

ASEAN Renewable Energy Guidelines

—Transcript of a webinar offered by the Clean Energy Solutions Center on 3 December 2014—
For more information, see the [clean energy policy trainings](#) offered by the Solutions Center.

Panelists	Arne Schweinfurth, Economist and Principal Advisor, Renewable Energy Support Programme for ASEAN (ASEAN RESP) Thachatat Kuvarakul, Advisor for Renewable Energy Support Programme for ASEAN (ASEAN RESP), GIZ GmbH Indonesia
This Transcript	Because this transcript was created using transcription software, the content it contains might not represent precisely the audio content of the webinar. If you have questions about the content of the transcript, please contact us or refer to the actual webinar recording.

Emily Hello everyone. I'm Emily Evans with the National Renewable Energy Laboratory, and welcome to today's webinar, which is hosted by the Clean Energy Solutions Center in partnership with the Renewable Energy Support Program for the Association of Southeast Asian Nations (ASEAN RESP), jointly implemented by the ASEAN Centre for Energy (ACE) and GIZ. Today's webinar is focused on the ASEAN Renewable Energy Guidelines.

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

Before we begin, I'll quickly go over some of the webinar features. For audio, you have two options. You may either listen through your computer or over your telephone. If you choose to listen through your computer, please select the "mic and speakers" option in the audio pane. Doing so we 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. Panelists, we ask that you please mute your audio device while you are not presenting. If anyone is having technical difficulties with the webinar, you may contact the GoToWebinars Help Desk at 888.259.3826 for assistance.

If you would like to ask a question, we ask that you use the “Questions” pane where you may type in your question. If you are having difficulty viewing the materials through the webinar portal, you will find PDF copies of the presentations at cleanenergysolutions.org/training and you may follow along as our speakers present. Also, an audio recording of the presentations will be posted to the Solutions Center training page within a few of weeks and will be added to the Solutions Center YouTube channel where you will find other informative webinars, as well as video interviews with thought leaders on clean energy policy topics.

Today’s webinar agenda is centered around the presentations from our guest panelists Arne Schweinfurth and Thachatat Kuvarakul. These panelists have been kind enough to join us to explore the background and functionalities of the ASEAN RESP Guidelines, highlight administrative procedures including requirements for project developers and/or investors, explore legal and regulatory provisions as well as necessary permits, identify country-specific challenges for project development, and provide information on how to obtain financial closure.

Before our speakers begin their presentations I will provide a short informative overview of the Clean Energy Solutions Center Initiative. Then, following presentations, we will have a Question and Answer session where the panelists will address questions submitted by the audience, closing remarks and a brief survey.

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

The Solutions Center has four primary goals. It serves as a clearinghouse of clean energy policy resources. It also serves to share policy best practices, data, and analysis tools specific to clean energy policies and programs. The Solutions Center delivers dynamic services that enable expert assistance, learning, and peer to peer sharing of experiences and lastly, the Center fosters dialogue on emerging policy issues and innovation around the globe.

Our primary audience is energy policy makers and analysts from governments and technical organizations in all countries, but we also strive to engage with the private sector, NGOs, and civil society.

A marquee feature that the Solutions Center provides is the no-cost expert policy assistance known as “Ask-an-Expert.” The Ask an Expert program has established a broad team of over 30 experts from around the globe

who are available to provide remote policy advice and analysis to all countries at no cost. For example, in the area of Sustainable Energy Policy Design and Laws we are very pleased to have Chad Laurent, a Senior Consultant and General Counsel with the Meister Consultants Group, serving as one of our experts. If you have a need for policy assistance in Sustainable Energy Policy Design and Laws, or any other clean energy sector, we encourage you to use this valuable service. Again, the assistance is provided free of charge. To find out if the Ask-an-Expert service can benefit your work please contact me directly at sean.esterly@nrel.gov or at 303-384-7436. We also invite you to spread the word about this service to those in your networks and organizations.

Now, I'd like to provide a brief introduction for today's panelists.

First up, Arne Schweinfurth. Arne is an Economist and Principal Advisor for Renewable Energy Support Program for ASEAN (ASEAN RESP) in Jakarta, Indonesia.

Following Arne we will hear from Thachatat Kuvarakul. Thachatat is an Advisor for Renewable Energy Support Program for ASEAN (ASEAN RESP), GIZ GmbH Indonesia. With that, I welcome Arne to the webinar.

Emily

And Arne, it does look like you are still on mute.

Arne

Hello, thank you very much for the nice introduction and welcome all of you around the globe to today's webinar on the launching of the ASEAN Renewable Energy web platform. I'm very happy to give the introductory remarks for today's webinar before later on Thachatat will keep on in explaining the functionalities and applications for the Renewable Energy Support Platform and e-guidebooks.

I will start with a short insight into the ASEAN Energy Support Program, then give some background for the rationale for why we developed the renewable energy guidelines, and highlight also the importance of administrative procedures in renewable energy project development, not only here in the southeast Asia region but also worldwide and in general. Finally I will give some first highlights on the RE guidelines before. Then, as mentioned, Thachatat will keep on explaining the details. With regard to ASEAN Renewable Energy Support Program, ASEAN-RESP, we are a regional program based in Jakarta, Indonesia and have the task of strengthening the effective regional cooperation on renewable energy in ASEAN, to transfer experience and knowledge within the ASEAN region through efficient networking, to advise on technical and policy issues regarding the deployment of renewable energy in the ASEAN member states. The partners are, as mentioned before, ASEAN Centre for Energy and German International Corporation, GIZ.

What is the rationale for renewable energy development and also finally the renewable energy guidelines here in the ASEAN region? We have the

big issue that in the Southeast Asian region the demand for electricity is relatively increasing so it is expected that demand for electricity is growing annually by more than 4%. Just as one example, Indonesia has a forecast of electricity demand increase of 9% yearly over the next decade. In addition to that many countries like Thailand and Malaysia have a high dependency on fossil fuels, which forces the member states of the ASEAN region to increasingly look also for alternatives for power supply.

That's why political targets are set in the region. Here are some highlights from Thailand, Indonesia, and Malaysia. The targets are relatively ambitious but not yet achieved in most of the countries because of reasons, of course, which I come later to.

One of the targets for renewable energy development is of course the policy development that we saw last years in many ASEAN countries. A lot of development, for example, in Indonesia there is a guarantee price for grid-connected photovoltaic, net metering is under discussion, as well as roof-top photovoltaics, B2B solutions with renewable energies, of course, are already in place. The same is for Malaysia and Thailand, which is the most advanced country with regards to renewable energy here in southeast Asia and also the Philippines where this year and also last year important steps towards the deployment of renewable energies, specifically photovoltaics, were made.

What we have in the ASEAN region, we have very ambitious renewable energy targets in place. We have also political commitment to look for alternatives and to include renewable energies to the power mix. We have renewable energy support policies developed and partly implemented in the Southeast Asia region. On top of that the regional market integration is advancing so it's planned by the end of 2015 to start with the ASEAN economic community, which also will have impacts on market development for renewable energies. However, the large scale deployment compares Southeast Asia with other countries in the world. Large scale deployment compared to the resources we have in the region is not fully reached yet and of course one has to ask the question, why is this the case? We can of course ask whether it is due to the tariffs—the tariffs are too low. That's not an incentive for project developers and the private sector to look into renewable energies. Here I would say this is rather not the case. We can observe relatively high fees and tariffs and promising net metering tariffs for developers. The other thing is what support mechanisms are wrongly designed and not according to international best practice. Also, here I would say in general this is rather less the case since all of the ASEAN countries with renewable energy support mechanisms were very well looking into the details and adopting which is really suitable for the countries. But there is one important legwork we as a regional project and working with the stakeholders in the region definitely saw. This is about the administrative procedures, permitting procedure, and the long way it takes to get the necessary licenses and permits to renewable energy projects.

It is clear that against this background and administrative procedures, permitting procedures, are to be seen as a cost factor. So complex permitting procedures and regulation on grid access, for example, they hamper the market development not only in the region but generally where we see infant and growing markets. Administrative barriers, as a result, have definitely a financial impact on system costs. Since the administrative costs affect the soft cost components, such as capital costs and profit for project developers and lenders, and investors ask for a risk premium.

Just to show you some examples—evidentially this is not the most recent data that we have but it shows quite nicely the importance of soft cost, which include administrative costs. Here we see a comparison between the United States and Germany, 2011, for rooftop installed photovoltaics where you can see that the soft costs in the United States were considerably higher than in Germany, which also hampers the market development at that time in the United States.

If you look on it from a different perspective it is also clear that simple and transparent permitting in grid access procedures can definitely bring down CAPEX costs. It is expected that overall simple procedures bring down the CAPEX costs up to 10% in developing renewable energy markets.

What are the common challenges in permitting procedures and administrative procedures here in Southeast Asia? We have definitely to face the fact that many different government levels are involved—so national but also local government units. That we have, for example, a very strong and good thought through central policy, nevertheless a lot of permits and licenses have to be approved decentrally on the local level. There are differing procedures in different regions and provinces in the countries and the involvement of many authorities for only minor licenses is a big fact that project developers have to face. Another major barrier for project development is the mismatch between the size of the project and the number of licenses. Just an example that it's often the number of licenses or permits that a developer needs for a 10 megawatt power plant is similar to the number of permits and licenses for a 100 kilowatts power plant. So there is definitely no incentive to look into smaller projects. Another factor is that regulations are often in place but are not really disseminated to the decentral level, to the local administration and as a result the procedures are not bankable since banks and investors, lenders, can hardly assess the risks, which come with the administrative procedures for renewable energy project development.

In a nutshell, making the procedures transparent and analyzing the administrative procedures and regulations is key to further renewable energy development here in the region and it is also the reason why the ASEAN RESP project developed the ASEAN Renewable Energy Guidelines.

What we did is basically two products. On one hand we developed the web portal, which is online where links are provided, downloads are possible, which over time is easily adjustable to cater for changes in laws and regulations. On the other hand we developed for different countries so called e-guidebooks, which are offline—it's a PDF file, printable, and it is also easily editable and can be basically used for the daily work and for product interest in other parties for the RE guidelines.

So far we are planning to develop such guidelines for four countries in the ASEAN region. First is Malaysia, where we are developing solar PV, small and large, and small hydropower up to 30 megawatts. Indonesia guidelines on biomass project developments, which are already finalized and launched earlier this year. Mini hydropower and solar PV guidelines are planned but not yet finalized. Other guidelines we developed are in the Philippines on solar PV and also here small and large installations. And under development we have in Vietnam the guidelines on biomass and biogas projects in development.

What is there in the guidelines? The guidelines offer an easy to understand guide on how to develop RE projects so they cover the entire development cycle from site selection until operation and maintenance. They visualize through Gantt's charts and flow charts the whole process and give the complete picture. The guidelines list the documentation, which is required for each of the steps and introduce relevant authorities and the legal framework for project developers, lenders, and others. In addition, the guidelines map the associated challenges in each step for the RE project development and offer even advice on how to overcome those challenges, which negate risk which are implied. Finally, the guidelines provide the basis if you look into the region for regional benchmark for procedures and also policy advice from how to ease and streamline administrative procedures. This is especially important if you are looking into the further market in 2015, as I mentioned in the ASEAN economic community, where the transparency and streamlined processes for investment are definitely important.

With regards to the target group and beneficiaries of the RE guidelines, we basically have two main groups. On the one hand the guidelines they address the projects of developers, investors, and lenders. They provide access to clear information on the administrative procedures. As I mentioned, they highlight relevant authorities. They provide permits, which are downloadable or linked, and help project developers and investors to become more confident in the RE investment and project development in a specific country for a specific technology. Moreover, as I said, the guidelines they highlight associated challenges in RE project development in a specific country. Of course this is never complete but nevertheless gives some guidance on how to overcome some bottlenecks. The other group where the RE guidelines are targeted at is policymakers and authorities. So the guidelines they are an appropriate tool to communicate up-to-date information to project developers and other

market participants and help the policymakers also to be aware of challenges which are faced by the private sector in developing their projects. Finally, the regional benchmark, peer learning, among policymakers and authorities is of course supported by the guidelines.

Before I hand over to Thachatat to go more into detail on the web platform and the e-guidebooks and to guide you through the functionalities of the RE guidelines let me just briefly summarize and maybe also give some input for later Q&A sessions. So from our understanding, from our experience, in ASEAN and Southeast Asia the transparency of course of the procedures is the first step but it can only be a first step before procedures are also streamlined and the existing bottlenecks and stumble stones are removed by authorities. At the moment we see that EPC companies and banks, investors and administrations are step-by-step getting first experience with PV power plants but also other renewable energy projects. So it is from our prospective important to use those experiences to enhance the administrative procedures to make them more permissive for large scale deployment of renewable energies. What I also mentioned was that the administrative procedures and related cost can undermine any well designed support schemes so it doesn't really help if you have a very nice tariff with high tariffs and nice return on investment for investors. It doesn't help if it underlying procedures are not in place and just a block of further market deployments. That is why streamlining of administrative procedures is the most cost-efficient measure to bring down the development costs so we are not talking larger funds which are required from government budgets, but it's only an adjustment of existing regulations. Another important point that is what came out is that, for example, roof PV definitely needs other procedures than a large megawatt power plant and it is important that those requirements are made adequate, depending on the size of the projects. We are convinced that those countries which streamline the administrative procedures they will definitely be an advantage later on in an integrated ASEAN market. It's about time for the ASEAN countries to work on the administrative procedures. How this can be done and what is in the renewable energy guidelines I'm now happy to head over to the moderator and also listen to the presentation of Thachatat

Thank you very much so far from my side and I'm looking forward to your questions later on. Thank you.

Emily

Thank you Arne. That was an excellent presentation. Thachatat I would like hand it over to you. Go ahead and take it away.

Thachatat

Thank you very much Emily and good morning, good afternoon, or good evening depending on wherever you are. From the presentation of Mr. Arne Schweinfurth you may have already been aware of the background information of the ASEAN Renewable Energy Guidelines launching team. First of all, who are our partners, what is the scope of the guidelines of this group, future implementation, etc. So my part today is to go into a bit

more details by showing you procedures and the format of our guidelines—so how the information is structured and how the guidelines are organized. So what I am going to do is pick some examples. So in this case it will be some guidelines and then just show you how they work. So normally we are talking about renewable energy guidelines we actually mean two things. The first one is the web platform, which you can already access by just simply typing re-guidelines.info into your web browser. What you need is only a computer, can be a laptop, or any device that has an internet connection. Then you can have access to the information we provided. Here we used biomass/biogas guidelines for example.

Then we go through the electronic guidebook and just for the sake of having a code name we just call it e-guidebook. This is nothing else but a PDF file. There is no need for any fancy software to open this file. You can also download this electronic guidebook from our web platform as well. In this part I will use the Philippines guideline for solar PV as an example.

Then finally I will have a short remark about the publication of our guidelines. That will be all from my side for today. Before I start going deep into the details I would like to emphasize that my presentation will not be a complete explanation about step-by-step procedures of how to develop projects in each country. At the end of the day you will not know everything about how to develop such a project in Indonesia or in the Philippines but of course you will know how with the web platform and the electronic guidebook. Basically we are not focused today on the content itself but we are going to focus on the tools.

Okay, just not to waste more time I will just jump into the website. With ASEAN RESP what you have to do is type in re-guidelines.info into your web browser and now you will see the home page of our webpage. This one is about renewable energy guidelines for ASEAN. What you see the first thing is of course the map of the ASEAN countries over here and on the left hand side you can also see the list of all 10 members, which is basically from Brunei to Vietnam. At the moment we have three guidelines already online. As I mentioned, I'm going to use ASEAN RESP guidelines on Indonesia and Philippines as an example.

So in order to access these guidelines just simply click Indonesia map over here. Now you will see a tiny small window showing up over here. This provides you the first look into Indonesia. So some short information is provided. For example, what is Indonesia and how important is it in the ASEAN regions. Now if you have a look on the bottom part of this window you will see renewable energy technologies shown over there. At the moment we have only one guideline for Indonesia so it is about biomass and biogas guidelines. In order to access the guidelines you just simply click on this button.

Here we are. Right now you are inside the guidelines and it's about the guidelines for Indonesia and it is about how to develop biomass and biogas projects. Apart from the map and the flag you find over here basically we have our local partner over here. In this case, this is the EBTKE. Basically they generate new and renewable energies and energy conservation in Indonesia who helped us to make these guidelines available. Of course there is another explanation over here and a bit more detail. This detail, for example, the context of biomass/ biogas projects in Indonesia, such as the growth of interstate demand, some important policies such as ASEAN [inaudible 31:45], some regulations, and of course some legal framework.

So if you have a look a little bit down we have two red buttons. This is where you can download our e-guidebook. In English here—we actually have two alternate guidebooks. The first one is the English version for foreign investors and we have one for the local or the Indonesian investors as well.

As we move a little bit down, then you will see this nice and colorful flowchart. Basically this is the heart of all guidelines. What does it does it mean by this chart? Basically what this chart is trying to say is how to develop a project from the very beginning. From the very beginning means from the site selection over here until operation and maintenance at the end of the days. This is the entire spectrum of the project development in Indonesia. Now let me just explain this flowchart really quickly. Of course the first thing the project developer has to do is to find a good spot to develop the biomass/biogas project. This is everything about the site selection, evaluations, and only after you know where to go can you start approaching the authorities and to acquire necessary permit or license. So the process is explained within these three boxes. At the same time you also need to establish a corporate team to carry out the project developments. This can be in the form of the special proposed company or SPC. Some people may call this SPV, special proposed vehicle. This one is described under this box—this purple box. Also, at the same time you have to do some basic engineering and this one is explained under the gray box over there about procurement and construction. Of course this one is not relevant to the physical construction of the power plant but it is about the basic engineering.

After our permits have been obtained the project developer can start discussing with the power utilities in Indonesia and hopefully at the end of the day he will get a power purchase agreement being signed. Secondly, a power purchase agreement, a PPA, is simply a contract owning, mining and selling licensure between developers and power utilities.

Now another permit comes into the picture. This one is electricity production license or, as the name implies, this one is a license to generate electricity. Some may have a question already why we don't simply put this permit under the pink box below, because over here we also discuss

about the permit as well. Just to quickly answer this question, we feel that this permit is quite important for they renewable energy project allotment and we would like to highlight this in a detailed step. Obviously we separate this one from another permit you may have to attain from the government like environmental permit because this is quite unique for our renewable energy project development.

Also, some of the obvious may notice that we actually have two permits over here the same color—the electricity production license. What does it mean? Basically it is implied that there actually are two things to be done over here. You need the first permit here even before you can sign the power purchase agreement and then you need the second permit over there before it opens up the power plant.

Now let's us come back to the PPA. After we have the PPA over here, of course the project developer can start a physical construction of the power plant now but of course this will not take place until he has the money in his pocket, so basically to say our in the bank account. So what project developer has to do is he has to approach a banker over here or some financial institutions. Then only after the power plant construction is completed the power plant is connected to the power grid. And of course over here we are still discussing about the commissioning to be done as built to assure the power plant has sufficient performance to be operated.

Now at the end of the day you can operate your power plant and of course some corporate fiscal and legal can be as well in parallel to the operation of the power plant because in Indonesia you can apply for some [inaudible 37:52], some income tax exemptions, and this has to be done in parallel to the power plants. This will be all of the process for development of the power plant project in Indonesia.

What I would like to mention shortly is about this tool tab. You see this tab already so we are now looking on the flow chart but of course we have the second half of the page is about a Gantt chart. If we click on the Gantt chart basically you see something different, but of course this one is nothing new. It's just the same story but being told by the different graphics. This is because from the project developers point of view Gantt charting is something pretty common and project developers want to put everything in this way. Normally this is what they expect to see from all guidelines, but of course you have the rest of the world which sometimes they don't like much on this Gantt chart. That's why we provided it in the flow chart as well. So we have a tool presentation of how the project flows.

Now let me go back to my presentation again. Over here I would like to explain how what is the structure of our guidelines. So basically our guideline is structured in the following manner. The first is we have the top layers over here. This is what I am going to call overview layers. The reason is because if you take the entire spectrum of the project

development, but when you have a look on these nice and colorful layers you will see the entire picture but what you don't see or hear is about the details. So this layer detail is not there. For example if you have...

Emily

Hi. Thachat, I'm very sorry to interrupt you. We can see your control panel for the webinar platform. There is a little orange arrow to the right of your control panel up there. Just click on that for me real quick. There we go. Now we can see your whole screen. Please continue.

Thachat

Okay, perfect. Okay, let me come back to my presentation. Basically if you have a look on this pink box over here this one is about to obtain a permit from the local government or from the central government. Basically what project developers have to do in Indonesia is first he has to obtain principle license. Secondly he has to obtain the location license—principle license, location license, environmental license, and blah blah blah. So with these there are a lot of things to be done over here and it does not make sense to just try to put everything we can in a small box. That's why we try to create the second layers over here at detailed layer. This layer just simply tells you about the details. It is less colorful of course because the detail is always less colorful but of course because detail is always less colorful, but [inaudible 41:50]. We are going to call it add a step so within this step you have many sub steps inside. That's how we structure our guidelines into the two layers.

Now let me go back again to our web platform. So how to see the second layer from this website? You can simply click on any of these that you need. For example, I need to click on the administrative authorization over here and we have to wait a little bit. Okay, here we are. Now we are already in the detailed layers and this is about the details about how to do administrative authorization. Over here you will see, as I mentioned earlier you need a principle license, a location license, an environmental permit, water resource utilization, and today you need to acquire land for necessary project development.

Now if you move a little bit down then you see the description. This is exactly what I mentioned earlier but it is of course structured in the more organized and more formal manner. What you see now is a project description. Of course, there is another tool provided over here. There is the regulation and another one is for the challenges. If you click on the related regulations you will see the entire list of laws and regulations which concern this project development, sorry concern this tab. This is not a short list basically. This is quite a long list. That's why it is quite complicated. Now if you click on the challenges tab then you will see all the challenges being listed over there. Of course we provide some descriptions which will tell you about the example of challenges and how it can have some implications on your project developments. Of course, some recommendations have been provided how to overcome those challenges.

So now let me go back once more this auto flow chart, detailed flow chart. So if you want to have a look on each of these you just simply click on one of them. Write now I'm going to click on Obtain an Environmental Permit, for example. Here we are. So again you see some description about how to obtain an environmental permit in Indonesia and what that basically means and also this will tell you about the related authorities, obviously who has to approve this permit. Of course you have the list of required documents. If you click on the list of related authorities then you see basically different cases. In each case they are the related authorities. First of all for the case one you have to go to the district level but in the second case and later on you have to go to the higher level, just for example. So I think that will be all for the web platform.

I will just jump into the electric guidebook. As I mentioned earlier for this electric guidebook I will use another example. So this one is the guidebook for the Philippines and this is about how to develop large solar PV projects. As you see the environmental we have over here is just a simple order. This is just a simple PDF file, which you can just open with any software you may have. So again what you see on this page is the central part of our guidebook, which is the auto flow chart. Here we have two buttons on the top which allow you to switch between Gantt chart and flow chart. So, for example, if I would like to see this graphic in the form of Gantt chart you just have to simply click on this button and we will change like this. So again if you want to have a look on the details of any step we have over here you can just simply click on any of these boxes. Today I will choose the example as an administrative authorization pink box over here. Then you will see which of these with a pink color that basically you have to obtain several permits from the government. On the top part of this page you see the navigation pane we have on the top. Again the arrow is provided on the top.

Now because we have looked on the administrative authorizations so it means that this part of the overall chart is highlighted. You are always aware of where you are in the whole process. So this is the first function of the navigation pane and the second function is this one. Over here you see a tiny yellow flag over here and if you can remember the yellow flag is about financing. This is our color coding. The meaning is that you need to do something in the financing step before you can do this confirmation for commerciality. So this provides some interlinkage between the steps which lies beneath the different steps.

Also this part for the navigation part you can just click on this bar just to go to different parts of our guidebook for example. Again, if you want to look at the detail of this step you can simply click on any of these. For example, if I click on the NCIP certificate over here then you will be led to the details of how to get this permit basically and which type of document you have to submit, so how much does it cost, and who is the related authorities for this step. I will not go into much detail again because the structure is pretty much the same as our web platform. So basically we

developed this electric guidebook because it is very handy, especially when you don't have any internet connection or in case if you have this one but it's not a good internet connection then this PDF file can be quite handy and of course it is an interactive file. So you can just put it into your laptop, your tablet, or whatever and just simply click to it.

That will be all from my side. Before I close down my presentation I will just shortly mention about the final remarks. So what you have seen now is the Gantt chart—two of them. The first one is from Indonesia from biomass/biogas development, while the lower one is from the Philippines, large solar PV development. What I would like to highlight is we provide some consistency between the guidebook so by that you can find the same steps in the same colors. For example, site selection is provided in blue colors. Financing is in yellow colors. Basically these consistencies allow some comparisons to be made between different countries. Some obvious questions to ask are how to compare basically two graphs like this because one graph is trying to explain biomass/biogas projects and on another one we are trying to explain large solar PV. Of course this is not comparable. You cannot have the perfect corporation; nevertheless we believe that by having a look at these two charts side-by-side some idea can be expressed from the guidebook, so to say. For example, for Indonesia you will see the green box over there. This one describes PPA, power purchase agreement. Again you see the greyed box for construction. If you have a look on the Philippines guidelines you see construction comes here and PPA comes here.

Basically the sequence is different between two countries and what does it mean actually. If you look, in the case of the Philippines the power plant must be constructed first. Of course when you construct a power plant you need a lot of money to be put in over here. What you don't have yet in the construction is the PPA. So it basically means you have to put in the money, you have to construct the power plant, and another day maybe you can get the PPA. But what will happen if the project developer cannot get the power purchase agreement at the end? Then basically he can just be finished, completely constructed, but he cannot connect to the grid and cannot get back the monies. That is why it is quite high risk at the moment to develop solar PV projects in the Philippines. Having said that, I do not mean that renewable energy project development is much easier in Indonesia. Of course there are still some complications as well but having a look at the overall Gantt chart you can't see those challenges so clear. So sometimes the devil is just in the details.

Again this one is not about trying to compare who is better in what but just to show you the different setting in countries. Now you go to my last slide. You see this tool chart and both come from the Philippines and both the guidelines are for solar PV. The upper one is for small scale, that means up to 100 kWh, while the lower one is for large solar PV, which means above 100 kWp—so same countries, same technology, but different inside. As you may see the cost here are not exactly the same. For the

small scale one it is much less colorful. That means you don't see the purple box on the top. You don't see the green box. You don't see many steps on the top. Basically you can say for small scale development in the Philippines it's simpler, it is much easier, because they are less steps to be done. This makes sense because of the small project to start up and catch up each year. Having said that, nevertheless, in the Philippines you still need this license or the electricity production license, which are not very common for small scale projects but with the current situation you still need to obtain this permit. Of course in the Philippines they still provide it for the small scale project. This electricity project license can be obtained much easier compared to the last year one.

That will be all for my presentation. Basically my final remark is just trying to give you some idea of how comparisons can be made and this can help project developers to see different settings in different countries. Of course there are some thoughts that a perfect comparison cannot be made because the technology is quite different, which is definitely correct. It is like comparing apples to pears or mangos or whatever. At least some thought can be estimated by having this picture side by side. That will be all from my side. Thank you very much and I will just hand this over back to Emily. Thank you.

Emily

Thank you Thachatat for that excellent presentation and thank you both of our panelists for their presentations today. We have some great questions from our audience and we will use our remaining time to discuss them. As a reminder you can submit your questions for our panel through the questions pane. So please go ahead and submit your questions now. We will start with the questions we have.

How many guidelines will be developed in the future and what will be the next step in implementation?

Arne

I will take this question, Emily. Thank you very much. What we are...what is basically an important point when developing such guidelines is of course closely working together with the authorities on the country level? What we did here in Indonesia or in ASEAN, basically there was a request to develop those countries where there is also a market development foreseeable. Basically this was Indonesia, Philippines, Vietnam, and Malaysia and this was basically developed on request, so to say. So having said that we are definitely open to develop such guidelines for renewable energies also for other ASEAN countries and we are as soon as there is a request and a strong partner on the country level that basically owns the whole process. Because you can see that in the guidelines there is a lot of research effort and you need an in-depth knowledge of the country, of the e-market, so you need a strong partnership.

Apart from ASEAN we are of course sharing already and happy to share in the future the whole methodology and the templates that we have and this is to our knowledge already done for a couple of projects abroad who

are considering and implementing such guidelines, not necessarily for renewable energies but also other markets and technologies. So there is no clear number how many guidelines will be developed. It's more or less on demand thing that we can support.

Emily Thank you very much Arne. Thachatat did you have anything to add to that?

Thachatat Basically just the same thing as Arne just mentioned. Just to be specific, for Malaysia we are trying to develop three guidelines basically. So there would be two guidelines for solar PV, one for the large scale. That means everything above 72 kWp and for the small scale is everything below 72 kWp and another guideline for small hydropower. For Vietnam we have biomass guidelines.

Emily Great, thank you very much both. Second question—are the templates or examples of permit documents, agreements, etc. included in the appendices?

Arne I beg your pardon. I did not really hear the question.

Emily Sure. I'm happy to repeat. Are the templates or examples of permit documents, agreements, etc. included in the appendices?

Arne Min would you like to take that one?

Thachatat Sorry, I don't really get the question. Could you elaborate a little bit more?

Emily Yes, we will go ahead and go back to that question. Let's go to the next one, which is, how are these guidebooks disseminated among the target groups, for example, project developers?

Arne Um, yes, so what we are doing is we have this webinar today, which is the first webinar since the platform was just finalized in the current form this or the end of last week. But we are also planning to have a couple of more such webinar more specifically for different countries where we can go more into detail on say, for example, Indonesia or Philippines or Malaysia as soon as those guidelines are finalized and launched in the country. We are going to organize a kind of series of webinars. We also have our web platform of course and our web page ASEAN renewables where the newsletter all updates are sent to our partners and stakeholders in the region and worldwide. There is also the opportunity for project developers and other actors to get subscribed to the newsletter and to get informed about new developments. Another thing we have done, which will probably be done beginning of or end of March next year, there will be a regional conference or workshop on administrative procedures and they are streamlining here in the ASEAN region where also the guidelines will be further disseminated. Since we are a regional project of course we have to make use of let's say the new forms of technology to spread the

information and this webinar and others to come are part of those dissemination options.

Emily Thank you.

Thachatat Actually I would like to add one point. So basically, apart from the conventional way of dissemination of this guidebook. Over the last two or three months we held a workshop in the Philippines for the bankers. So basically, when we do update our guidelines it is not the primary target of our guidelines but we also disseminate the guidebook in this type of workshop and the banker can be another target group for our guidelines still. It is quite well received by the banker and they say this one is quite useful in their day-to-day work so to say.

Emily Thank you very much. I appreciate that. Speaking on the regional level, what are the challenges in developing the guidelines?

Thachatat Well, basically I understand it is about the challenges in the developing the guideline itself, isn't it?

Emily Yes, speaking on the regional level. What were some of the challenges in developing the guidelines?

Thachatat Basically because this is for the ASEAN region when we have to work with more partners so it's not about developing the guidelines for Indonesia but also we have to talk with the different partners for the same country as well. Of course you have to discuss the people that they have different needs. First of all, people perceive our guidelines differently. Some of them want to put some more steps. Some want to put something in addition. So basically, some people are fine to organize their guidelines differently but at the regional project we want to achieve the consistency in procedures of the guidelines because we would like to do some kind of comparison between the countries. Just between what is the difference between the steps in each country. That's why the alliance between the need of the country and to maintain consistency is quite challenging actually.

Emily Great.

Arne Let me add on that actually, another thing that I already mentioned of course, having guidelines on a level that they are relevant for the market actually. They need a certain or a minimum level of completeness and this needs a lot of research effort. So it's not necessarily big funds and big money that one needs to develop those guidelines but it's experience in the market and it's a good overview to really make them complete, to make a valuable contribution with those guidelines. Such effort certainly has to be quite high and has to be considered when developing such guidelines.

Emily Great, thank you both. What are your thoughts on how to close the gap between RE project developers with the financial institutions? The audience member who asked the question gave a "for example" in Indonesia—accelerating the RE financing.

Arne One thing is I don't know to what extent this question relates to the guidelines themselves but I will try to answer it how those guidelines can basically contribute to closing this gap. For our understanding and our experience, not only in Indonesia but in all, I would say, countries, where new markets are developing and investors and developers are beginning to invest it's the most important step is to get some transparency in the whole market step. It is basically the core idea of the guidelines to say okay, if you really want the markets to develop, one has to understand what the actors are, what the preconditions are, and what the necessary steps to put projects into place. We think with having the guidelines and having put some transparency in the whole procedures and the whole processes this is definitely something that is a good tool for bankers or investors to assess the risks which are related to administrative procedures and to see the extent that they want to mitigate those risks. From my point of view or the guidelines are important first steps to creating an understanding of the market and also for the challenges, which are involved in certain steps.

Emily Thank you. Thachatat did you have anything to add?

Thachatat No, for this point. I know this is quite clear.

Emily The next question is a two part question. The first part is due to the rapid development of technology, how are the guidelines updated? Then, how is the information regarding the updates shared with the target groups?

Arne On that, this is definitely one of the most relevant questions. Of course it is nice to have such guidelines but it's not so nice if they are outdated in one month as soon as a new regulation comes in. We have now our first case basically in Indonesia. We developed the guidelines and the guidelines were launched on biomass project development in June or no July this year. By now, just recently a couple weeks ago the regulation on the whole tariff structure for biomass power projects was updated and a new regulation launched. We now are at the point where we have to update it. For us it is important what are basically two sides. One thing is the ASEAN Center for Energy has the mandate to provide this information for markets, for e-markets, timely and in the ASEAN region. There is definitely the counterpart where these guidelines are anchored for them in the future but this, and this is very important, in the beginning that developing the guidelines is crucial to have the local authorities on board and to create a certain ownership for the guidelines so that they see also the those guidelines as their tools to inform counterparts, or project developers, or market participants on new developments. What we are doing now here in Indonesia is the team of ASEAN RESP and other projects here are working together with a partner or going to work with

them together to update the guidelines according to the new regulation and then basically the update is going relaunched. There needs to be a certain ownership which is given in the Philippines and Indonesia and also in Vietnam but to be clearly honest this is a challenge which will be high on our agenda for the next month to go and we are looking forward to see how it works out here for Indonesia to update it. The second part is how is the target group informed about these updates? Again, I can only say we have ASEAN Renewable information, we have a portal where updates and new information on renewable energies in the ASEAN region is regularly spread and there also updates on the guidelines will be announced.

Emily Wonderful, thank you very much. Looking towards the future, will web platforms or online guidelines be handed over to respective ministry or department in each of the ASEAN countries?

Arne Yes, that's already done so in the future the target is to have the ASEAN, the platform, completely run by the ASEAN center for energy. Already now the guidelines itself, for example in Indonesia but also in the Philippines, they were launched by the authorities, by the respective ministries and director generals as their guidelines. So in this sense they are handed over. As I mentioned, it is now also important to have this as a continuous process as soon as there are updates and changes. Here they are handed over of course.

Emily Wonderful, thank you very much. Next question—in securing license and permits, do you think it's advisable to provide the list of local and national offices of where to file these permits and licenses?

Arne Min would you take this?

Thachatat I'm sorry can you repeat it again?

Emily I'm happy to repeat. In securing license and permits, do you think it is advisable to provide the list of local and national offices where to file permits and licenses?

Thachatat Yes, basically, please correct me if I'm wrong. So I understand that your question is about is it possible to list all the permits we need in each respective countries isn't it? So as I said earlier it can be a bit difficult. We have a list of permits that you have to obtain as the project developer. For example, in Indonesia the structure is really decentralized. There are many permits that you have to get from the local government and of course the procedures and the list of the exact permit that you need in a particular area of the [inaudible 1:16:29] is quite worrisome. We have many many, many districts, many local governments and each government issues a different permit. It is impossible to provide the list of the most common permit in each country but I don't know maybe the whole list of everything you need is quite difficult to present.

Arne Maybe to add on that and maybe it answers one of the earlier questions. What of course you have in the guidelines and what you have are the related authority's role and also the required documents. So as far as possible it is clearly stated that we are to obtain which license and which permit if possible or even forms and templates are provided so for download or the link is provided and also a clear addressee for those permits. In general this is done throughout the guidelines. Here I would say in a particular case where you have decentralized structures that you cannot provide it for over 30 provinces in Indonesia because there can be slight changes from province to province or even from regency to regency. In general this is indicated and provided in the guidelines.

Emily Wonderful. Thank you very much for that clarification. Now I want to thank the audience for all the wonderful questions. Now before we take our quick survey I'd like to provide the panelists with an opportunity to provide any additional or closing remarks that you'd like to make before we close the webinar.

Arne Yes, thank you. Thank you very much. First of all I would like to thank the attendees who listened to the webinar. As we mentioned, this is only the first in a row and we will continue providing information on RE guideline development and how it spreads, how it develops here in the ASEAN region. We are also very happy to support countries or authorities projects in other parts in the world with our templates, research approach, and ideas that we put into the guideline development. We are also very happy also to share our experience in the future on different channels. Finally, what I can only recommend if you as an audience are more interested in the renewable energy market in southeast Asia or ASEAN in particular just check the ASEANRenewables.info webpage where you will be updated regularly on all information that we, the ASEAN member countries, provides in this sector. Thank you very much from my side. Also to the moderator, to Emily, and your colleagues for organizing and hosting this webinar. I hope it was helpful for the participants and listening to us. Thank you very much.

Emily Thank you very much and thank you again to both of you for being excellent panelists today. Now we'd like ask our audience to take a minute to answer a quick survey on the webinar that you viewed today. We have three short questions for you to answer. Your feedback is very important to us as it allows us to know where we are doing well and where we can improve.

Heather, will you please display the first question? The first question is, the webinar content provided me with useful information and insight. Great, thank you very much and Heather the second question? The webinar's presenters were effective. And for our final question—overall, the webinar met my expectations.

Thank you all for answering our survey. On behalf of the Clean Energy Solutions Center I'd like to extend a thank you to all our expert panelists and to our attendees for participating in today's webinar. We've had a terrific audience and we very much appreciate your time. We invite the attendees to check out the Solution Center website if you'd like to view the slides and listen to a recording of today's presentation as well as previously held webinars. Additionally, you will find information on upcoming webinars and other training events. Additionally we are now posting webinars on the Clean Energy Solution Center YouTube channel. Please allow for about one week for the audio recording to be posted. We also invite you to inform you colleagues and those in your network about Solution Center resources and services including no cost policy support. Have a great rest of your day and we hope to see you again at future Clean Energy Solution Center events. This concludes our webinar.

DRAFT