build sustainable markets that are made up of profitable companies that provide affordable off-grid electrification services to as many people around the world as possible. We're representing more than 100 members around the world and focus on solar lanterns, solar home systems, to a lesser extent also community lighting, and increasing and also looking into solar productive use of appliances.

So, if you look at the market right now, we capture about 3.5 million products sold in the first half of 2017, which translates into $95.6 million cash sale revenues also in the first half. That does not include revenues from pay-as-you-go, I should say as a disclaimer. And we've also counted around 120 million people that now have improved energy access historically thanks to the products of our members sold across the world.

Just recently _____ launched a solar off-grid market trends report at our Hong Kong conference, and we asked them that to share a bit of a market forecast with us and assess how they think the market is going to grow. And they think the annual sales growth is going to be 25 per cent between now and 2022, which will lead us to a cumulative sales number of 36 million products by 2022, so that's really impressive, but isn't quite aligned with what Shell Foundation found, is that it might not be quick enough and fast enough to really bring us to the 2030 goal.

If you're looking at the investment _____ has attracted, we can see that the number of investments has grown. We see that the average size has grown. We see that we're attracting increasingly also gap financing, which is very encouraging, but we also see that grants remain quite stable across the number of years and across as the sector is maturing, because grants will continue to be needed, and so we _____ again the observation of _____ _____ that grants need to continue to play a very critical role as this market is growing.

If you're looking at the investment as tracked per region we can immediately see the bulk of it has really been absorbed by East Africa, which of course is mirrored in the analysis that these are the active markets, but it also really stems from the fact that we see a very enabling environment here where the policy landscape is very favorable also to this off-grid solar market. We see that increasingly also West Africa has attracted more and more investment; we see that more of our members are moving into that adapt space, which is very encouraging. But of course, at this point still East Africa is the dominant market in Africa.

We also _____ Analysis to look at the funding needs. So, this is the funding need that we think is needed just to continue the growth of this sector at the 25 per cent rate. So, this is not the funding need that Shell Foundation is projecting for the 2030 access. And between now and 2022 we'll need to have around $5 billion US dollars of investment or more, and around half of that is new external funding that still needs to be ready, so that is funding that is not yet available, not yet committed, where we don't have any vehicles or funds are actually channeling funding. So, even just at the market to growth rates that we're seeing today there's a big challenge ahead of us.

When it comes to the role of governments, as Sam has said already, and can be observed the same, is that there is an increasing interest for governments, and that's important because governments play a critical role in enticing the private sector, making sure that they are actually creating attractive environments where the private sector can really thrive and then really _____ fully _____ and do their thing. And the good news really is that over the last two to three years you've seen a major shift in perception; three years ago, most of the governments would have thought of off-grid as, you know, a little step-child, nice, but nothing that's really serious and wouldn't want to put their backs—_____ completely into the grid expansion basket. And now we're seeing that that's changing, so increasingly governments are seeing off-grid as part of the solution to the energy access challenge. However, we are also observing that governments that are really coming from a history of only thinking in expansion terms for decades find it quite challenging to identify the right policy and regulatory mechanisms by actually help to attract the private sector. Because a market-based solution is looking at product sales is very different to an infrastructure business.

So, the _____ _____ despite the increased awareness, increased interest of governments, is that we have still not the right regulatory environment in place everywhere, as captured by the RISE Database from the World Bank.

So, we are increasingly, I think, engaging governments in a number of government industry dialogues, making sure that we share the information that is needed with governments so they can actually put in place the enabling quality environment that is needed to attract the private sector.

So, public and private clearly needs to work together to meet the 2030 access goals. When we do that we need to understand that there are different types of market. And this is also something that Dan has clearly put out. So, we have a commercial market as it is existing today. That commercial market is by the pure definition of a market, seeking to expand. So, it will move tomorrow, the day after tomorrow, into segments that are maybe today not able to buy yet because of the prices going down of the products, or able to expand it to areas that might at this point be out of geographic reach because the _____ might be just too loud. And we need to accelerate the pace at which the market is expanding to really make sure that we are serving everyone who can viably be served by the market as quickly as possible.

And then there might be something that we call the non-commercial market. This is where we really also _____ _____ before that, there might be a segment that can't be reached by the market and we need to think of other forms of how _____ funding can be used to make sure that we're not leaving anyone behind.

And when doing so we need to be careful which tools we're using for which part of the market, because if you're using tools that are listed here in the non-commercial market there is a really high risk of distorting an existing commercial market. So, for instance, if you're starting free distribution of products very early on in a market, it can actually be commercial, you're guaranteed that you won't have a commercial market developing there, because households that once have received it for free or have seen the neighbors see a system for free, won't be willing to pay anymore. So, there are a few interventions that should really be only used and reserved for non-commercial markets, and that's everything that has to do with undermining the competition, sort of concessions, or that directly affects the retail price.

And then there are a number of tools that can be fairly easy to be used to accelerate the way that the commercial market is expanding. And on the left side you'll see a number of government interventions can be taken today to entice the private sector to make sure that they are providing the environment to come VAT and tariff exemptions are the most critical here. But also, things like consumer education, making sure that we have the right quality standards in place, providing market intelligence are all really good ways of working with the private sector and making sure you're providing the environment needed at very low risk of distorting the market.

And then in the middle section you see that's not exhaustive; that's just a few tools that we have been observing, that have worked, like results-based financing or risk mitigation or FOREX or mitigating the risk of local currency lending altogether. And this is really where the blended financing _____ need to come in, where more can be done by matching public to private funding and maybe probably also can be a bit more creative in terms of tools that really develop in _____ sector.

So, to sum it up, there is a clear need for public and privates to work together in our view to meet the challenge. We need to accelerate the market growth that we are seeing today. It is growing at an impressive rate, but we need to make sure that we have intensified geographic expansion. Again, we are seeing very encouraging trends with our members moving into new markets every month. But still more needs to be done and more incentives can be provided. We also shared the observation that support of second and third generation companies needs to be provided. That's often grasped, but there's also a lot of knowledge transfer. And last but not least, we also need to work together enriching the viability gap and making sure that we're reaching goals that are now situated in areas that are too remote for the market to reach, but unlucky enough to be situated in countries that have a very instable environment that's very insecure or are simply not able to afford a system that _____.

So, I leave it at that. Thank you for listening. All the slides I've used you can also find on our website, on www.gogla.org/resources. I'm happy to take any questions. Thank you.

Jem Thanks, Johanna, and thank you to Sam and Dan for this series of really rich presentations. I know there is a lot to talk about and we have some time to field some questions. I'm going to probably just get us started with a few questions and we will take it from there and kind of open it up to audience questions afterwards.

I'm going to just start with two questions and probably focus them or kind of direct them to Sam. Sam, I think two things that really resonated to me was, one, you mentioned the kind of lack of catalytic funding to kind of get this pipeline going. Can you say a little bit more about the type of financing and financial instruments you think are needed for early stage companies? And maybe say a little bit more about what sources of capital, what sort of organizations, who needs to step up to the plate that isn't currently providing this catalytic funding. So, that's kind of the first question. And then the second was geared more towards growth stage companies, and I think you alluded to the fact that there aren't enough kind of bridging vehicles that could serve to bridge the gap between kind of current impact investors and institutional investors. And I'm curious, those that do exist, are there any good models that we ought to be shining a light on?

I'm going to stop there and maybe see, Sam, if you have any—or anybody else for that matter, have any views on that, and then we can take it from there.

Sam Great. Thanks very much. Let me just tackle the two questions there, Jem, which is let's make a clear distinction between—for the sake of argument, between the pre-seed, and the seed, which is like the early stage of a company's existence as phase one, and then phase two is between, if you like, series A to series B, where you're really looking to grow, right? So, in the very early stage we're finding that there is capital around from venture philanthropies, to some extent from family offices. There's small funds, if you like, from DFIs, I think DFID and USAID both have funds for that very, very early stage, primarily grant or repayable grant type of capital. What we find—our experience has been that if we're talking about getting an enterprise to scale then you really need five years and anywhere between $5 million and $15 million of patient primarily grant and repayable grant to get a company to build a capacity to do the early stage type of product prototyping, market entry, working out what the customer value proposition is, and build the actual organization itself, it requires a lot of capital. Which is very—it is not untypical of the regular commercial world, right? So, if you have a larger corporation that wants to start a new business line, it would be quite normal for that business to subsidize a new business for say five years before it stood alone on its own two feet as a profit center. So, this is reflecting the normal reality of the commercial world. So, we need to find sources who are willing to be able to deploy that kind of capital for a large number of companies, not just like the first six or eight pioneers, but for large numbering companies.

Now in terms of the cost per company, that early stage or grant or repayable grant, I think the cost is effectively coming down. The reason I say that is because the second and third generation companies will be using different business models. They will be buying some of the IP and the technology that the pioneers have actually built and they will be focusing on replication of that into new markets. So, I think that the cost has been largely borne by the early stage innovators in this particular market, so I think that the unit, that per company the price will come down. But if you think that we would deploy as a foundation let's say $30 million, $35 million per annum of grant or repayable grant, we've built—it's taken us over ten years to build 45 enterprises that are now reaching what—have reached collectively about 70 million households.

You can see that there needs to be a multiple of that available, and we don't really see very much around. So, we're looking for other sources of that very early stage capital, which needs—in our view it's going to have to come from DFI's family offices, foundations, and even governments with their kind of job creation schemes.

The second phase, which is the growth phase, that's where our argument is, that if we can construct this blended finance in a way that's fundamentally commercial; in other words, it's based on the concept of returnable capital, but blend some more, if you like, high-risk tolerant capital together with more demanding capital in one facility, in a kind of layered structure that's been used many times, so you know about a number of different funds that have a first loss at the junior tranche and then you have other sorts of more demanding capital on top. If you can combine that and have effectively a returnable capital vehicle that's able to deploy funding between seed and series B kind of stage, then I think that the later stage investors should be participating in those vehicles. So, why would into DFI or even an IFI or even a government scheme, why would they not participate in a blended finance vehicle for SDG7 relevant companies on the understanding that that aims to have returnable capital, but the actual terms of those facilities are a lot more flexible, if you like, a lot faster to transact, a lot lower costs, a lot more affordable and available than the current facilities out there today. So, that would be my sense of what's needed and where that funding would come from.

Jem

Okay. Thanks, Sam. A great call to action and probably a good segue for me to hand over the reins back to Katie to field questions from those of you online. We certainly want to give you some time to ask questions. So, I'm going to hand it back to Katie now.

Katie

Wonderful. Thank you, Jem. And thank you to each of our panelists for those outstanding presentations. As we shift to the Q&A I just want to remind our attendees to please submit any questions they have using the question pane at any time. We also have several links up on the screen for a quick reference that point to where you can find information on other upcoming and previously held webinars and how to take advantage of the Ask-an-Expert program. We've had a ton of great questions from the audience that we'll use the remaining time to answer and discuss.

So, the first question is for any of the panelists who want to answer this. This question wants—this person wants to know, "How do I find a finance partner who understands the need for early growth stage funding?" Would any of the panelists like to address this?

Johanna

Yeah, I guess I can have a _____ thought. So, really what this sector has benefited a lot from is the role of impact investors and family offices and _____ that have an eye for that. The reality also is that at this moment much of that available funding is absorbed by the first-generation company, so it's increasingly difficult for the second and third generation to actually access this early stage funding. So, with GOGLA what we're trying is to make sure that we have an increased awareness for the sector at large to bring more investors in every time. We are convening at several points in the year, different conferences, also investor conference, where we also provide a platform for networking, where businesses can meet potential investors. So, I would encourage you also to have a lookout for upcoming events and all GOGLA reps _____ and _____ benefit from that.

Another thing that we just launched which might also be interesting is the GOGLA Bridge. So, we noticed a number of different facilitators out there and programs and grants and calls for proposals such that are targeted at companies and try to help. But just the sheer number of information that's out there is really difficult for young companies to absorb and make sense of. So, we've developed what we call the GOGLA Bridge, which is basically a database of every facilitator, every sector support program that is targeted at companies out there and which allows you to look for a different—filter by different categories and look for different aspects and then hopefully allows you to find someone who can support you much quicker than you would have been able before. So, check out GOGLA Bridge.

Katie Thank you so much. For our next question, for Dan, can you explain your assumption of a five per cent household income going to energy? Most studies show that the households spend closer to 20 to 30 per cent, that this person was commenting on.

Dan Sure. Happy to explain a bit why we came up with that five per cent number. It wasn't ourselves in isolation that came up with that number; we actually reached out to several practitioners and academics who have done quite a bit of research in this space to derive that percentage. I think that most notably the IMPACT team at Acumen, which is a very important _____ capital provider to this industry, we worked very closely with them to make sure that that percentage was quite robust. And, you know, also worked with colleagues from the World Bank, poverty economists, who also understand very well household consumption patterns to derive that number. And just to get a bit more flavor, what we've seen typically is that the estimates have ranged anywhere from three per cent, particularly for higher income households, all the way up into the double digits. And so again, we based on conversations and mining the literature that was out there, we went with the five per cent as the assumption that we said.

Katie Great. Thank you, Dan. For Johanna, you mentioned government and private sectors. Is there a role for African electricity utilities?

Johanna That's an interesting question. Yeah, so I think this market is huge. We've seen how big the latent market is. Is there a role for new players? Definitely. So, what is to be understood, of course, is that the utility model is very different from a market-based model where the economics need to work, and you need to be very responsive to your customer and very customer-centric really. Because at the moment that you're not providing services anymore the customer stops paying. And we see that the utilities, many of them actually have been subsidized quite significantly, so that won't work as much with the off-grid scenario, at least in the current form.

So, it does probably—it's interesting to see whether utilities would want to expand into that off-grid space, but yeah, they're competing with a lot of new, innovative businesses that really have the customer at the center of their attention and they need to—yeah, make sure that they can compete with that.

Katie Wonderful. Thank you for answering that. For Sam, could you talk more about the finance partnership that you mentioned? Does it have a name, a website, or who are the members?

Sam Okay. Yeah, thank you. I think what I was referring to was we at the Shell Foundation, we work collaboratively with other funders that are focusing on energy access. I think between ourselves and USAID and DFID, AFDB, you've got a reasonable quantum there of the global sort of support to the off-grid energy space. So, it obviously made sense to us to start coordinating so that we don't duplicate, we try to maximize the effectiveness of our resources. And so, we formed a group—well, the USAID leads a group called Scaling Off-Grid Energy, which was at that very same consortium. Effectively it's a very loose association of funding agencies. And what we do is we meet periodically, we compare notes, we look at—we share the learning from each other. And we try and collaborate around advocacy as well, so when we're talking about trying to develop new types of finance which is more tailored to the needs of the sector, it obviously makes more sense for us to work together, because collectively we have greater kind of weight, if you like, when we're talking to institutions.

We all have our own individual programs and we work with our portfolio companies. But I do think it helps when we're engaging with governments and we're engaging with, if you like, the sector generally, to be speaking with one voice, which is why for us it was very important that DFID and USAID particularly saw into the depths of this analysis and really got comfortable with it and double checked it with several of their country missions, because clearly an organization like DFID has very strong connections with governments and with multilaterals, and that's really where we need to try and move the needle. If we could mobilize that billion dollars it's not going to come from foundations, it's not going to come from high net worths or family offices; it needs to come from institutional financing agencies that find a way of deploying their capital in a different way such that we can accelerate the market.

So, whilst we could, as the Shell Foundation, just carry on doing our own thing in splendid isolation, it actually misses a trick, because we think we can achieve more, we can amplify our impacts, if you like, by working collaboratively with others so that we can then mobilize their efforts and their energies as well. So, that I think is the group that you must have been asking about.

Katie Great. Thank you. For either Dan or Sam, how do you see the growth of mini grids occurring, especially the slow growth and obstacles that the sector has faced compared to solar home systems?

Dan This is Dan. Maybe, Sam, why don't you go ahead first and I'll follow?

Sam Okay. Thanks. Dan, I think you're privileged because one of the analysts working on this study was actually an ex-_____ developer, so you have lots of inside knowledge.

We believe—the Shell Foundation's view is that they are different service models and that the economic model for a functioning viable mini grid still depends on quite a considerably strong demand from consumers. So, there's still a lot of work to be done before we can drive down the costs and increase the demand to make mini grids generically a more scalable option. Now we strongly believe that they will become a very important part of the energy mix. So, what is needed is more, if you like, modular approaches to the components. Right? So, if you could imagine that the cost of, if you like, building 1,000 mini grid sites would be greatly reduced if there was a mechanism for aggregating the demand for the parts and the raw materials, and having an arrangement where you could really negotiate hard with the suppliers, many of which are in China. So, that's number one, thinking at scale and being able to, if you like, secure some of your product costs, so your costs of goods sold in a much more coordinated way.

Number two is hand-in-hand developing very, very efficient appliances and means of connecting small businesses to the grids to make them more viable on a unit basis. Number three, continuing to invest in the technology which actually manages, which selects the site, which figures out which sites are going to be viable, which actually works remotely, the customer management and the collections and so on. So, there's a bunch of technology still really to be worked on in a sense that compared to the solar home system market, which is, if you like, increasingly modified in terms of the products, there's still a long way to go in terms of R&D on the mini grid technology. So, if you think about that plus all of the enabling policy that you need to put in place to make it much more low risk for the investors to actually put their private money in to have the reassurance that when the grid arrives they've got a decent sort of deal which will cover their costs, then you could really see some growth. And I think that we deliberately took the view in this study to really be optimistic about what mini grids could achieve. So, the 2.5 per cent, while it looks low, it is actually not low at all. That's a massive expansion from the 3,000 today to 45,000 in 13 years. Which if you think about the complexity of actually constructing mini grids, that's a massive exponential growth and we very much hope it can be achieved.

So, to put it simply, we're bullish, but we're also realistic about what it takes to actually expand from 3,000 to 45,000.

Dan Katie, if I could just quickly add one more point to what Sam has said. I also think that there's a tremendous opportunity in the mini grid space to derive principles around infrastructure finance and thinking about ring fencing specific sites that have been identified either by third parties or by developers and then raising capital around that, and what that's going to enable those developers to do is to crowd in funds and really leverage the equity that they raise to bring in debt. Because at the end of the day this is infrastructure finance, you want to capitalize that with debt, and you know, the other nice thing about ring fencing those opportunities into special purpose vehicles is that you can also identify the amount of patient capital, of concessional capital that you're going to need to put into that instrument, that vehicle, in order to make the economics work, not just for the enterprise, but also for the end users while we wait for both the technology and the business models to scale and drive down the level of concessional finance that is needed into those businesses.

Katie Great. Thank you, Dan and Sam. Our next question is also for Sam and Dan. How do you decide that a technology or a company is not really creating impact after a few years?

Sam That's a great question. I think one has to go about the basic principles of what we're trying to do here, which is build businesses to address development challenges. If you start from the point of view that 75 per cent of businesses fail anyway in the world, then you go on and think, "Well, what about businesses in emerging markets?" And that percent is probably, it goes higher. And then if you think about businesses that are deliberately focusing on the lowest income consumers, then that percentage is going to tick higher still. So, I think our starting assumption is that many of early stage companies will fail and we have to be prepared to live with that. And I think that's a perfectly acceptable reality, that quite a few of these companies in their early stages will not actually get to growth stage at all.

And how do you decide it is I guess that our approach to that is that we have a kind of two-phase relationship with startup companies. The first phase is really get to know the business, get to know the team, start really validating what they're doing on the ground with customers, start building out, if you like, the supply chain and the marketing and the finance plan and so on. And if it seems like it's still going very well then, we will actually, if you like, consummate that into a much more of a longer-term relationship and we'll have it where they'll become core partners. And the real triggers for that is what switches partner, if you like, to a core partner with whom we will work for many years is really a combination of are we completely convinced of the size of the market. So, for us, if we're going to make any dent in SDG7 we need to be working with organizations with the aspiration or the ambition of reaching 10 million households plus and working in multiple markets and really, really getting into significant scale. And that becomes evident quite early on, whether that ambition is there.

Number two, in terms of the size of the market, we look very carefully at price point, at demand, what do customers really what, is there something that's really being pulled by the market or it's being pushed. And I have to say the third really critical point is do we have a team that we believe in. And I think if we can get comfortable on those three then I think those are the sorts of organizations which evidently we move towards core partners and then you can see them scaling. But a lot of organizations won't meet one of those criteria.

Katie Wonderful. Thank you, Sam. Dan, did you want to comment to that at all?

Dan Sure. Maybe just add a little bit and fully agree with the points that Sam just raised. You know, I think another way to sort of think about impact of a company over a few years is to look at their customer base, their customer portfolio, and see what's happening there. Are they still your customer? You know, have you had an enterprise—made a sticky value proposition, have you upsold them a bigger system or have you cross-sold them appliances or devices or services? Even more importantly, are the systems still working and did the customers fully pay them off or were there issues around the credit side of the business? So, I think at the end of the day that's also a very important metric to determine impact of these enterprises.

Katie Thank you, Dan. Thank you very much. For Johanna and Sam, what is the role of existing mediaries? The questioner specifically mentioned Sun Funder.

Johanna I mean Sun Funder has done an amazing job in also being very innovative in coming up with new forms and structures and tools of _____ funding, say we are big fans of Sun Funding at GOGLA. And at the same time, I think the more intermediaries need it. So, Sun Funder is great, but Sun Funder and _____ _____ the $33 billion that Sam and Dan are talking about. So, if you're saying more forms of capital and more ways of deploying capital are needed then that also means that we probably need to have a whole range of new and different intermediaries as well.

Sam

Maybe I could just add to that. That's also a really good question that we—financial intermediaries are absolutely vital and there's not—we need a lot more at a greater scale. So, if you think about the whole value chain of delivering an energy service to a household in Sub-Saharan Africa you'll see that there needs to be in place finance for the manufacturing all the way through the supply chain into importation. There needs to be working capital for the manufacturer. There needs to be obviously equity finance for the early stage. You need access to local currency finance, where you've got a more affordable financing with a lower FOREX risk. The distributors that are involved in the distribution will need finance. The receivables on the books of the suppliers will need financing, and the consumers themselves need financing.

So, all the way up the chain you'll see that you need different types of finance for the different parts of the value chain. And it's precisely because of people like Sun Funder and people like Responsibility, people like Lend the World, people like the other—and more recently the debt providers, like CDC, they're all providing different forms of capital. But if you see the journey of an entrepreneur, they will end up needing different types of capital at different stages. So, clearly what we need the intermediaries that can provide that continuum such that an enterprise doesn't have to travel the world to find every next funding round but can actually work with financing institutions that can deploy a range of these instruments.

So, completely agree that the market needs all the different types of finance and completely agree without specialist financiers who are really deeply knowledgeable about the energy sector, clearly we're not going to get that. These are new products, these are new services, they're new technologies, and clearly they're not well understood by many local commercial banks. And we have worked very hard, for example, to mobilize more local credit into the sector. We're just beginning to see some results of that, but still, there's a huge amount of skepticism and resistance and caution from the local banking sector, who are in Africa in many cases focusing on very just different types of market.

So, that sort of financial intermediary that you mentioned and others like it are absolutely essential and we are working with quite a few of them to try and help mobilize them. We're just finalizing a fairly significant facility with the African Development Bank and the Calvert Foundation. We're working with FMO and other facilities and we're finding increasingly us getting drawn into trying to build these financial intermediaries to be able to get the acceleration that we need from the market.

Katie Thank you so much, Sam. For Johanna, how can GOGLA—what are the resources or how can GOGLA help someone find a co-funder?

Johanna Yeah, again, so what we do is really we have a platform kind of for convening and networking and we regularly really try to bring together the sectors, investors, and companies to _____ that networking. And this has been proven quite critical for many of our members in establishing the relations and meeting other players in the sector. It could be a co-funder, it could be a first _____, you know, just be a partner in general. So, that's what we're working on. And really our goal is to provide market information and market intelligence that allows more and more investors to understand how this market is performing, where it's going to, how to navigate the market so that we can increasingly attract more investors and more players to the market and to get this done. So, yeah, again, I encourage you to look at what our event schedule looks like and then attend those events and it has proven for many of our members to be quite useful.

Katie Wonderful. Thank you for addressing that. For Johanna and Sam, what are the must-haves to get started, to get the seed fund, the grants, and what are the factors that increase the chances of a startup to get funding?

Johanna That's an interesting question that I think Sam is much better positioned to answer that than actually I am, because he's in a lucky position to actually be able to hand out grants and funding, as opposed to GOGLA, where we just, you know, try to convince others to dish out more money to the sector.

I think the interesting thing on grants is that there are quite a few challenges and challenge funds out there that can be tapped into. There are quite a few windows that the companies can look at. And increasingly those challenge funds are also being used to try to attract companies to new markets. So, what makes it easier relatively for the companies to attract funding is of course also to maybe look at markets that are not as crowded as East Africa is, where you can really demonstrate that you have a large customer base, you're creating definite impact, and you're venturing into something that hasn't been done before and you're not only replicating what others have been doing, but adding also your own step on it and adjusting the model to the new context, so you can really demonstrate that what you're doing is an enhanced way of delivering access in a new market and a new environment.

Katie Wonderful. Thank you. Sam, would you like to add anything?

Sam Yeah. Just a couple of things. First of all, our experience has been more looking for the problem first and then trying to find—co-create a solution for that. So, what I mean by that is the most successful enterprises we've seen have really started from the point of view of not let's do something a bit better than other people; it is what is failing, what is completely not working, what has nobody cracked? And then we found that when we team up with a really strong entrepreneur or strong management team that's really interested in trying to crack a new problem and has a big idea about how to do that, then we've had the greatest successes. Because then you go around starting to try and solve it and iterate around lots of different approaches and finally land on one that looks like it's going to work, that has a greater chance of success then if you're like going into a market where you've got some lookalikes and doing something which is incrementally an improvement on what is out there, but it is very tough to raise money for it because people are either already committed to a similar company or they're difficult to see really what the USP is or there's not enough innovation.

So, I think for me the combination of a great new idea attacking a problem that's not being solved, combined with a great team and combined with an aspiration to really address a problem at scale are going to be the factors that most—are going to be the must-haves, if you like, to really attract the early stage grant.

Katie Great. Thank you so much. And thank you to all the panelists for such a wonderful question and answer session; it was truly informative. We've had a ton of wonderful audience questions and we unfortunately only have a few minutes remaining, so we didn't get a chance to get to all of them today. We'll connect with those attendees offline after the webinar.

Now I would like to provide the panelists with the opportunity to provide any closing remarks you'd like to make before we end this webinar today. Jem, I'll start with you.

Jem Yeah. No, I just want to thank Dan, Sam, and Johanna for joining us today and sharing especially the findings of this really important and groundbreaking research. I think it's an eye-opener and everyone should definitely take a read on the Shell Foundation website. And really happy to start the year off with such an important topic and thank everybody for joining.

Katie Thank you so much, Jem. Dan, would you like to add anything to today's webinar?

Dan Sure. I mean again, just to thank everyone for a really great session. You know, I think my sort of main takeaway at the end of this is to really underscore the sort of battle around universal access in Africa is really far from won, and I think the analysis shows that we're just scratching the surface and just getting started, and not only do investors of various stripes need to buckle down on their support to the industry, entrepreneurs also need to double down around this opportunity to look for energy access. And I think particularly local entrepreneurs who understand how to operate in local markets are going to be particularly critical going forward.

Katie Wonderful. Thank you, Dan. Sam, would you like to add any closing remarks to today's webinar?

Sam Sure. Just to say that if we're serious about getting there, and we're talking about getting from 2 million to 125 million in 12 years, our call to action is two critical parts of getting there are a massive increase in the availability of blended finance, and if there are people on this call who are linked to or interested in joining us in that challenge, you know, welcome to hear from you. We want to work on that intensely in the next 12 months to try and find where that's going to come from. And secondly, engaging governments and private sector more intensely over the next two or three years. Again, if there are people on the call that have ideas about the how then more than happy to hear from you. Hoping that the—thanking really Dan and his team for creating a really credible analysis for us to respond to.

Katie Wonderful. Thank you so much, Sam. Johanna, would you like to have any final remarks?

Johanna Yeah, I'd like to thank you for organizing. Thanks, Jem, for moderating. And again, can encourage, I want just to read that Shell Foundation report; it is truly insightful, it has a lot of raw material in the slides, so check it out. And I'm looking forward to working with the Shell Foundation and other partners in finding some solutions to address the access challenge and making sure that we are accelerating the market growth and going stronger together further.

Katie Great. Thank you again. And on behalf of the Clean Energy Solutions Center I would like to extend a huge thank you to all our expert panelists and to our attendees for participating in today's webinar. We very much appreciate your time and hope in return that you got some valuable insights that you can take back to your ministries, departments, or organizations. We also invite you to inform your colleagues and those in your networks about the Solutions Center resources and services, including no-cost policy support through our Ask-an-Expert service. I invite you to check the Solutions Center website if you'd like to view the slides and listen to the recording of today's presentation, as well as previously held webinars. Additionally, you'll find information on upcoming webinars and other training advice.

We are now also posting webinar recordings to the Clean Energy Solutions Center YouTube channel. Please allow about a week for the audio recordings to be posted. Finally, I'd like to kindly ask you to take a moment to complete the short survey that will appear when we conclude the webinar. Please enjoy the rest of your day and we hope to see you again at future Clean Energy Solutions Centers. This concludes our webinar.