Renewables Tagger: A New Climate Tagger Feature, Developed by IRENA and REEEP

—Transcript of a webinar offered by the Clean Energy Solutions Center on 27 September 2016—
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Webinar Panelists

Stephanie Weckend	IRENA
Florian Bauer	REEEP
Denise Recheis	REEEP

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Eric Lockhart	Hello everyone. I'm Eric Lockhart 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 International Renewable Energy Agency and the Renewable Energy and Energy Efficiency Partnership. Today's webinar is focused on the new Renewables Tagger. 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.
	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 will eliminate the possibility of feedback and echo. If you choose to dial in by phone, please select the telephone option, and a box on the right side will display the telephone number and audio pin you should use to dial in. If anyone is having technical difficulties with the webinar, you may contact the GoToWebinar's Help Desk at 888-259-3826 for assistance.
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along as our speakers present. Also, an audio recording of the presentations will be posted to the Solutions Center Training Page within a few 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, Stephanie Weckend, Florian Bauer, and Denise Recheis. These panelists have been kind enough to join us to discuss the New Renewables Tagger, which is a specialized version of the well-established Climate Tagger. Before speakers begin their presentations, I will provide a short informative overview of the Clean Energy Solutions Center initiative. Then following the presentations, we will have a question and answer session where the panelists will address questions submitted by the audience. Then brief closing remarks and a 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 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 expert 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. Lastly, the Center fosters dialogue on emerging policy issues and innovation around the globe.

Our primary audience is energy policymakers and analysts from governments and technical organizations in all countries, but we also strive to engage at the private sector, NGOs and civil society. A marquee feature that the Solutions Center provides is a 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 counties at no cost. For example, in the area of renewable energy policy, we are very pleased to have Paul Comer from the Renewable and Sustainable Energy Institute serving as one of our experts.

If you have a need for policy assistance and renewable energy policy or any other clean energy sector, we encourage you to use this valuable service. Again, the assistance is provided free of charge. If you have a question for one of our experts, please submit it through our simple online form at cleanenergysolutions.org/expert. 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 today is Stephanie Weckend, who is a Programme Officer and the

International Renewable Energy Agency where she focused on data and information management to include the Knowledge Gateway-REsource, data dissemination and statistical analysis.

Following Stephanie, we will hear from Florian Bauer, who serves as REEEP's COO and Director of the "Open Knowledge Programme." His work includes the management of the "Climate Knowledge Brokers Group" which is a group of more than 150 leading knowledge brokers in the international climate sector as well as REEEP's other knowledge tools.

Our final speaker is Denise Recheis, who has been working as a Knowledge Manager at REEEP since 2010, where she has worked on a number of different knowledge tools to include the Climate Tagger as well as various publications. With those introductions, I'd like to welcome Stephanie to the webinar.

Stephanie Weckend Thank you very much, Eric, for this kind introduction, and I hope everyone can see my screen. As mentioned –

Eric Lockhart Yep, we can.

Stephanie Weckend All right, good. As mentioned, my name is Stephanie, and I work as Programme Officer, specific to data and information in IRENA's Knowledge Unit. I'm actually very pleased to be able to guide you today through our latest knowledge product developed jointly with REEEP, the Renewable Tagger. I will try throughout my short presentation to showcase why the Renewables Tagger is so useful to IRENA and hope that this tool will also generate added benefits for you, mostly increasing the reliability and improved access to up-to-date renewable energy data and information.

My presentation will be structured in three parts. First, for also audience and listeners that do not have a knowledge or a previous insight on IRENA, I will shortly present IRENA's activity and mostly related to its knowledge strategy. Eric already mentioned in his introduction we have an IRENA Knowledge Platform REsource. So I'll give you a quick background and run through REsource, and then I'll give you also a background information on why we engaged in developing a Renewables Tagger and more specifically dive into the renewables [inaudible] that we developed jointly with REEEP.

So IRENA is actually one of the youngest or is the youngest international organization to date. It has currently around 150 member states and 25 states in accession. As you might be aware, the main mandate is to promote the deployment of all renewable energy technologies, provide renewable energy capacity building and training in different countries, and of course, deliver research, analysis, and information. So, in short, renewable energy knowledge.

So why do we need renewable energy knowledge, and what does IRENA do specifically to promote this knowledge? Well, as to date, over 144 countries have set ambitious targets for their own renewable energy future and a new sustainable development goals and more particularly SDG7 is laying the

ground for increasing significantly the share of renewable energy globally by 2030 and beyond.

However, there are still technical and non-technical challenges slowing down the deployment and preventing investments to get up to the scale required, which is also related to missing information in the sector. For example, if you take the finance sector and the perceived risk in financing renewable energy. Hence, there is a strong demand for public knowledge and access to trusted, accurate information, and this information is also crucial to support improved decision-making and increase awareness and confidence in the renewable energy sector.

So, improving the availability and quality of renewable energy data and information is also a major priority for us at IRENA, and as such, we developed a global renewable energy knowledge platform REsource that was launched in January 2015. What REsource intends to do is to be an online knowledge platform to dynamically capture growth patterns and also showing the main new trends in the sector. So, actually REsource links to IRENA's full knowledge library and provides information on a variety of different topics that I will showcase in the next part of this presentation.

So this is the actual landing page of REsource. REsource is actually structured in three subcategories. The first one is a very simple search. So you can skim through IRENA's entire library. Then we have quite a sophisticated data and statistics page where you can find all renewable energy data that we currently have available, covering different renewable energy topics. So going from capacity generation, energy balances. We also have our REmap options available.

So these are the different options available to different countries when it comes to looking at what are the accelerating tools and methods until 2030 and how countries can actually deploy renewable energy increasingly. We have also data related to finance and costs and much more. So we'll encourage you to specifically visit that page if you're interested in renewable energy data.

The third section of REsource is related to countries and country analysis. So this here just shows your brief overview of one of our country profiles specifically related to China. So you can here see that you will have access to different maps, news events, and then also policies as well as financial information. So what does this resource and specifically this knowledge platform have to do with the Renewables Tagger? So this is actually a quite interesting story. So when we developed REsource, we decided to use REEEP's Climate Tagger for content tagging. So, however, in that process we realized that we're in need of a much more detailed and enhanced renewable energy thesaurus to make sure that we achieve the optimal results.

So this is where the idea for Renewables Tagger emerged based on universal renewable energy glossary that offers definitions, synonyms and links across all the renewable energy sector. What we see is from our side that the Renewables Tagger actually will be crucial to further organize and categorize

our increasingly large document databases. So we produced a lot of reports, a lot of publications, presentations continuously, and so we are very happy that this tool is now available to us through REsource, but then also available to you to make sure that we are tagging and also making available this tool on renewable energy.

So the Renewable Energy Tagger, and I'm sure that Florian and Denise will explain more technical details later on in the next presentations, but I wanted to share with you in the introduction an extract of the renewables thesaurus. So this is just a very small extract. We worked with several partners to make sure that the content and the definitions that we include in a Renewables Tagger are in line with what other major organizations in the renewable energy sector and willing to work with. So examples include REN21, World Bank, [inaudible] and many more.

The good thing about the Tagger is that it is a flexible software tool that we also have the unique opportunity to constantly update and also enhance a dictionary as new terminologies come along. This is definitely crucial for a fast-paced sector like the renewable energy one. So this is also a call to you. Please let us know if you have any additions or suggestions. We would actually be delighted to include these in future releases. So this closes my part of the presentation. I'm happy to answer any question at the end of the webinar if you have some. Thank you very much, and we really hope that you will all start using this exciting new tool in the future. Thank you.

Shawn	Great, thank you very much, Stephanie. That was a great introduction, great background. We'll turn it over to Florian.
Florian Bauer	Yeah, thank you very much, Shawn. I'm just sharing my screen here, which you should be able to see now. Shawn, can you confirm it worked?
Shawn	Yeah, it looked good.
Florian Bauer	Perfect, yeah. Thanks for this and thanks Stephanie for your very good introduction of our joint project. I'm very pleased to see that this project was developed with IRENA, and I hope you are all keen to see how it really works and what it is, which my colleague Denise will show you after my short presentation, which is about why we actually are using Linked Open Data to do this. Stephanie already showed you an excerpt of the thesaurus that was developed and all the things that we did in this project are actually based on the principle of Linked Open Data. I wanted to give you a quick overview on why we all are so keen on this and why this is so important in our view.

Let me start with showing you this picture. This is a picture that someone sent me a few years ago as a picture showing how he felt when he was trying to look for a specific kind of information on climate change on the web. We are using these pictures to illustrate what is happening here in that field. We hear daily that new websites are launched, new portals are launched, that new one-stop-shops, knowledge portals, and whatever can name them. So there is a tendency to do a lot of different things and to launch a lot of different things. |

A colleague of ours started to call this the "portal proliferation syndrome." I think that is a very nice description of what it is. What this means is that we start—when such a lot of different portals and websites are starting to share information, we are starting to creating data silos. We are starting to create something that for the users is very hard to navigate. So this is a visualization that the OP Project has done in terms of mapping the internet, and one website is just one single small dot here. So it is very important to start connecting the dots and make it easier for the users to find what they are looking for.

The problem with all of this is—well, I wouldn't even all it a problem. The point here is we cannot stop this. We cannot and do not want to stop that people are creating new things. This is a natural thing to do. There is a new project launched. There is a new organization launched. Everyone wants to provide the users with information. That's all fine and that's all good, but what we have to do is we have to help those organizations to make the best out of it from a user's point of view. So from those who are trying to find information and access information, it has to be easy to navigate and it has to be connected.

Here comes something in play, which I would like to show you based on that tag cloud. The city of Edmond in Canada did a workshop on what is actually important when you start to provide information? They came up with two things that stuck out here. One is standards; the other one is data. So it is about being able to access the data. That's the one that's fine, but the other thing is also to provide data based on a specific set of standards. I'll make the link to the Climate Tagger on the thesaurus in a second here.

So when we provide data, open data, make it accessible to everyone else, make it reusable, and so this is very useful. We've seen example here in REsource, obviously. REsource is drawing on a lot of data sets from different players, and this is very important to have access to those. So this can avoid replication because you can access already existing data in your own website. You can concentrate on your own expertise rather than re-trading something and so on. This done finally turns into creating new knowledge.

But what we also know is that it's very important when you do this to take care about standardization and consistency. So we with a group called the Climate Knowledge Brokers, worked on how can we actually ensure that these kind of various different information sets, data sets, and different websites are connected? Well, the first bit to tackle here is to create consistency in how things are described. Create consistency in how things, how keywords are applied, how documents are tagged across different regions, across different languages. This is particularly important for technical and policy-relevant content like renewable energies. This is why we were so happy to see IRENA taking part in development.

So basically, this group of organizations that were working on improving quality and use of climate-related knowledge called CKB, what we decided in this group is that we want to create a tool that makes it able to start applying consistent key wording, consistent tags on the document repositories that we

all created, the websites that we created, the knowledge portals we created. And by that, make it easier for users to find what they are looking for in a consistent way, no matter if it's the REsource platform on IRENA, or if it is a World Bank platform, or if it's a platform on another website.

That's when we started to work on the Climate Tagger and the Renewables Tagger as a follow-up product, which Denise will now show you in more detail.

Shawn   Okay, thank you very much, Florian. That was fantastic background. Turn to Denise now. Denise should have a pop-up to share your slide

Male   Denise, you are still on mute as well.

Denise Recheis   Yes, hello. Here I am.

Male   Perfect.

Denise Recheis   Okay, great. Thanks, Shawn for the introduction and moderating our webinar today. Thanks also Stephanie and Florian giving us some background and an intro. Welcome to our participants. We really appreciate your interest and hope this is interesting. Okay, Renewables Tagger, a new high quality tool for publishing online content on renewable energy. Renewables Tagger is a new feature based on our established tool, Climate Tagger.

Basically, Renewables Tagger was made possible through a joint project between IRENA and REEEP. We worked on this in 2015 and 2016. All right. Oops. Okay, sorry. The point of this project was on one hand to expand the thesaurus section on renewable energy to cover really the whole or at least mostly the whole spectrum of renewables and also to customize the tool, Renewables Tagger in a way that it would become more useful and possible to be integrated at IRENA's Resource Platform.

More generally, in a more wider approach, Renewables Tagger is also meant to help streamline and organize web content on renewable energy across websites. So this is aimed at third-party users, and the idea behind this, and Florian already talked about this, is to harmonize the language that we are using in the renewable energy technology and policy fields, which is quite mixed and not at all harmonized at the moment. At the same time, through this project, we have created a very large and domain-specific taxonomy/glossary that didn't exist in such detail and depths before.

Furthermore, we also believe that the integration of such IT tools and collaborating to make such tools better on the technical and content side helps to strengthen the collaboration between organizations, organizations that like us are working in the fields of renewable energy and climate. We think this is a really important part of successful knowledge sharing.

Okay, this is a slide that you have just seen Florian use. We worked together closely, so I don't know how this happened, but I will give you my take on it. Based on our experience at REEEP, we noticed that experts and practitioners

worldwide are using a very different vocabulary, even though they often talk about the same thing. Also, we have to keep in mind that for many of us, English is not the first language. So this creates even more potential for misunderstanding and confusion. So there is a real need that we increase the consistency to make it even possible for everybody who is working in that field to be able to access the full picture and the full spectrum on what is there regarding resources on renewable energy, clean energy, technology, policy, marketplace, finance, et cetera.

We believe and we found that standardized tagging is a fast and low-cost way to implement such an increasingly [inaudible] Hello?

Eric Lockhart   Yes, we can still hear you, Denise.

Denise Recheis   Okay—across regions and languages. So tagging as a low-cost and fast way to get closer to achieve this. Yeah, especially in subject areas that are really complex and broad such as, for example, renewable energy and more generally also the whole climate sector. I think they are in particular need of increasing their consistency so that people understand it sort of better and we avoid replication and confusion.

So Renewables Tagger is based on our climate smart thesaurus. This is the underlying knowledge collection that is accessed by the tool. At the moment, our thesaurus is available in five languages. This means that Renewables Tagger at the moment can be used by platforms that publish content in English, French, Spanish, Portuguese, and German. Currently, it describes more than 4,000 concepts, that means well over 12,000 terms. It covers topics from the fields of renewable, energy efficiency, as well as climate compatible development, that includes adaption and mitigation.

The thesaurus is built in a software system called PoolParty, which developed by our IT partners, Semantic Web Company. So a thesaurus is more than a list of words. Mostly of the time, a concept also has attached to it a definition and synonyms, and this also explains why we have about 4,000 concepts, but well over 12,000 terms because there might be different synonyms for a single concept. Furthermore, a concept is not isolated. It's part of a web. It's got a broader and a narrow concept. This is the hierarchy in which it resides, and it also has vertical links to other related concepts.

Wherever it is possible, we have also included links to other suppliers of Linked Open Data that this, for example, Wikipedia, open [inaudible] and attached this information and connected it to the concepts. Of course, all this information is available for free reuse in any way that might be useful for others out there in our field. For this project, Renewables Tagger, a large part of it was the development of new content. Stephanie has described that already. So we have developed this new specialized area that before already existed, but no comparison to what we have there now.

Renewables Tagger now recognizes over 2,700 domain-specific concepts. It was developed with several experts who gave us the available input, but a large share of it and the revision was done through IRENA's in-house

expertise. So now, we have this vast collected knowledge, this network of knowledge describing the field of renewable energy in terms of technology, policy, the marketplace and the financing options. Again, also this specific part of the thesaurus and all the things that you can do with it are free for third parties to reuse, integrate into their tools, their websites, whatever.

For us, we are using the thesaurus amongst other things for the Renewables Tagger. So now I've tried it out for myself. We supply our users with a demo, which is easy to use. In that particular case, I have started and tried with a document I found on Wikipedia, an article about energy policy. I have copied and pasted it into the demo on Renewables Tagger website. I've selected the right language. After I took this screenshot, it was English. I've chosen Renewables Tagger since this article obviously talked about energy relevant topics. So here we see the screenshot with some of the results I received.

These results that the concepts, the texts are, of course, related to the content of that particular article, energy policy, but it's also coming based from this new Renewables section of the thesaurus. So these texts have been picked up, so to speak, with a view through the lens of the renewable energy context. So we know they are relevant not only for that article, but also the wider field of renewables. Also, to make it a bit clearer, what other information is stored in the thesaurus with concepts, I have picked here the example of "renewable energy" in the screenshot. You see displayed the synonyms for that particular concept. So there are quite a few.

That could mean in that article, Wikipedia article in the first paragraph they will be talking about alternative power and then later on in the article they might be talking about non-conventional energies. So they mean the same thing, and rather than picking up two different distinct texts, Renewables Tagger recognizes this is the same thing and just gives us that one tag to describe it, "renewable energy." Now, this can be very useful and this is relating back to what Florian explained before, to make sure we can link and connect related content. This can be within your own database, but this can also be across websites.

So there may be a large collection of documents and in some they will always be talking about the unconventional energy, and in the other one, they will always be talking about the alternative energies. Old-fashioned or conventional systems will not recognize that those two actually belong together and should somehow be made available to use together. For example, by referring the reader to also see further reading, et cetera. So that becomes possible by using a tool like Renewables Tagger that is based on a thesaurus.

Now, I want to showcase a little bit of the functionality or the process of how this thing works. Climate Tagger, Renewables Tagger both are using the same technology, the same process, basically step one, you install Renewables Tagger in your platform. Several ways to do that. It could be a full integration of the API. For that, you need an IT developer, but it will also allow for more flexibility and freedom; or they also provide plug-ins for the most commonly

used content management systems. So they can be quite easily installed into a platform and then you get to step two.

The Renewables Tagger actually scans and analyzes all of the textual previously unstructured information documents of that database, and extracts the most relevant concepts out of those resources. It then attaches those tags to each of the resources, and that allows for several use cases. Some pretty obvious ones, for example, would be to use those attached tags to organize and put into categories, a previously chaotic collection of valuable resources. Or it could be used to build a really powerful insight functionality to guide your users to what they're looking for in a much more structured and efficient way.

Another typical use case would be to use those tags to connected your related content, just as I said before by, for example, referring your users to further reading based on similar or identical tags of content.

So if you're going for the full API integration, as I said that will allow for more flexibility, and there's some edit functionality that we make available via the API. For example, that would be geo-tagging that would extract the geographic information about locations from your textual information that could become useful, for example, if you have a map display and you want to highlight that your resources have, in particular, special regions.

Another functionality would be enriching content. Now, this is making use of the additional information from the thesaurus that could mean you offer your users the appropriate definitions or translations to help him digest your offerings better. Furthermore, we have also got what we call the Content Pool for the Renewables Tagger, Climate Tagger API. This is a pool of Renewables Tagger that will basically store and remember the tags that describe your content. You can opt-in for this, and if you do, then another user of the Renewables Tagger might go into Content Pool, search for certain topics, tags again, and could be guided back to your website and to highlight that a certain subject is already well-covered in this and that spot and this and that platform.

So the idea is that this will make it a lot easier to create this connected web rather than that silo of information that we have just seen before in the picture that Florian presented. Content Pool at the moment, I have to say, doesn't have the amount of resources that we would like to have there. We are still building it up, but I definitely see potential in the Content Pool or a similar functionality that makes it easier for providers of online content, web platforms in our field to connect their resources.

Okay, Renewables, the next steps. So if you want to learn more about this tool or install it there available on the website, renewables.climatetagger.net. There are different ways, as I touched on earlier. The full integration of the API where you'd need the IT developer, or the plug-ins currently available for Drupal and WordPress. We also have a third option. This is aimed at smaller organizations that maybe don't have the resources for an IT department, and maybe only have a limited number of resources that they want to publish.

Upload and Tag is a functionality for up to about 500 documents, semi-manual that can be done by somebody who doesn't have an extensive background in IT development of programming.

There's also the Demo available, api.climatetagger.net/demo. I've showcased it a little bit already. I think it makes sense to play around with this. It's very easy in its usability, and I think once you see what kind of results you would get for your content, it's much easier to visualize how this could be useful, how you could use it for your website to connect your resources or to organize them better just to increase visibility, accessibility, and usability because at the end of the day publishing resources on a platform is not an end in itself. We want to make sure that people who need it find it when they need it.

Furthermore, we also have a glossary and preview available. At the moment, this link points you to Reegle. It's also available for Climate Tagger already on the Climate Tagger website coming up for the specific Renewables Tagger very, very shortly. There you can see this preview just as I've shown you a few slides ago.

I think this can be quite useful to get a bit of a grip on 2,700 concepts from the renewables energy sector. You can dive in a little bit and kind of see if you find the kind of topics there that are relevant to the information you publish on your platform, all you need. Or even find gaps. I mean, as Stephanie mentioned earlier, the good thing about this tool is also that we can continuously improve it and build it in a fast-developing area such as we are working in. This is definitely the case, and it's a must really for an IT guru to stay on top.

You can contact me personally via e-mail. I am happy to give advice or recommendations from our experience using Renewables Tagger, and also happy to organize a staff call to discuss possibilities for particular websites. Yeah, that was it pretty much from my side. Thank you very much for your attention. I hope it was useful, and I look forward to your questions. Thank you very much.

Eric Lockhart   Thank you very much, Denise. Thank you to each of our panelists for those great presentations. We have a few questions coming in, and I'll remind the attendees to please enter questions into the questions pane if you have them now or any point during the Q&A sessions. The first question that Denise touched on a little bit from a technical standpoint is, "What's the best way to incorporate the Renewables Tagger into the process of developing a new knowledge resource?" That's to say through the process of conceiving and designing and executing a new knowledge resource, where in that process should Renewables Tagger be incorporated?

Denise Recheis   Okay, sorry. Maybe I start and maybe Florian also wants to say something about it. I think if already at such an early stage when developing a new platform, already a tool such as Climate Tagger is included in the picture, I think it opens up for a vast amount of possibilities because then use cases can be specifically worded, framed, and sort through. So I think it's a good timing

quite in an early stage when developing who this website is aimed at, what kind of resourced will be provided? Will it be own content or will it be shared type of content? And so on and so forth.

I think just after that, the next step could already be considering a tool like Climate Tagger because, as I said, it could be used, for example, to create a search mechanism, or it could be used to organize the categories. So if you work with a tool like that early on, you can already select the categories based on the content you got and on the analysis you received from the tool. Also, you can formulate requirement specifications and possibly have some alignments or changes made such as IRENA had now or you find, okay, the ready use case, for example, for the plug-ins already really suits my needs.

Then it could make sense to say, "Okay, those plug-ins are available for Drupal and WordPress. Is it a possibility to use those content management systems for me?" So, yeah, I think it's a great time to consider the use of such a tool.

Florian Bauer   Just adding to that—this is Florian—I think that was exactly right to say that the earlier thinking about tools like this, the better. I mean, if you now know about the possibilities of Renewables Tagger and the underlying thesaurus, it is great if you can spend time on thinking about how can this actually be useful to my own platform and my own resource? I always like to point out that I would prefer if not the tech people think about this, but those who are conceptualizing the platforms because it is about thinking about the use case. It is about what would my user need? What use case could be there that is beneficial for my user that I provide information for?

From that, you then can go to have a look on the more techy stuff in terms of how you include it, how you implement it, how things like an API, which maybe some of us have no idea what it is—how this works. You then can get your techy people in, but I think it is very important in the first bit of the conceptualization of a portal, of a website to think about the use case and to do that on a concept level stage and not from a technology perspective in terms of thinking, there is a tool. How do we implement it? So I think that's quite important and the earlier the better, as Denise said.

Eric Lockhart   Great, thank you both. Just sort of a somewhat related follow-up question here from another participant that has to do with using content knowledge, which Denise spoke about a little bit. The question is, "How should one consider quality assurance for other resources that are out there when you're using content pull to consider whether or not you ought to fill a gap in the space of renewable energy knowledge?"

Denise Recheis   Mm-hmm, yeah. This question comes up regularly. Obviously, it's a very important one to consider. So, hmm, when you use content pull and you decide to use resources that have been stored there, you can select the organization that uploaded the content. So, for example, this is already quite a quality assurance if from the get-go you say, "Okay, I'm accepting recommendations from IRENA, from NREL, and REEEP," for example. So you have that first gateway, so to speak. Then, of course, this is something I

would always to recommend, to have a kind of manual gate, not blindly uploading.

It would always make sense to have somebody having a look over because as automated tools, the more sophisticated they get, they still can't take over the work from a human mind. But what it will do, it will offer you suggestions. It will offer you precise and good suggestions, and then the final decision should still be made by a person.

Eric Lockhart   Great, thank you. Would anybody else like to add to that? Stephanie, I might have inadvertently cut you off on this question or the prior question. It looked like you were about to come off mute. Do you have anything to add to this or the process question that preceded it?

Stephanie Weckend   Yeah, I mean, perhaps just a short elaboration and a little bit more practical answer to the first question on when to integrate the Tagger or any other similar software in a platform or in a website. I mean, from our experience since we started, conceptualizing REsource in January 2014, we actually launched REsource a year later. Our experience was that we should have been a little bit earlier looking at what is the tool and what is the best software that we can [inaudible] to ensure that the search is optimized. At the end of the day, what we were hoping is that the Climate Tagger would become the brain of REsource, and so that the tagging will be according to what the Tagger functionality gives to us.

In that course, as I explained also in the introduction, we saw the Climate Tagger fulfills a great functionality, but when it comes to very specific documentation and very underlining terminologies in renewable energy, that we expect our users to search for, specifically terminologies related to renewable energy—this is when we realized that we need a more enhanced tool. I mean, we're almost a year late [laughs] So, with a tool. I mean, we launched REsource more than a year ago, but to not have a similar experience and as Denise and Florian mentioned [inaudible] look at what is available to you now. Then if you need an enhancement or if the features are not quite right, then better to think about it earlier than later.

Eric Lockhart   Great, thank you very much. Our next question, a participant asks, "How wide is the scope of technologies captured by this tool? Specifically, are adaptation technologies also included as keywords? For example, what are agriculture-related sectors?"

Stephanie Weckend   Well, I'm happy to answer that because from IRENA's side, we worked massively on the content side of the [inaudible]. So we include all renewable energy technologies. So there is the six major technologies, but then you obviously have a lot of sub-technologies depending on the different technologies. We also go into very much details when it comes to specific applications and other treatments of renewable energy technology. So I'm thinking about water, solar water pumps or irrigation in agriculture, for example. So we go into a lot of these details.

I mean once the tree is available that Denise also mentioned in her presentation, you will have better underlying understanding of the terminology and the fact breakdown that we have. But I mean all IRENA, all the different teams, our policy team, our finance team, our Nexus team, our adaptation team, and then also in collaboration with all the different partner organizations that are also mentioned, we hope that we captured more or less—I mean, I don't think we'll ever capture all the concepts and terminologies, but we feel quite confident that we captured a fair share of that.

Eric Lockhart   Okay, thank you very much, Stephanie. We have one more question here before turning to closing remarks. For any questions that we haven't had a chance to cover, we can reach out to participants directly. The question asks about the renewable energy thesaurus and if there's definitions for each term included in there for background? That might be a question for Stephanie to speak to first perhaps.

Stephanie Weckend   Yeah, yeah. So what the Renewables Tagger does, it tags and creates relationships between concepts and terminologies. So if the question is, "Does the renewable energy define what we understand as, for example, hydro power or what is solar energy?" then this is not a definition dictionary itself. So this is something that would be—and this is something that also REEEP offers through its dictionary. But I mean this is something that we would have to look at the future and perhaps I'll hand it to Florian and Denise because probably they get that question quite a lot, if the Tagger will also eventually have a definition section to it?

Denise Recheis   Well, there's two parts to this answer. I think one is Climate Tagger or Renewables Tagger as a tagging tool doesn't offer definitions directly, but as I showcased, if one is installing the API or using the Linked Open Data version of the thesaurus directly for many terms, we do have definitions most often coming from other reliable Linked Open Data providers. This touches onto the earlier questions about quality. So we have decided to take in definitions from other very respected organizations and for many terms. Also for the renewable energy part, there are definitions available, but it's not the core function of the Tagger itself.

Eric Lockhart   Great. Thank you very much, Denise. With that, we'll return to any brief closing remarks out three panelists would like to make. Perhaps starting with Stephanie, we can go in the order that you presented.

Stephanie Weckend   I think the main message and also Denise and Florian, please correct me if I'm wrong, but the main outcome of the launch webinar today is to make everyone understand that this is not a static tool, but this is a dynamic tool and that we are counting on everyone's participation to enhance that tool over time. Also, to see if there are any terminologies or concepts that we are missing so we have a coherent Renewables Tagging tool in place that is open data and that is also made available to all the organizations that are in need of sorting and have large databases and are in need of such a tagging tool.

Florian Bauer	Yeah, I very much agree, Stephanie, and I hope that in this webinar we have given you a quick overview on what this tool can do. I hope you try it out. As Denise said, there is a nice demo to try it out, and give us some feedback on it. I would like to take this opportunity in the closing remark to say thank you very much to IRENA for doing that project with us. That was exciting, and it was great that we could do this together. I also would like to say thank you very much to all these experts who helped us to develop the thesaurus. I mean, we had people contributing from lots of organizations like REN21, like UNEP, NREL and others to help us to create this thesaurus.

Also, of course, the experts from IRENA who did a major part of the development of the renewables thesaurus. So the whole tool is based on this collaborative work, and we appreciate that support very much. |
| **Denise Recheis** | Totally. I also want to express gratitude. It was an exciting project. I think Climate Tagger has really benefitted from this collaboration and we really offer a tool now with Renewables Tagger targeted at all those organizations, platforms out in the renewable energy sector. I think we really have something to contribute there, and like Stephanie said, I also hope it's an ongoing process. We'll work and learn more, and yeah, work collaboratively with users of the tool. So thank you very much, and thank you also to the participants to the webinar. |
| **Eric Lockhart** | Great. Thank you all very much. Thank you again to the panelists for those great presentations and very informative question and answer session. We'd like to ask our audience to take a minute to answer a quick survey on the webinar you viewed today. We have five short questions for you to answer. Your feedback is very important to us and allows us to know what we're doing well and where we can improve.

So the first question is, "The Webinar content provided me with useful information and insight?" The next question is, "The Webinar's presenters were effective?" "Overall, the Webinar met my expectations?" "Do you anticipate using the information presented this webinar directly in your work and/or organization?" Finally, "Do you anticipate applying the information presented to develop or revise policies or programs in your country of focus?"

Thank you for answering our survey. On behalf of the Clean Energy Solutions Center, I'd like to extend a thank you to all of our expert panelists and to our attendees for participating in todays' webinar. You've been a terrific audience, and we very much appreciate your time. I invite our attendees to check the Solutions Center website if you would like to view the slides and listen to a recording of today's presentations as well as previously held webinars.

Additionally, you will find information on upcoming webinars and other training events. We are now posting webinar recordings to the Clean Energy Solutions Center YouTube channel. Please allow for about one week for the audio recordings to be posted. We also invite you to inform your colleagues and those in your networks about Solutions Center resources and service including no-cost policy support. Have a great rest of your day, and we hope to see you again at a future Clean Energy Solutions Center event. This concludes our webinar. |