

Developing a Nationally Appropriate Mitigation Action on Efficient Lighting

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Webinar Panelists

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This Transcript

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Sean Esterly

Hello everyone! I'm Sean Esterly with the National Renewable Energy Laboratory, and welcome to today's webinar hosted by the Clean Energy Solutions Center and the United Nations Environment program. Today, we are very fortunate to have Javier Otero Peña, Françoise d'Estais, and Sudhir Sharma joining us. This great group of panelists will be discussing Developing a Nationally Appropriate Mitigation Action on Efficient Lighting. And, 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's resource library as one of many best practices, resources reviewed and selected by technical experts.

Now before we begin, I'll just go over some of the webinar features. For audio, you have two options that you can use. You can listen through your computer or you can call in over your telephone. If you choose to listen through your computer, please select the mic and speakers option in the audio pane. Doing this will just eliminate any feedback or echo. And, if you select the telephone option, a box on the right side will display the telephone number and also the audio pin that you should use to dial in. Panelists, we just ask that you please mute your audio device while you not presenting, and if anyone has any technical difficulties with the webinar, you may contact the GoToWebinar's helpdesk at the number at the bottom of the slide, and that number is (888) 259-3826.

Now, we encourage anyone from the audience to submit any questions at any point in the webinar that they might have. To ask a question, simply submit it in the questions pane in the GoToWebinar box. And, if anyone's having trouble viewing the materials through the webinar portal, we will be posting PDF copies of the presentation at cleanenergysolutions.org/training and you can follow along as the speakers present. And then in the

next day or two, we will also post an audio recording of the webinar to that site. I will also send out that site to the audience.

And, we have a great agenda prepared for you today that will describe the steps that developing countries can take to create the essential elements of a Nationally Appropriate Mitigation Action otherwise known as NAMAs on efficient lighting. Now before our speakers begin their presentations, I'll provide a short, informative overview of the Clean Energy Solutions Center initiative. And then following the presentation, we'll have a question-and-answer session where we can address audience questions, some closing remarks and then a brief survey.

Now this slide just provides a bit of background in terms of how the Solutions Center came to be. Solutions Center is an initiative of the Clean Energy Ministerial and is supported through a partnership with UN-Energy. It was launched in April 2011 and primarily led by Australia—Australia, the United States and other CEM partners. Some outcomes of this unique partnership include support of developing countries through enhancement of resources, of policies relating to energy access; no cost expert assistance; and peer-to-peer learning and training tools such as the webinar you are attending today.

There are four primary goals of the Solutions Center. The first goal is to serve as a clearinghouse of clean energy policy resources. The second goal is to serve—to share policy best practices, data and analysis tools specific to clean energy policies and programs. And, the third goal is for the Solutions Center to deliver dynamic services that enable expert assistance, learning and peer-to-peer sharing of experiences. And then lastly, the center fosters dialogue on emerging policy issues and innovation around the globe. So our primary audience is energy policymakers and analysts from governments and technical organizations in all countries, but then the Solutions Center does also try to engage with the private sector, and NGOs and civil society. This slide gives an overview of one of the mark-key features that the Solution Center provides and that is the Expert Policy Assistance. This is referred to as Ask an Expert and it's a great service offered through the Solutions Center at zero cost. So we've established a broad team of over 30 experts from around the globe who are available to provide remote policy advice and analysis to all countries.

So for example, in the area of lighting, we are very pleased to have Gustav Manez Gomis, an en.lighten Project Manager at the United Nations Environment program serving as our expert. And, if you have a need for policy assistance on lighting or any other clean energy sector, we encourage you to use this useful service, again, it is provided free of charge. So to request assistance, you may submit your request by registering through our Ask an Expert feature at cleanenergysolution.org/expert.

We also invite you to spread the word about this service to those in your networks and organizations. And, we do encourage you to take advantage and explore all the Solutions Center resources and services including the Ask an Expert policy assistance, subscribe to our newsletter and attend and participate in webinars like these.

And now, like to provide some brief introductions for our panelists today. First up, it will be Javier Otero Peña. Javier worked for the UNEP en.lighten initiative as the coordinator for activities in Latin America in the Caribbean.

And then, after Javier, we will hear from Françoise d'Estais, Program Officer for the United Nations Environment program in the division of technology, industry and economics.

And then our final panelist today is Sudhir Sharma, who is a Senior Climate Change Specialist at UNEP Resource Center, URC.

And, with those introductions, please join me in welcoming Javier to the webinar.

Javier Otero Peña

Thank you very much, Sean. Well, thank you, everybody from the Clean Energy Solutions Center for inviting us or for hosting this webinar. We hope that, well, this will help you clear some of the ideas that can lead you and your country to have a nationally appropriate mitigation action on efficient lighting. So what we're going to be presenting today is what we worked together with Ecophase and UNEP Risø Centre in order to develop the guidebook for the development of a Nationality Appropriate Mitigation Action on Efficient Lighting, which was released in November 14 last year so during the Cup. Before we start, maybe we should talk a little bit about the lighting initiative. Many of you may be familiar with it but it would be great just to just to—for those of you who are just arriving to this topic of efficient lighting, to know about the en.lighten initiative. First of all, you have to know the objective of the en.lighten initiative is to promote the global transition to efficient lighting. In this first phase, UNEP counted with the support of the Global Environment facilities and then also private sector partners. There was Phillips Lighting, OSRAM and the National Lighting Test Centre of China. Together with this last one, UNEP created the Global Efficient Lighting Center which is a collaborating center for the supporting countries in all the activities related to laboratories and monitoring verification and enforcement. We'll talk about that a little bit later. Then, the UNEP en.lighten initiative created the Global Efficient Lighting Partnership program, which now counts 55 developing country partners. So it is part of our objectives to support these countries in the development of national and even regional efficient lighting strategies. That will help them tap the potential of efficient lighting concerning economic benefits, energy benefits and of course, environmental mitigation metrics, demonstration indication metrics. So the first phase of the project started with pilot projects, which took place in

Chile, Uruguay, Tunisia, Jordan, and then we had also have two regional pilots in Central America and West Africa.

Then now, I think it's important to—before we start talking about the Nano and efficient lighting, to understand the national efficient lighting strategy, why is it this important? Because national efficient lighting strategy basically contains all the main elements that are considered a proper—the proper elaboration of nationally appropriate mitigation action. It's only amazing, two-key elements, as we will see later, which are the measurement reporting verifications scheme and the financial plan. But everything else is conceived in a manner that will make it easier to understand and very clear in order to approach for example, banking institutions, in order to promote the development of an activity, to promote the implementation of the strategy. So what are the—how is the process or the procedure that en.lighten created to help countries develop this national efficiency strategies? First en.lighten gathered over 50 experts on efficient lighting; created the task forces, the en.lighten taskforces. These taskforces were experts from all over the world that put together an efficient lighting toolkit which contains basically all the best practices, success stories around the world on the activities concerning different positions to efficient lighting. In this space, it's only addressing generally used lamps, which are the most commonly used in the residential sector. Later on, I mean, the idea is to continue working—promoting efficient lighting, also in the commercial and the public lighting sectors and that's coming up next but this first phase, the pilot was only about replacing inefficient incandescent lamps by other technologies that are more appropriate and more modern, which of course consume less energy and then have less CO2 emissions related to that. So through this en.lighten toolkit, we developed what is called the integrated policy approach which, as you will see, it's just a four main net MSO we'll see on the next slide. And well, just for your information, you can download this toolkit and see all the different case studies of success stories at the website of the en.lighten initiative. So about this integrated policy approach, this approach consists of four key elements that are, first of all, the minimum energy performance standards which is the essential pillar of the transition to efficient lighting, because this is what ensures that a country will—the manner will require products that are commercializing the country to have a minimum standard of efficiency and quality of energy sent. So then, this activity by itself is not enough. I mean, we need to make sure that there are supporting policies and mechanisms to guarantee that the promotion of this new lighting products is done in a correct manner. So for example, here, we would include several activities that have taken place in many countries. That is the procurement and distribution of lamps for the low-income families. Many of your countries, I'm sure, are familiar with these types of activities. However, many of these countries as well, I can—we can tell that they have not really succeeded in a transition. It has just been limited to a specific action or activity that later, I mean, did not—was not sustainable; that later, these families, once the lamps reached their end-of-

life, they would turn back to their inefficient and more inexpensive lamps. So precisely what we need to make sure is that—that's why we have an integrated policy approach to make sure that the transition is actually sustainable. This is where the minimum energy performance standards have their important role.

Then again, there is no point in having minimum energy performance standards if they are not being respected in a country. This is why it's important to have proper monitoring, verification and enforcement in place. So what does this include? This includes having revisions, for example, in the market, making random—picking up random lamps from the market and testing them in qualified laboratories, and then applying the proper actions in case of noncompliance. This is very essential, as I said, because otherwise, there is no, I mean, there is no guarantee that the minimum energy performance standards are taking place and that any energy or climate or economic benefits are actually happening. And finally, last but not least, we have the environmentally sound management which includes the fact that, as you may know, many of the most efficient lamps, in particular, compact fluorescent lamps have a content of mercury in them so we cannot promote distributing compact fluorescent lamps and having all these mercury go into the homes without having a proper system to handle them at the end-of-life so we have to make sure that it have a system for the proper collection and recycling of these lamps in particular, but also of the other technologies, for example LEDs, because they also contain electronic components which are not as dangerous as Mercury but still require a proper handling. So what is the methodology that we use? In order to apply this integrated policy approach, we encourage countries to develop a national efficient lighting strategies. Using these that take actions in each one of the elements of this integrated policy approach. So in order to develop these strategies, we developed a methodology of—a four-step methodology. First, we need preparatory and planning activities. This includes, for example, creating a national coordinating committee and doing some key activities, for example having a national status report to know what's the current status of a country, because maybe a country is already advanced in one of the elements of the integrated policy approach, but not on the others. So we have to identify where the need is required, what are the priorities of the country. In that way, we can identify proper experts that will better support the country. Then, they also have to—all of this was the coordinating committee has defined and we already have identified the situation in a country, then we have to do an inception workshop.

The objective of this inception workshop is to share with all the different stakeholders in a country what as the situation is and where do we want to go. It's to define what the roadmap is going to be for the betterment of the strategies. In the case of Regional Efficient Lighting Strategy, we can sight for example, the experience of Central America in which we gathered people from the eight countries that comprise this strategy. And

then, we defined the guidelines, I mean, the guidelines were agreed upon by all the different energy and environment ministries of the region, and then this was shared with other stakeholders at a regional level. And finally, with did national inception workshops in each country in order to promote also this and to have feedback from national stakeholders, and that way, make sure that we have a very comprehensive strategy where that everybody is aware of. Finally, we continue with the strategy development process. So here, I mean, it's important to make all the pertinent stories and to define the framework and the activities that are going to take place more specifically and in what time line, and where the financing comes from and so on. In order to finally present this in a final workshop in which high-level officers, such as for example the minister themselves, can approve and adopt this. In the case of Central America, for example, the strategy was adopted during the ministerial Ministerial Meeting on December 6 last year. And, in the case of Chile and Uruguay, it's was just the ministerial—I mean, inception workshop—sorry, finalization workshops at the level of the ministries. So the important thing is that funding is very required to do this. I mean, it doesn't matter how many activities we have in all the different elements. This costs money and we need to make sure, and this is part of what comes later that there is funding needed for the implementation of this. One of the possibilities, I mean we have developed several different possibilities. One of them was used in, for example, the resources of the—just start allocation funds. But this is not usually, or not always available as countries have other priorities as well and they may have already developed activities in them. So the new option that we're promoting is the approaching—I mean we're tapping the potential financing possibilities of NAMAs. So this is why together with Ecophase and the Risø Centre we developed a unit there, guidebook for the development of a Nationally Appropriate Mitigation Action on Efficient Lighting. So here, we offer some background on NAMAs and how to develop a NAMA from an efficient lighting strategy. And then, it also includes key information on measuring, reporting and verifying, and then the sources of financing and budget planning. You can also download it at the en.lighten initiative website below.

So part of—first of all, let's begin with what are nationally appropriate mitigation actions. So according to the Conference Of Parties Decision 1, I mean, in Bali of the UNFCCC, we said—they said that—this one, it was first mentioned and they called actions by developing country parties in the context of sustainable development supported and enabled by technology, financing and capacity building in a measurable, reportable and verifiable manner. So all of these sounds very nice, and now, the idea is to translate this into reality. That's why we have a MRV component, and we have the budget planning and so on as key elements of the NAMA. And, this makes sense because if somebody's going to invest in an activity that a country, a developing country is doing, of course, they want to make sure that this is going to have an impact, and the impact is going to be sustainable in time. So that's precisely what the NAMA development

process is all about. Then, we have—there are two types of the classifications of NAMAs that we can have. First of all, there is a classification that we can take into account where the support comes. So there unilateral NAMAs which is financed by the host country itself. So in these cases, I mean, we can say that the NAMA would be just for recognition. I mean just to make sure that the world knows that this country is doing something for mitigation. Then, there is also support the NAMAs in which the country themselves, they cannot support financially this, so they require bilateral support. So may be a specific country is willing to support this other country to carry on their NAMA or there can be another institution and so on. These are the ones that we're going to focus mostly but there's also the credited NAMAs, but this one is not covered by the guidebook because there is no complete—we don't yet have an agreement on how this would take place. I mean what kind of carbon financing and so on. So for now, we're just going to focus on supported NAMAs and unilateral NAMAs. Then, there is another classification we can have depending whether they are policy or program NAMAs or project NAMAs. Project NAMAs refer specifically to activities, for example, lamp distribution programs for low-income families. But then, there is a policy from NAMAs which is the ones we are actually focusing on when we talk about the national efficient lighting strategy because we are intending to have a policy change and this is part of what we are trying to promote. So this would be the focus of our guidebook too.

Then, what are the steps of developing a NAMA? We created a four-step process, as you can see, I mean, you may have seen this as familiar. It's the same four steps that we saw before for the national efficiency lighting strategy, just that they take place at a different stage. Here, step number one, that is engaging the key stakeholders will take place probably at the second step of the national efficiency lighting strategy. But the idea is to understand that these two activities can take place simultaneously at the same time while you are developing a national efficient lighting strategy, you can also develop, at the same time, the elements that will make it bankable as a NAMA, for example. So first of all, we have a consultation process it's important to encourage the public endorsement of the NAMA. That is making sure that whomever can finance or can participate in this NAMA expresses it open. Then, we have the—part of the opening the NAMA proposal, which as I said, can take place at the same time that the national efficient lighting strategy is being developed is as important to include experts to make sure that they develop the MRV side, the measurement, reporting and verification, and the budget map. Sorry, then, it is important to publish the NAMA. There is a NAMA Registry and all the information is contained in the guidebook itself. You can see what the—how the process to registered NAMA is like.

And then finally, we promote and implement the NAMA. The idea is to promote it and circulate it so we can find the proper financing

opportunities. There's also some hints, we think, the guidebook on who we can approach in order to have the NAMA financed. And well, as I mentioned before, the key elements that we're going to focus on now on this webinar, the MRV and the financing plans. So the idea is that you understand from all this is that countries can develop their NAMAs concurrently with national efficient lighting strategies. This is a process that can take place simultaneously.

Before I finish, I would also like to say that we are also evaluating the possibility of developing, even though it may sound weird but we want to develop a regional nationally appropriate mitigation actions. So this would be—how does it take place? I mean, we usually have a region, for example, the Central American Legion, and if there are several countries, we'll have a single regional strategy. They can—all of them, they can apply for national—they can present nationally appropriate mitigation actions based on the same regional strategy. So in this way, we can sort out a way of supporting a different—specific region through different number of NAMAs. If there's three countries who want to do this, then there would be three different national NAMAs, for example. But this is also part of what we're trying to develop now. Well, with—I think that's about it for my presentation. I would like to thank you for your attention. And now, I'm going to pass the role back to Sean. Thank you very much.

Sean Esterly

Thank you, Javier. And, we will actually know go over to Françoise for her presentation.

Françoise d'Estais

Yes. Thank you, Sean. You turn to the first slide of the finance section, please. Thank you. So I will now turn to the very important aspect of the financing the NAMA. How—NAMA is a new tool developed in the climate change process, international negotiation process. And, we would like you to be able to maximize your chances to get your efficient lighting strategy financed through this new tool.

So what I would like to talk to you about today is how to maximize your chances. And basically, I will tell you how the present your proposal in the most attractive way. Then we would look at the different sources of finance, both domestic and international, as well as public and private sources of finance. Then, I will go with you through what kind of information you would provide to those potential NAMA financiers; what kind of information they would like you to provide. Then, we'll go to something which is also very important is really the combination of economic and financial instruments to make your NAMA proposal even more attractive. And, I would finish by looking at potential international funders and what requirements they would put, they would attach to their potential finance. So next slide, please.

So how to have your proposal the most attractive one. How to make it the most attractive one. The first criteria, and those advice, we have them from the financiers that we regularly talk to. So I would insist that you

carefully look at those. First point is to have an ambitious but realistic work program. Javier has already insisted on the fact that we want as a sustainable transformation of the market and this is why the enlighten initiative is suggesting and advising about this integrated approach.

So it has to be transformational. This is what really financiers are looking at because they want to pool money into actions that will not sustain change over the long time. They have to be capable of implementation. So they have to be realistic and implementation has to be credible. So think about having state approach whether is geography-wise or time-wise. I mean, your NAMA and the work plan to turn in your country into a nationally efficient—lighting-efficient country can take time so don't hesitate to spread your work plan over a long period of time.

An important aspect also is the NAMA developer. Your NAMA has to be directed by somebody, an organization called NAMA developer. And, that organization has to have development mandate and the appropriate technical and financial capabilities. The NAMA developer would have to report on how the NAMA, the work plan is doing. The NAMA developer will have to address financiers, requests, queries, and the NAMA developer will have also to report and will be accountable to all the stockholders in the country. So this is a key person that has to have credibility. The other important point is country initiative. This is, as it says, nationally appropriate mitigation action. So the work plan that you have put together with the head of all the stakeholders you've engaged with, and Javier has explained that you. The work plan has to be in line with the national development strategy, the climate change strategies with all the national strategies relevant. It has to really fit into those. Again, extensive stakeholders consultation help with country ownership like the mandate of the NAMA developer is also another key element.

Going again to the extensive domestic stockholder consultations. That would help, Javier has explained, that would help put together a work plan which is realistic because the stakeholders are behind you. It will also help a lot from a financial standpoint because those people have ideas. Your stakeholders know what is important to them. They know they can do financially. They know the payback of some actions, so they will help you also from a financial point of view. They will bring ideas and reality checks to those ideas that are exchanged between the stakeholders. And, what the financiers will ask, because the financiers, they will ask for a clear identification of requirements, and they will ask for a strong financial plan. But well come to the financial plan later.

Next slide, please.

So sources of finance. I would like to leave you with one idea is that they are many, many sources of finance and you should not disregard any of those. The first ones you should—the first discrimination you should look at and that will help you address many sources of finance is domestic and

international sources of finance. So domestically, within your country, many organizations are potential sources of finance. I will just, you know, quote a few, the most important ones. The government as a source of finance, less and less so in many countries, but it is. Power utilities, energy service companies, suppliers of efficient lighting products and services, financial institutions, of course, and customers. All those stakeholders are potential sources of finance. They all can play a role and they have an economical interest in doing so. You know, you can think of awareness raising campaigns, establishing product-recycling facility. You will see that those domestic sources of finance have a role to play. International financing, I will come later, because we have slide on those. And, the last point I would like to make there is that having domestic financing in place to support your NAMA makes it even more attractive to international financing. So this is important. Domestic finance demonstrate that the country is ready to transform the market and has put financial means into that. And, it's also very important because it sets the framework to make private investment attractive. And, private investment is a key source of finance.

Next slide.

So you have public finance and those public—these public finance will finance actions of transformational nature by essence. You know, Javier has explained, it has to be an integrated strategy that you have to have the supporting policies in place if you want it to be successful. You need to have minimum energy performance standard. This is key to channeling financial resources and framing investment to efficient lighting. And, more and more, the public funds will be used and are used to leverage the private sector finance. So private financing, you will have them financing your activities, provided look at three criteria's, you know. One is that they will—public sources of financing will always finance action that makes sense for them. And, what makes sense for them is either because they are cost-neutral, so they would finance actions that will payback and cut other costs. Example, awareness raising campaign, you know. It's like advertising. They would talk about efficient lighting because they know technology providers, for instance, that they can sell their products afterwards. So would be financing awareness-raising campaigns. They will also, private sector financiers, they will look at actions that present an attractive risk return ratio. So for instance, they would prefer large-scale with lower transaction costs than smaller-scale projects where they cannot amortize fixed costs. And, another key important private sector representative is the consumer. So don't, don't forget to look at what the consumer and help you finance in your work plan. So as I said, domestic finance help and plays a key role in attracting international financing. Now turning next slide to the information to be provided.

Javier mentioned briefly the NAMA Registry. The NAMA Registry is a registry—online registry prepared by the United Nations Framework Convention on Climate Change. This the official place to register your

NAMA and this is where your NAMA number becomes an official document and known to everybody. The registry has two purposes: One is to present the NAMA for recognition; and more important in this finance section, this is a way for potential NAMA financier to hear and read about your NAMA plans. So what you have to present in terms of information is quite straightforward. It's not too complicated. It will be broken down between support for preparation of the NAMA or the stakeholders consultation, putting in place standards and policies. That's something that would go for support for the preparation of the NAMA. And then you have support for implementation, so once you go live and you start your activities in your work plan.

The other important things to keep in mind is that NAMA financiers will only finance incremental cost. That is additions between normal costs, the cost of what we call in our jargon, the baseline scenario, which is business as usual, and the mitigation scenario. So it's only those costs associated with the activities related to making it efficient, making your lighting efficient that the NAMA financier will look at. And then, don't forget that the NAMA financiers can come with finance, cash, dollars, but they also can bring capacity building and technological support which is more in-kind contribution but is—which is valuable contribution.

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Combining economic and financial instruments. This is very important because to have your financial choose work, you more—very often need economic instruments in place. And, I will cite the example of the recycling facilities. As Javier explained, we advise the integrated strategy with an environmentally friendly life cycle of the efficient products that we'll put in place. So you would need to be build recycling facilities. So looking at this example, you will see how economic and financial instruments have to be combined to be successful. You know, you need to have the government first to establish recycling regulatory framework. And, you will also need the government to set up, establish the basis for the public-private partnership to operate and to be—let operate the facilities. If there is no legal framework there, if there is no economic instruments in place, then the private sector will not come in finance and will not be party to the partnership. The utility will advise on the design and technology, and they will bring this economic view of theirs and suggest ways of dealing with that. Banks will provide the financial instruments. They have many, many their portfolio. That can be applicable to building and operating a recycling facility. And, I will stop there because we're short of time. But it's very important not only to think about the finance, but also to think about the right economic framework and instruments to be in place. Of course, instruments have to be tailored to the country, your country's general economic situation and level of development. You won't be able to have access to certain finance tool if the financial markets in your country are not very advanced, you know. Only certain tools are appropriate and suitable for certain level of

development of the financial sector. And again, the importance of the national consultation during the NAMA development because those stakeholders will give you ideas and will tell you it will work, it will not work. So very important to consult with them during the NAMA development.

Finally, and I will, you know, on the next slide, I will turn to the potential international funders. You probably have a good idea about who in your country can be—can financially support the development of the NAMA. NAMA is a new to developed within the International Climate and Negotiation Framework, so you will have access with the NAMA to potential international funders. I will quickly quote some. The Green Climate Fund, which is supposed to be the main source of climate finance for the world in the coming years; Sustainable Energy for All initiative, new initiative by the UN Secretary-General, will also line up a number of financiers for supporting clean energy activities; the NAMA facilities, the bilateral initiative which will fund NAMA, so it's another potential source of finance. And again, private sector not to be disregarded even internationally. Look at the efficient lighting product manufacturers, distributors and financial institutions such as development banks.

What finally, it's the final slide, please. The what international funders will require, many things that we've already discussed. First, the type of support you require, finance, cash, or capacity building or technological support. Again, think of the three. They will require a clear financial plan; how much you need; who is going to finance; and what kind of tools you're going to put in place. They will look again at the transformational aspects of your NAMA. They want a self-sustainable transform market at the end of whatever activities they would have financed. They will look at measuring, reporting, and verifying. So this is really the transition to suit their spot. And then they would look at other at-dock criteria that each of them would—may have specific requirement, or requests, or interests. So that, you will discuss with them.

So I will—this is where the finance action stops. This has been a quick overview. Again, go to the guideline which is available—the guidebook, sorry, which is available online and all those ideas and concepts are detailed in this guidebook.

Sean Esterly

Thank you, François. And now, we will turn the presentation over to Sudhir for his part of the presentation.

Sudhir Sharma

Hi. Hello, everyone. This is Sudhir here and thank you, François. That was a nice place to stop and transit—transition to the presentation on measuring, reporting and verification. What I plan to do is actually give you a very broad overview, and then focus at one particular point in time as to what exactly would MRV mean in context of efficient lighting. So I'll start off with giving a bit of context what essentially does that mean, MRV mean. What, in the context, particularly of the Climate Change

agreement that the International Body—agreed at the International Body. What does that mean; what are the objectives of that. And then come specifically looking at efficient lighting NAMA. And then talk a little bit about, towards the end, as to how one could do that particular MRV. What are the basic requirements at the country level in doing so?

Now, I said, if you look at MRV, it's not something new. It's a standard management tool which has been used at different levels of organization, be it a private sector, be it the governments, be it international treaties or additional agreements. And, the whole objective, generally, of these tools is essentially to help organizations or those who are implementing them to see that the activities have been effectively implemented and objectives with which those activities are implemented are actually being achieved.

Now just to touch a little bit on the fact that it is not new, even if you look at within the climate change, we'd know about clean development mechanism where there was a system put in place. It was not called measurement, reporting and verification, but it required projects to submit monitoring reports which were then verified as a basis before they were issued certificates of emission reduction. Similarly, if you look at the country level within the Climate Change agreements, all the countries have an obligation to report to the convention in terms of various aspects related to climate change starting from the National GHG inventories or the mitigation actions countries are planning or are have planned and implemented, what are the climate change impacts. So what it does in context of NAMA, and we'll see that later, is actually it takes it to next level of making it a bit more specific as to what is required in doing so. Now, what is required and how does it make it specific essentially. Let's go back a little bit on what exactly does MRV mean. Essentially, what it means is a system which allows you to collect relevant information which is presented in a standardized manner so that it can be compared across different activities and across time. And, it is—the report should be assessed is to ensure that the information which has been provided is complete, it's consistent and it's reliable. Because at the end of the day, this information is going to be used by whosoever it is responsible for considering this report and analyzing the information presented in the report to assess whether the objectives or the activity which are being MRV'ed have been met. So that information therefore needs to thorough, be able to make that assessment.

Now, what does it do? This kind of information, essentially, the whole objective is to look at one, whether the progress of implementation, if you are in the stage of implementation, our plans is going ahead in an appropriate manner. And also, it doesn't mean that the MRV stops during the implementation. It could be carried out after the implementation of an activity. Everyone is looking at what are the impacts of those activities. Whether the objective and goal with which the activity was planned, for example, if the objectivity was to increase access to electricity in rural areas, what has been the impact of activity. Whether it has increased

access; to what level has it increased access; what is the effectiveness of implementing the plan; whether it was cost-effective, that was one of the criteria's which Françoise has mentioned. So essentially, it gives you a tool in analyzing that info from various aspects to see whether all the objectives were achieved as they were planned. Is there a way of actually improving the implementation of the activities? Is there a way of doing things in a better way than what the way they were done? So it's that particular tool. And, the reporting and verification becomes very important, because as I mentioned, this is something which should be—which is what authorities would use to carry out the full assessment.

Now, in terms of the Climate Change convention and particularly in terms of nationally appropriate mitigation actions, stepping back a little. The countries which started a process in Bali and Cancun, they came to an agreement where different countries, depending on their capabilities and responsibilities, agree to take certain actions.

Now, within this particular context, one of the collective decisions which was taken was to ensure that the actions that countries take do not let the temperature increase beyond 2 degrees. So the global temperature compared to the preindustrial level temperatures. So that is the goal of the countries have set for themselves. Now, if that is a goal which countries have set in the framework in which countries are taking responsibilities, it becomes important have certain tools which allows an assessment as to whether the countries are able to keep to this goal. And, if they are not in trajectory with the requirements, what are further actions that need to be taken? Now here, one of the things important about the MRV system is that at the international level, it is a voluntary obligation that all the countries have taken. And this—there needs to be—MRV also becomes important in ensuring each of the countries, that they are not the only one making the effort. Everyone else is making an effort. And essentially, it increases the transparency among countries, as just like working in teams where as a team member, you would like all the team members to share the information so that one, it helps other team members work, but at the same time, also gives you the confidence that everyone is putting in the required level of effort. So that's a very important element of why this MRV system has been integrated in context of NAMAs, because there is no, as such, legally binding commitments place. So this is as one could say, as kind of a substitute. So it's very important from that perspective.

What exactly is to be measured? Now, in context, as I mentioned, the countries have set a goal. To set and further, in context of this particular goal, the developing countries agreed that they will make effort within their own countries to address their greenhouse gas emissions in a manner that they can reduce their emissions below the business-as-usual emissions, and we're talking about the timeframe 2020, when the next agreement would come into effect. So now, in that particular context, each country, according to their capacity, needs to come up with activities that would take place. So now, what do you report at the international level in

being able to assess the international goal is one, what is the progress in implementing the actions; and further, what are the methodologies and assumptions which have been made to estimate the GHG reductions. So this is very important. The methodologies and assumptions, as that provides a sound basis of then comparing reductions which have taken place across different actions within the country, but also across different countries so that you can compare apples-to-apples. Now once the actions have been implemented, what is also important is to report what are the results which have been achieved; what has—essentially, what are the objectives and to what extent those objectives have been achieved; what were the outputs? And, these outputs could be in different kinds of metrics. Now greenhouse gas emission is one of the metrics, to take example of the en.lighten NAMA, the metrics would also include in terms of what is the percentage of lamps sold in the market which are more efficient than the minimum standard which has been set. Or output could be if one is looking at renewable energy targets, what is the percentage of renewable energy in the total electricity generation which has been achieved.

So the output metrics will depend on type of the action. Then, what is important, as I mentioned, is in the context of nationally appropriate mitigation actions is the greenhouse gas reductions. Now this greenhouse gas reductions, as I earlier talked about, the impacts and the quantification is necessary to see collectively all the countries put together, whether they are reducing enough to be able to achieve the 2-degree goal. And, from that perspective, it becomes a very important element of reportage in the NAMAs.

Now, we talked about—Javier talked about it, and so did Françoise that in NAMAs, the first two letters relate to nationally appropriate. So essentially, these are actions which build upon what the country is planning to do to achieve its own social, economic and environmental objectives. So from that perspective MRV is not purely built to track just the GHG impacts, but it is also a tool which the countries can use and develop to track what are the sustainable development benefits that they are able to achieve out of implementation because ultimately, it has two impacts. This is one of the prime objectives of the country in implementing these actions. But more importantly, it also—the better the sustainable developments achieved, it also shows a better engagement from an country perspective because they have a stake in ensuring that it is effectively implemented. So an MRV is also important to track what the sustainable development benefits.

Now, turning to—looking at what exactly is the data that would be required to track whether the objectives of en.lighten strategy or a NAMA has been achieved. As Javier talked that there are four main strategies which have been developed as part of this program. In a NAMA, one could have all of them, some of them or a combination of them within a NAMA. One could develop a NAMA with either just separately for each

of them or make a combination. So the data required for MRV is dependent on what exactly is the elements included within the NAMA and what—and that basically gets defined by the strategy.

Now just take an example, if one is looking at promoting minimum energy performance standards. Now there are two elements we talked. One was in terms of progress, and the other was in terms of impact. And, in terms of progress, we talked about that not only implementing the standards is important, but it also requires necessary support infrastructure of enforcement, of testing, of certifying the products which are to be sold in the market. It also requires certain policy and regulatory framework to be put in place. So the parameters which one is looking at in terms of progress would be to see that what is the progress in formulating these policies, notifying these policies, the implementation of these policies. The data could also look at what is that relative support structure, whether it has been put in place; how effectively is it working. So one could say that, okay, what are the number of enforcement activities which have taken place; or what is the level of percentage of products which has been tested and found to be complying with the standards. So that is one set of data which would look at progress of implementing the regulations or tracking.

So the other element is required, and if you look at the strategy is that strategy is not a stationary strategy. It is continuously evolving as new and new products come into the market. So one also would integrate within this system information collection which talks about to keep—which tracks the change in the market in terms of new products coming up in efficiency, and also tracks whether that feedback is working into the process in updating the standards regularly. But within this, in terms of the output and impact, one of the most important elements is to look at, collect data in the market as to what is the stock of efficient lamps in the market. And, the collection of the information on the stocks could be done in many different ways. It could be done in terms of essentially involving the private sector, whereby they report into certain authority as to what is the total amount of products they are selling in the market; and what are the efficiency levels of different categories of products they have been selling in the market. But that is one system of assessing the data. Similarly, similar requirements would be placed on the importers of lamps into the market. Independent of this, system could also be developed where sample service have been—are designed. The sample service actually target the retail sector to look at, okay, in the retail sector, what is the rate—what are the products in the market and what are the products which are being sold the most. So this system then provides enough data for one, checking what is the continual improvement in the stock of lamps and the efficiency of the lamps which are sold into the market. But if we look at the methodology of GHG estimation and details of this have been provided in the annex within the guidebook. This also is an important element to both estimate what is the amount of electricity that has been saved. And also, one could work out what is the amount of investment that country would

have otherwise have to make if this savings in electricity not been achieved. But at the end, also what is the amount of greenhouse gas emissions which have been reduced and the efficiency of the lamps which are sold into the market. But if you look at the methodology of GHG estimation, details of this has been provided in the annex within the guidebook. This also is an important element to both estimate what is the amount of electricity that has been saved and also one could work out what is the amount of investment that county would have otherwise have to make if this savings in electricity have not been achieved/met. But at the end, also what is the amount of greenhouse gas emissions which have been reduced. So this becomes an important data for ensuring whether the objective of increasing the efficiency in the market is there but also as an input into estimating that GHG impacts.

One could also, for example, take the supporting policies and programs. Now, if one is looking at policies and programs in terms of amount of subsidy or physical incentive provided—I need to speed up—provided, then one of the data to track, this would be in terms of what is the total level of subsidies which the government has provided. And, that also gives you an indicator in terms of efficient lamps have been sold or what is the amount of tax reduction claims that the companies have claimed. That would also give another indicator of what is the amount of efficient lamps that have been sold, at the same to track the effectiveness of the program in terms of the defined activities.

Now, as I mentioned, some of this data is important not only just for the output but also looking in terms of impacts. We talked about how much greenhouse gas emissions one could save, what is the electricity saved. And, one could also use—structure the requirement of data in terms of estimating how much extra jobs that was created in the market if that is one of the objectives will is fulfilled.

Now, turning to the last slide, looking at the systems to implement MRV. Countries could actually carry out MRV NAMA by NAMA. So each NAMA developer develops their own system of collecting data, collects their own data and has their own system of verifying the data when it is submitted either to the national authorities or to the international partners which are providing support with this. This essentially could increase the amount of effort which is required by each of the NAMA implementers. The other possibility would be where actually the data required for such activities is integrated within a national system [inaudible] [01:03:00] because we need to remember that one of the elements of this MRV NAMA, of NAMAs, is that this information needs to be reported by the county to the international authorities so, therefore, they need this information for their own reporting. So there needs to be a system in place as to how they can collect this information.

Now, in that particular system, an institutional arraignment, countries could actually also reduce the effort that each NAMA implementer has to

invest in collecting the information. One could take the example of CDM and understanding what are the institutional arrangements required. This, at the minimum, would require defining who will collect the data, what data needs to be collected, how would data be stored, what are the quality assurance and quality checks on the data collected, what are the standard formats in which the information needs to be reported, and common system of verification of process and procedures which define that how the reported information would be evaluated in terms of completeness, in terms of reliability, and in terms of coverings across reportage from different elements.

So in summary, the data that needs to be collected for MRV of NAMAs is dependent on what is the key objective that is being carried out there. There are a lot of methodologies, actually, to estimate GHG emissions. And, there is a lot of experience already existing in different programs on what kind of a key data is required to track progress. So it depends on what is the key objective. And, it would be beneficial at the country level to see how countries can actually put in place a common system which could then be used to collect the data which is required to track implementation of each of the NAMAs.

I will stop there and pass it back to Shawn.

Sean Esterly Thank you, Sudhir, and thank you to the rest of the panelists, Françoise and Javier for the great presentations. We will now move to the question and answer session. And, I just want to remind the audience, if you have any questions, feel free to please submit those through the question pane in the go-to webinar box. And with that, we'll move on to the questions. I'll read the questions out loud. Panelists, if you want to answer, answer, just make sure to unmute yourself and jump in with an answer.

So the first question is how long do implementation of this kind of program typically takes, so from conceptualization phase to the actual start of implementation? And for context, they're saying for organizations that have no prior experience and would be looking to do the bulk of development and implementation locally with training capability support. So they're looking to do it themselves rather than bringing outside experts. How long does implementation typical take?

Javier Otero Peña

Maybe I can take that. And then if anybody else wants to add something, they're welcome.

First of all, I think when we were developing the national efficient lighting strategy and the energy efficient lighting strategies with the enlighten initiative, the intention was never to do the work for them. The idea was always the countries themselves to do it and we would provide the capacity building and support by accompanying them in this. That's the first thing. I mean, this is a project, I mean a country-led project, that's the

idea. The thing is—well, let's analyze due to use—I mean, with the experience we have had, concerning the projects, the pilot projects, in Latin America, for example, which were the ones where I was coordinating. We have, for example, the case of Uruguay. It started the SSE phase, that means the contract we started it with them in May 2012. And then the activities, the final workshop took place in December 2013, so last month. So it took more than a year and a half.

On the other hand, for example, in Chili, we signed a contract in August 2012. I mean, this contract was just to give them support, capacity building on the different elements on the integrated policy approach who would identify experts on those specific areas and help them on those matters. The activities ended in August 29. So it took about year. And then the activities in Central America also took about a year. It started in October 2012 and we finished it in December. There are still some ongoing activities of the strategy itself which was the main activity. It's already presented.

So overall, I would say that from the concession to the implementation, it would take at least one year, one year and a half, depending on the political will of the country, on their readiness. Of course, I mean, we would have taken into account that there's a couple of other topics besides the integrated policy approach that would be taking in place that are the MRB and the financial plan. But on this, I would approach it the same way we approach the other elements of the integrated policy approach there is. Back then, we didn't do it because we were not thinking of developing this into NAMAs but we would just identify experts. For example, we can have people from Risø Centre who have a lot of knowledge on NAMAs, and then identify these experts so they accompany the strategy development process, and they include the elements required for the MRV and the financial plan, for instance.

I don't know if somebody wants to say something. The important thing is the NAMA facility, for example, they are only taking into account, I mean, their financing activities that are already ready for implementation. They are not working on financing and the planning or the development or the conception. So this is something that is also important to take into account. If anybody wants to add anything, please feel free.

Sean Esterly

Great. We'll move on to the next question then. And, that question is can a private company that has already done work on efficient lighting still register a NAMA for financing?

Françoise d'Estais

It's Françoise d'Estais. There's nothing which prevents a private company to be a NAMA developer. A private company can definitely be the NAMA developer and the person establishing, preparing and doing all the work. But, again, it's very important that there is country ownership. So the private company would have to make sure that it's sponsored by the country, it's aligned with the country strategies, and only public institution

can register the NAMA with the NAMA registry. So the private company can be at the inception, can be the leader in developing the NAMA but the country ownership means only the public institution recognized by the UNFCCC could register the NAMA.

Sudhir Sharma Sudhir here. Just to supplement Françoise's and just to give an example. In the Green Planet Fund which has been setup—they're going to setup especially private sector facility—private sector could—they have a lot of mitigation, a lot application activities and submit for funding. And as Françoise has mentioned, the only requirement there—an important requirement, again, there would be, that this have to be submitted to the government authority because ultimately it is the governments who have taken internationally this obligation of implementing mitigation action.

Sean Esterly Great. Thank you, Françoise and Sudhir. The next question, I'm going to group two questions together. The first part of the question is where can you find your list of NAMAs developers in Spanish and English—for developers with Spanish and English speaking skill? So let me repeat that. Where can they find a list of NAMAs for developers with Spanish/English speaking skills? And in addition to that, can you provide any examples of the actual NAMAs on efficient lighting?

Françoise d'Estais I can start with the answers. There is the official NAMA registry which is the UNFCCC NAMA registry. And, the website address is in the guidebook. So you can also Google it and find it immediately. So the NAMA registry is the official registry for NAMAs presented by the countries as a reflection of the commitment to mitigate the emission. There are other registries that have been prepared by organizations. The UNEP Risø Centre as a NAMA registry, they've been holding the CDM Pipeline. They have put together a NAMA pipeline as well. So just Google NAMA pipeline or UNEP Risø Centre and you will have access to that. There is also a NAMA registry that has been prepared by Ecofys, who was party to the guidebook. And, you will find the addresses to those two registries in the guidebook. There is also a specific annex in the guidebook on all the efficient lighting NAMAs registered at the time when the guidebook was finalized. And, I think there's between half a dozen and a dozen of them there in the annex. One of the annex is at the guidebook.

Javier Otero Peña Yes. Actually, in the Annex D of the guidebook you can find two examples of efficient lighting effort, NAMA efforts. So for example, there's one in Mexico which had a program to replace lamps, and then there is also one in Pakistan which we're contributing with Pakistan to develop a NAMA proposal. So yes, I mean, we invite you to go ahead and check on all these NAMA examples on the guidebook. Check Annex D, for example, which has these couple of case studies.

Sean Esterly Great. Thank you. And, next question just kind of expands upon the last financing question that we had before. But the attendee states that Javier

mentioned that credited NAMAs are not covered in the guidebook. What additional factors, MRV or otherwise, are needed for crediting?

Françoise d'Estais I will take this one. This is not an easy one. It's a very hard one.

Sudhir Sharma Okay. Sure. Go ahead.

Françoise d'Estais A bit of background and history. So the UNFCCC established, within the Kyoto protocol, a flexible mechanism that helps countries face their obligation in terms of emission reduction. One of the flexible mechanisms was the Clean Development Mechanism, CDM. And, CDM is a project-based action. So it's really one project to change light bulbs in all the hospitals in my country or the hospitals in province in my country. So it's really project related. The negotiators wanted in the sort of second stage of climate finance negotiations to go beyond the project level. One, because the project was to reducing and also because there was—on a project basis, there was no or very little control of the countries. And, the countries wanted to have access and be owned and be in charge of their mitigation actions and own those mitigation actions. This is why it's now country-based, country access, and this why they've come up with this NAMA concept, Nationally Appropriate Mitigation Actions.

So NAMA, at the moment, they do have a mitigation implication. So the objective is to reduce emission reductions, but they are not only that. They will also look at the co-benefits, the sustainable development aspects. They will look at the environment beyond greenhouse gas emissions. So this is why the integrated approach that is advised by UNEP together with all the experts behind it, advised for an environmentally friendly strategy because it's important to deal with [inaudible] [01:17:12], maybe not as much as it is to deal with greenhouse gas emission.

So NAMAs have these carbon credit aspects that the CDM had at the project level. CDM only had the carbon credit aspect. NAMA are broader. How to deal with the carbon credit aspects of the NAMA, the emission reduction only, this is still part of the ongoing negotiations. So crediting NAMA is a concept but not advanced at all. So this is why we've decided not to cover it in the guidebook because it was too uncertain and too unclear to give any advice at this moment in time.

Sean Esterly Great. Thank you, Françoise. And, next question says that finding NAMA developers with sufficient financial and implementation capability had been a challenge. They asked which countries have suitable NAMA developers ready to lead and implement such project? Well, maybe instead of listing the countries, you could just provide some resources where they could find a way to search NAMA developers that already lead and implement such projects.

Françoise d'Estais Yes. I'll also jump in but then I have to stop. I'm the only one answering. But Javier will probably compliment it based on the experience en.lighten.

I would say that—because NAMA is linked to the emission reduction process, you would look at people that can have a combination of UNFCCC knowledge as well as practical knowledge of efficient energy devices. So I would think, if I have to give examples, that many countries have a national energy efficiency centers. And, those people that have been involved in project development, they've been involved in climate finance issues. So, for example, those people would be good. A combination of financial environment capabilities would make it successful or a strong NAMA developer.

Javier Otero Peña

Yes. Let me compliment that, Françoise. Yes. In fact, according to the experience of our pilots, we had, of course, the support of, as I mentioned, international experts that we will invite who will identify the priorities in their countries and then we would—according these priorities, we would identify the proper experts to better address these priorities. Then we also worked together with—at the local level, we worked with several institutions. For example, in Chile, there was a bill from the Ministry of Energy and Environment, but then we also had Fundación Chile that played a key role in the development of the strategy.

In Central America, we were working with Proyecto Mesoamérica in order to reach out to all the countries. But then we were also working—I mean, they worked together with the Cleaner Production Center of El Salvador which was very practical, in fact, because they had a network of Cleaner Production Centers in each one of the countries. So they established a network of communications and information exchange. And, this was very, very useful for the development of the strategy.

So in each one of countries, if you can, you can identify proper institutions that have either financial knowledge or capacity knowledge or technical knowledge that can really make the development of the NAMAs much more efficient or development of national efficient lighting strategies themselves.

Sean Esterly

Great. Thank you both. And, we do have quite a few question left and we're starting to run low on time so maybe we'll try to keep the responses as succinct as we can. The next question is what is an acceptable internal rate of return for a NAMA project to be attractive?

Françoise d'Estais

I don't think there are such things. NAMA finances would be attracted to the NAMA for different reasons. It depends also on the local environment. I mean, internal rate of return to look by financiers in less developed countries where the financial sector is not that developed would be very, very, high. In a country and any country in this world can put together a NAMA and advertise it. Any country with a developed financial market would require a lower internal rate of return. For the private sector, it's an investment like another one. So it's very similar to the rate of return that they would expect from any investment in the country they're looking at

Sudhir Sharma Just to supplement Françoise's. What is important in the design of the NAMA, just like as Françoise has mentioned, in any investment project, is to be—they're going to clearly show different sources of finance because we would have, as Françoise has mentioned, incremental cost associated with the implementation of NAMA. But those incremental costs and the design of rewarding those finance is one liable for all the actors who participate in it and essentially meets their return [inaudible] [01:23:47].

Going beyond, it's not just looking at the rate of return for individual actors but also a NAMA financier would be looking at what is the long term or the transformational impact that was talked about this is going to have in the country. So what is the long-term impact of making an intervention so that this particular activity creates a momentum and creates the required incentive structure for other actors to follow?

Sean Esterly Thank you. And, the next question is for Javier. And, it asked are the pilot projects that you mentioned, Jordan, Chili Central America, public, or can participating and willing countries have access them as a model?

Javier Otero Peña All of the information concerning the pilot projects is available at the UNEP en.lighten initiative website. So you have already the website over there. It's enlighten-initiative.org. So there you can find the information. You can download the documents, which is the status report, the [inaudible] [01:25:02] reports. And, you can also download a copy of the strategies. These strategies are also available normally in the website of the ministries of each one of the respective countries. So in any case, I invite you to check on the websites. If you have any questions, you can go ahead email to make this easier for you to find.

Sean Esterly Great. And, we'll try to fit in two more questions here. The next question is what review is required to be listed on the NAMA registry? Is there an additional component in the review?

Sudhir Sharma Is the question about after submitting the NAMA, before it gets submitted at registry, is there some authority which would review it? CDM has a mechanism of review of the projects. In case of NAMA uploading it on the registry, it does not involve any review by any authority. The review has to be done by the country which is carrying out the NAMA by its authorities. The only review which would take place is essentially in terms of whether the format has been completely filled and the information is consistent. But beyond that, there's no review involved at the registry.

Sean Esterly Great. Thank you. And, the last question that we have time for today is what is the advantages of developing a project as a NAMA versus just as a national initiative? Yes. Let me repeat it, and you can provide a little more context. So what is the advantage of developing a project as a NAMA versus just developing it as a national initiative? So essentially, they are talking about financing coming from national government or local private entities.

Javier Otero Peña Well, there are probably two benefits, if I may take the question. First of all, there is the matter of if the country is going to be financing these activities on their own or they're going to find their own sources of financing. It is good because it is important to let the world know that they are contributing to the 2 °C objective. I mean, it's just a matter of recognition. Otherwise, a NAMA has important potential for financing. If you can find, as there are, for example, now, through the Green Climate Fund, the international community said that they're going to raise up to \$100 million just for developing and supporting these type of activities. So there is a lot, at least in their spoken word, there is a lot of interest in financing these types of activities.

These spoken words have already started to become a reality, for example, with the initiatives which are the NAMA facility of the U.K. and the German governments. And, there is all this potential that can be on top of getting this type of financing because, in many cases, a national [inaudible] [01:28:26] may involve some important investment of funds. So this is a way to access these types of funds for countries which are in most need and difficulties economically speaking. If you want to add anything else, Françoise or Sudhir?

Françoise d'Estais No. You've covered but one thing I'd like to put the emphasis on is that NAMA, if you register it with the UNFCCC registry, becomes an official country document. So it would be a commitment of the country to do that. It would be also aligned with the reporting that a country has to do every two years to the convention. It has to be aligned with the country's strategy. So it's not a decision from one individual actor. It's a country official document.

Sudhir Sharma And, just a small point. Even when there is a national initiative, as Javier mentioned, where a country might not look for an international support, it still is a NAMA. It's a NAMA which a country is doing on its own. And, as Javier mentioned, it is still from a country if it is leading to mitigation of greenhouse gases for recognition in favor of a country to actually put it up in the registry.

Sean Esterly Great. Thank you. That is all the time we have. We're going to quickly move on to the attendee survey. We just have three quick questions for the attendees. Heather, if you could display that first question. And, the question is "The webinar content provided me useful information and insight. And, you can respond to this using the go-to webinar box. Great. And the next question, "The webinar's presenters were effective." And then the final question, "Overall the webinar met my expectations." Great. Thank you very much for answering our survey. And, on behalf of the Clean Energy Solutions Center, I'd just like to thank our panels again for the great presentations and really great question and answer session. I will be forwarding any of the unanswered questions to the panelists so that they can respond directly to you through email. So I apologize that we didn't have time to address you questions but look for a response for those

in the next few weeks. And, I do invite our attendees to check the Solutions Center website the next day or two to view the slides and listen to our recording of today's presentation as well as any previously held webinars. I just want to say I hope everyone has a great rest of your day and we hope to see you again at future Clean Energy Solutions Center events. And, this concludes our webinar.

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