45671_DOE_GDO_Jan_17_WCOSW_Meeting_v0 1

WHITNEY BELL: Hello, everyone, and welcome to the West Coast Offshore Wind Transmission Convening Series Kickoff Meeting. Today's event is brought to you by the US Department of Energy and the Bureau of Ocean Energy Management.

I'm Whitney Bell, with ICF, and I'll be your host today.

Before we get started, I do have a few housekeeping items to cover. This Webex meeting is being recorded and may be used by the US Department of Energy. If you do not wish to have your voice recorded, please do not speak during the call. If you do not wish to have your image recorded, please turn off your camera or participate by phone.

If you speak during the call or use a video connection, you are presumed to consent to recording and use of your voice or image. All participants are in listen-only mode.

If you need to view the live captioning, please refer to the link that will appear in the chat now. We are taking questions throughout today's event. You may submit them at any time using the Chat function. Additionally, if you have any technical issues or questions, you may type them in the chat box and select Send to Host for assistance.

Finally, and a question that we get a lot, a copy of today's presentation will be posted on the West Coast Offshore Wind Transmission Convening Series Kickoff Meeting web page by this Friday. And then the recording of today's meeting will be available on that same web page in about two weeks. And we will send you an email when it is available.

All right, let's move forward here. Today's workshop will cover the purpose and goals of today's meeting, discuss the Tribal Nation Technical Assistance Program, and review the West Coast Offshore Wind Transmission Convening Series. We'll also hear an overview of the West Coast Offshore Wind Transmission Study and the lessons learned from the Atlantic, before we close off the meeting. All right. So let's go ahead. We're excited to kick off today's workshop with some opening remarks from Maria Robinson, the director of Grid Deployment Office within the US Department of Energy. So Maria, I'll go ahead and turn this over to you.

MARIA ROBINSON: Thank you so much, Whitney. I appreciate it.

Good afternoon, good morning, depending on where you are. My name is Maria Robinson, as mentioned, and I'm the director of the Grid Deployment Office here at the United States Department of Energy. I want to welcome you all to our West Coast Offshore Wind Transmission Convening Series. This is our kickoff workshop. And I'm particularly thrilled to be partnering with the Department of Interior's Bureau of Ocean Energy Management, and our friend Liz Klein, to launch this series of conversations about offshore wind transmission needs along our West Coast.

And we really appreciate all of you making time to join today. I know you have a lot of choices of what to do with your time. And to be here with us means a lot.

So of course, as you know, President Biden has set a goal of deploying gigawatts of offshore wind by 2030, and 15 gigawatts of floating offshore wind, deployed by 2035, with the aim to ramp up to 110 gigawatts and beyond in 2050. Certainly, ambitious goals. And addressing offshore wind transmission

challenges are going to be critical to meeting these goals. Certainly, the Department of Energy here is committed to using every tool available to building a robust offshore wind industry across the United States.

So the Department of Energy and BOEM first held our series of convening workshops, which focused on the Atlantic offshore wind areas, from April 2022 through March 2023. And we recently published the resulting Atlantic Offshore Wind Action Plan just this past September.

The historic Inflation Reduction Act provided the Department of Energy with a significant amount of funding to broaden our efforts to include the West Coast, in particular, California, Oregon, Washington, while future efforts could focus on the Gulf Coast, to do some similar planning work.

These workshops really help us, with BOEM, identify some regional and national transmission challenges, and helps us to develop a set of near-, medium-, and long-term recommendations to connect offshore wind projects to the grid.

So during these workshops we'll be seeking input from, Tribal nations, federal agencies, state agencies, cable and transmission providers, fishery organizations, NGOs, developers, unions, utilities, and anyone else who is using the ocean, and all interested parties on technical planning and development, those who are interested in the economics and policy, and certainly those who are invested in everyone's favorite topic-- siting and permitting needs.

This offshore wind transmission convening is just one part of the Grid Deployment Office's overall efforts to improve and expand national transmission infrastructure by conducting enhanced planning. Other transmission efforts include the National Transmission Needs Study, which we released in October 2023. And that assesses both current and anticipated future capacity constraints and congestion on the grid across the United States and provides insights into where we could benefit from increased transmission. We're also in the process of conducting the National Transmission Planning Study to identify transmission solutions that will provide broad-based benefits to electric customers, inform regional and interregional planning processes, and accelerate decarbonization, while maintaining reliability.

Now, as we turn to our offshore wind transmission engagement here on the West Coast, we want to emphasize that the Department and BOEM, we cannot do this important work alone. We know that expanding offshore wind transmission infrastructure is enormous, it's challenging, and can be a potentially costly undertaking. And that's why we're asking you to spend your time joining us, to make sure that we're approaching these challenges in a just, thoughtful, and intelligent manner.

Partnership and collaboration were truly invaluable during our Atlantic Coast Convening Series, and we're really hoping to replicate a similar level of collaboration on the West Coast. This includes our work with BOEM, leveraging the technical expertise of DOE's National Labs, and coordinating with each of you on this call to ensure that transmission planning is done holistically, thoughtfully, and equitably.

Quite frankly, we can't do this work without you. And your knowledge, insight, and participation will be so important as we chart a path forward and shape the future of this industry. So I'm grateful, and encourage all of you to participate and share your ideas and perspectives throughout this process. Don't be shy. So offshore wind will be essential to meet our federal decarbonization and climate goals, but we certainly cannot build an offshore wind industry without the associated transmission. So we look forward to working with each one of you here and looking forward to hearing your recommendations and perspectives throughout the course of this convening series.

Before I sign off, I just want to say a special thank you to our team here at the Grid Deployment Office, who've been working really hard to make this happen-- and closely with our friends at BOEM-- to prepare for this upcoming year of work.

And so I'm turning it back over either to Whitney, I think, to then introduce Liz Klein, over at BOEM, as well.

WHITNEY BELL: That's correct. Thank you so much, Maria.

So as Maria mentioned, next, we'll hear from Liz Klein. She's the director of the Bureau of Ocean Energy Management within the Department of Interior.

So Liz, we welcome you to the floor.

LIZ KLEIN: Great. Thanks, Whitney. Thank you, Maria. And thank you to the entire team at the Department of Energy, working on these important issues. BOEM really truly values our partnership, and we look forward to this continued collaboration.

My name is Liz Klein. I'm director of the Bureau of Ocean Energy Management here at the Department of the Interior. And on behalf of the entire BOEM team, thank you to each and every one of you for joining us today.

Our nation is really primed for a transition to a clean energy future, one that will combat climate change, create good-paying jobs, and ensure economic opportunities are accessible to all communities. Offshore wind is central to this vision. And BOEM is doing our part to help achieve the administration's ambitious offshore wind energy goals.

We're moving forward with a sense of urgency, while remaining diligent in our efforts to avoid, minimize, and mitigate impacts to ocean users and the marine environment.

But as Maria noted, it's not just about getting the turbines spinning out in the water. Obviously, careful transmission planning is a key piece of this effort. To fully reap the benefits of offshore wind, we need to be able to deliver energy responsibly and with minimal impacts.

We've certainly seeing early great results on the East Coast, where we just celebrated two projects delivering first energy to the grid in the past two months. So it can be done. But we know that bringing this energy to shore poses a host of challenges. There's the availability of components, facilities, and infrastructure. There's permitting requirements, spanning multiple jurisdictions, on the West Coast, the lack of off- and onshore transmission pathways to access offshore wind development, and the harsh ocean energy environment, just to name a few.

We need to work together to understand these challenges and to identify potential solutions. That's why we're taking a smart, inclusive approach to transmission to help us find the right answers. We took this approach last year with the Atlantic Transmission Workshop Series. And that process really is serving as the model for our collaborative work here, starting on the West Coast.

Of course, those efforts wouldn't have been possible without the strong working relationship between BOEM and the Department of Energy. Both of these workshop series are examples of how our agencies are working collaboratively with the many other agencies and state partners who have a role to play in transmission.

We are also committed to meaningful engagement with Tribal nations, stakeholders, and ocean users. We're working to avoid impacts to the marine environment as much as possible. And we are relying on the best available science to inform our decisions. For 50 years, in fact, science has been a critical component to BOEM's work. We have funded several transmission studies in the Pacific to help analyze how offshore wind will be integrated into existing power generation and transmission systems. And this work with DOE will help us fill information gaps and guide potential offshore wind development.

These efforts and others will help us identify potential actions to connect Pacific offshore wind projects to the grid. And today's meeting is really an important step in this process. The feedback you provide in this series will help inform future decisions.

I know we have several BOEM and DOE-- probably more than several-- BOEM and DOE subject matter experts on hand today to answer your questions. They are incredibly knowledgeable. So you're in good hands. And I hope that this is just the start of many productive conversations about how we can address transmission issues and move US offshore wind development forward safely and responsibly.

And I thank each of you, again, for joining us on this journey.

Back to you, Whitney.

WHITNEY BELL: Thank you so much, Liz.

I'd now like to welcome Jocelyn Brown-Saracino, the offshore wind lead in the Wind Energy Technologies Office at DOE, to provide an overview of the Offshore Wind Program. Jocelyn, welcome.

JOCELYN BROWN-SARACINO: Great. Thanks so much, Whitney.

And I just want to start by thanking you all very much for spending this time here with us today. I think, as we heard from both Liz and Maria, and I think is no secret to anybody who is participating in this discussion today, transmission planning and development is going to be really critical to the successful scaling of offshore wind development on the West Coast. And so we really appreciate your willingness to engage with us on this important topic.

And so I'm going to be speaking a little bit today with respect to how these efforts today nest both within our broader goals with respect to offshore wind development, nest within where we stand with respect to floating offshore wind development in the United States, and then also how these efforts nest within DOE in particular-- DOE's efforts to advance floating offshore wind in the United States, and then I'm going to be closing with a little bit more information about the convening efforts itself.

We can go on to the next slide. And the next one after this as well.

So our offshore wind aspirations are really an essential part of the Biden-Harris administration's broader climate goals of achieving a carbon-free electricity sector by 2035, as well as 100% clean energy economy with net zero emissions by 2050. And I think folks around this event, or participating in this event here today, are probably very familiar that, in March of 2021, the Biden-Harris administration announced a goal of deploying 30 gigawatts of offshore wind by 2030.

And critically, since that time, the administration has also laid out a goal to deploy 15 gigawatts of floating offshore wind specifically by 2035. And over the last three years, we've really seen a step change in offshore wind development in the United States. Today, in the United States, we have a project pipeline of combined potential capacity of approximately 52 gigawatts. And that's nearly a 50% increase over the last three years.

And of course, state efforts have been incredibly important to offshore wind development in the United States. And right now, state offshore wind goals codified under law are close to 43 gigawatts in total. And state planning targets, including those not enshrined in laws, are over 109 gigawatts by 2050.

And then, I think really important in the context of this conversation with respect to West Coast development, California has established a goal of deploying 25 gigawatts of offshore wind by 2045. And Oregon has gone through a process of evaluating the cost and benefits of 3 gigawatts of offshore wind development by 2030.

And you heard Director Klein speak very eloquently about the efforts that BOEM is leading with respect to expanding leasing opportunities, with, of course, the first commercial lease auction for floating offshore wind happening off of California, and plans for more leasing actions in the near term for floating offshore wind off of Oregon and also off of the coast of Maine.

But here today, we're talking about transmission planning on the West Coast. So if we go on to the next slide, I want to talk a little bit about the West Coast and the context of floating offshore wind development. So the West Coast of the United States has a very rich offshore wind resource and has deeper waters that will require floating technologies. And that's true for a lot of our nation. About 2/3 of our offshore wind resource in the United States is in those deeper waters that will require floating offshore wind development.

So just to ground us a little bit before we move forward in this conversation in terms of where we stand with floating offshore wind development both domestically and globally, right now, around the world, we're really seeing this transitional moment, where we are going from pilot-scale development of floating offshore wind to commercial-scale development.

So over the last year, for instance, the global floating offshore wind pipeline grew from over 60 gigawatts to approximately 103 gigawatts. And that represents about a 70% increase just last year alone. And accessing that resource can provide both climate benefits, but also economic benefits, with the prospect of good-paying jobs in coastal communities and beyond.

So if we move on to the next slide-- it's really in light of both this opportunity, but also the work that will need to be done in order to make this opportunity a reality, that agencies across the federal government, including Department of Energy, Interior, Transportation, and Commerce, came together to launch an initiative to really try to advance US leadership in floating offshore wind development.

And that was coupled with both an ambitious goal to lower the cost of energy for floating offshore wind, alongside the deployment goal with respect to advancing floating offshore wind that I mentioned earlier. And if we move on to the next slide.

In advancing floating offshore wind, the transmission work that we're going to be talking about over the course of both this meeting and as part of this convening series is really integrated into five priority areas that we're working to coordinate on and emphasize across the federal agencies engaged in the floating offshore wind shot. And I'm going to speak to each of these just briefly.

So first, we know that we will need to continue to fund critical technology research and development to help lead to further industry-wide cost reductions. And over the last year, at DOE alone, we've invested over \$100 million of resources in this area.

Second-- and you heard Director Klein speak to this powerfully-- we know that as we look to expand development, we need to do so in a way that is just and sustainable, that protects species, while engaging communities, Tribes, ocean users, in project siting and in transmission development and planning.

And so here at the Department of Energy, we're working hard, in partnership and coordination with our sister agencies, to support a range of efforts in this space, from environmental research, to support to

empower communities to engage in offshore wind planning processes, to social science research to help us better understand the impacts of offshore wind on economies and communities, and much more. Also, we understand that, really critically to advance floating offshore wind in the United States and also to reap the economic benefits of floating offshore wind to the greatest extent practicable, we're going to need to develop a robust domestic supply chain that will help create good-paying US jobs and pave the way for deployment at scale.

And at DOE, we've been working to support national and regional scale analysis, road mapping, and planning. And we also have resources available through our Loan Program Office and others to help support standing up of supply chain assets.

And of course, these efforts will be bolstered by the new manufacturing tax credits under the Inflation Reduction Act. But the focus of today's efforts and today's discussion and the broader efforts that we're going to be talking about today are really around resolving transmission challenges in areas adjacent to coastlines. And we're going to be talking a lot about the work that we're doing in the analysis and planning space for the West Coast.

And I think that you heard from both Maria and Liz that this works to build off of a similar effort that we've engaged in the West Coast to both analyze transmission options for the future as well as convene critical stakeholders with respect to conversations to help inform an action plan for development of transmission. But here at the Department of Energy, we're also doing a number of other actions related to transmission development for offshore wind. As part of our commitment to ensuring that transmission planning meaningfully includes Tribes and Indigenous knowledge, DOE has launched a Tribal Nation Technical Assistance Program for offshore wind transmissioning, offering resources to support engagement in offshore wind planning that was created in direct response to Tribal input. And you'll be hearing more about that today.

We're also investing heavily in R&D to help advance the grid system of the future. So just by way of a couple of examples, last fall, DOE announced selections of close to \$9 million in funding for projects to advance transmission standards for HVDC systems, to support curriculum development, and much more. And we also have released a solicitation for \$10 million in additional support for support of HVDC, or High Voltage Direct Current, voltage source converter transmission systems.

So if we move on to the next slide.

I've been talking a lot about the efforts that DOE is involved in, but I do want to take a minute to just explain how the role of DOE sits beside, is integrated with, the roles of other agencies that are very critical in this space, including but not limited to, of course, the Bureau of Ocean Energy Management. So with respect to DOE's roles and responsibilities, DOE doesn't build directly projects for transmission lines, although we do have some grant support to help support those efforts. And we're not involved in siting or leasing processes for offshore wind transmission infrastructure.

Instead, we work alongside our sister federal agencies to help facilitate an all-of-government approach to offshore wind development. So here at DOE, we have granting and loan authorities to advance floating offshore wind and co-generation and transmission R&D and demonstration.

You heard from Director Klein at BOEM about the work that they have and the authorities that they have for leasing offshore wind on the Outer Continental Shelf, coupled, of course, with their robust environmental studies program.

And another really important federal agency in the landscape of offshore wind transmission development is, of course, NOAA, which works to help manage both wildlife and fishing activities in federal waters. And of course, we're working closely with the Department of Transportation with respect to planning and support for port development as well as supporting vessel development.

And BSEE will have a really critical role in ensuring workforce safety and environmental and compliance. And this really focuses on the agencies that have a role in offshore wind planning and development, but I do want to call out and emphasize that FERC, of course, has an incredibly important role to play as we look to developing transmission in the United States.

So if we move on to the next slide.

I want to spend just a couple of minutes before I close out talking about the work that we're doing and that we're going to be focusing on with respect to transmission analysis convening and action plan development.

So you're going to be hearing just shortly about efforts that we have underway through our National Labs to support analysis that will help underpin our exploration of potential transmission solutions between the 2030 and 2050 time frame.

That's going to be coupled with the convenings that this meeting is part of that will pull together decisionmakers and subject matter experts to discuss challenges to offshore wind development on the West Coast, as well as developing solutions that will help us reach our collective goals. And then, also really importantly, we'll work to bring together entities to ensure that we do that planning in a way that prioritizes both system cost reliability and resilience, but also environmental sustainability, ocean co-use, Tribal equities, and incorporates Indigenous knowledge.

And then, finally, we're going to be using these efforts collectively to help produce and inform an action plan that will have time-bound recommendations for development of transmission on the West Coast, ranging from technology development, technical planning, siting policy, support of initiatives, and partnerships, and beyond.

So if we move on to the next slide.

I just want to say a few words in closing. I think we are collectively gathered here at a really pivotal moment for floating offshore wind, both domestically and globally. And it holds an immense amount of economic and climate promise. But there's also an immense amount of work that we need to collectively do to advance development. And that is true for transmission development.

And so we are really grateful for the continued collaboration and expertise and willingness to engage of all of those who are gathered here today and who will participate in this effort moving forward. And we're looking to learn from and leverage efforts that we've done on the East Coast and that a number of parties have engaged in abroad. But I do want to emphasize that we recognize that the West Coast is unique. Its environments, its communities, its industry, and goals are different from that of the Atlantic. And that's why your participation is so critical here and we really value the expertise and equities that you bring to the table.

And then, just in closing, at the Department of Energy, we are committed to a vision in which the sustainable and just development of floating offshore wind can be a cornerstone of regional economywide decarbonization and the revitalization of coastal communities. And again, we recognize how critical transmission development will be to making that vision a reality. So thank you for the opportunity to spend a few minutes giving this overview, and I look forward to continuing to work with you all as we look to make this vision a reality. And back to you, Whitney.

WHITNEY BELL: Thank you so much, Jocelyn.

Next, we'll hear from Mark Severy. He's the advisor to DOE, with the Pacific Northwest National Laboratory; and Jennifer Miller, the renewable energy section chief of BOEM.

So Mark, I'll go ahead and let you get started.

MARK SEVERY: Thanks, Whitney.

Today, I'm going to provide an introduction to DOE and BOEM's upcoming Convening Series for Offshore Wind Transmission on the West Coast.

Planning for floating offshore wind energy generation is underway on the West Coast, with active leases off the coast of Northern and Central California and early identification of areas for potential development off the coast of Oregon. Within the current planning regions, there's potential for several gigawatts of generation capacity. However, the West Coast lacks the existing transmission infrastructure required to accommodate large-scale offshore wind development.

New or improved transmission lines and facilities would be needed to interconnect offshore wind generation and move the power to electrical loads. In order to better plan transmission investments for onshore and offshore electrical grids, DOE and BOEM are leading a convening series that we're kicking off today in 2024 to engage Tribal nations, states, transmission operators, developers, ocean users, and many others to develop collaborative solutions for offshore wind transmission in the region.

The convening series will focus on transmission, not the whole suite of generation. And the transmission, what we're referring to is the high voltage electrical corridors and associated equipment that move electricity from the generation sources to the electrical load centers.

The objective of this convening series is not to obtain any group position or consensus. Rather, the Department of Energy and Bureau of Ocean Energy Management are seeking as many

recommendations as possible from all individuals at the forthcoming convening workshops.

As an output, the convening series will identify a set of time-bound actions that will support efficient and equitable transmission planning and implementation for offshore wind on the West Coast.

Through the convening series we'll explore recommended actions to advance efficient planning for transmission systems and components related to offshore wind development. The scope of the convenings will include transmission system design and topology, technology standardization and advancement, community values, impacts, and benefits from transmission, cost allocation and risk, interregional coordination and planning, and siting and permitting for this infrastructure.

At the end of the convening series, DOE and BOEM will develop a set of recommendations intended to help direct future actions and decisions. The recommendations are expected to be published as a West Coast addendum to an action plan that was released by DOE and BOEM last year, focused particularly on offshore wind transmission on the US Atlantic Coast.

The effort will not result in any official siting decisions or regulatory actions. Rather, recommendations will be provided in the areas of partnerships and collaborations, planning and operations, technologies and standardization, economics and support initiatives, and siting and permitting.

The need for the convening series arose out of work conducted in early 2023, including a scoping call and literature review. A scoping call was held in January of last year to better understand the needs, barriers, and opportunities for offshore wind transmission on the West Coast. During that call, we heard there was a need for improved inter-regional coordination for transmission, prioritization of engagement and equity for Tribal nations, having benefits from transmission flow to local communities and grids, improving collaboration among governments and agencies for permitting and environmental review, and addressing technology development and standardization barriers.

In parallel to the scoping call, Pacific Northwest National Laboratory published a literature review of technical studies of the transmission system on the West Coast. Several key themes were consistent across the 13 studies that were reviewed, which showed, in particular, that coastal interconnection points lack existing capacity for integrating offshore wind. The primary gaps of the existing body of work were that most studies focused on a single region or state and that there was no consensus about the optimal technology or topology for offshore grid infrastructure.

Through the information gathered during the scoping call and literature review, we were able to design a plan for a convening series to cover the relevant groups of people and topics that need to be explored in more detail. The convening series that we're kicking off today sits within a broader set of work being conducted at the Department of Energy on offshore wind transmission. I'll use this graphic to quickly walk through the different pieces of this work.

The transmission work on the West Coast began in 2023, with the scoping and gaps analysis that I just described. This initial work was a critical first step to inform the structure of the convening technical assistance and analytical study. A technical assistance program for Tribal nations was stood up by DOE's Grid Deployment Office last year. Liz Weber, from the National Renewable Energy Laboratory, will be discussing this program later on today's call.

The convening series is kicking off today and will occur over the next year. Katie Segal, from DOE, will be discussing the details of the convening series shortly.

In parallel with the convenings, a West Coast offshore wind transmission study is being conducted to understand the technical needs for transmission development on the West Coast. This study is being led by Travis Douville, at PNNL, who will be providing a status update on the study later on today's call. Information and insights gathered from the convening series and technical study will inform the findings and recommendations to BOEM and DOE on the West Coast offshore wind transmission that will be reported in early 2025. And lastly, following these recommendations, we'll set our sights on implementation to reach US national goals.

Throughout the process, DOE maintains a consistent role in supporting planning, analysis, research and development for national energy infrastructure and policy. DOE has an extensive focus on domestic workforce and supply chain development. However, the agency does not own any transmission assets outside of Power Marketing Administration, such as BPA. And DOE does not have a regulatory role in offshore wind transmission siting or development.

As part of the West Coast offshore wind transmission work, DOE's role is to host workshops, to solicit information about offshore wind transmission, fund analysis and research to advance offshore wind transmission, and operate technical assistance programs to provide educational information and capacity to groups that need support.

So with that, that's the end of my opening, and I'm going to next pass to my colleague at BOEM, Jennifer Miller, who will discuss BOEM's role in offshore wind transmission.

JENNIFER MILLER: Hi, everybody. I also want to thank you so much for joining us today for the West Coast Offshore Wind Transmission Convening. My name is Jennifer Miller, and I am the renewable energy section chief in BOEM's Pacific Region.

Transmission is a critical and complicated component of offshore wind development, and I'm so glad that you have all joined us today for this initial conversation.

To get that conversation started, I'm going to present briefly on BOEM's role in transmission authorization and planning. While BOEM has a big role to play in offshore wind planning and development,

transmission is really unique because it extends from the federal lease area into state waters, and eventually lands onshore at a substation that will ultimately provide energy to the electrical grid and end users.

And to make this a reality, planning must take place at many levels and include planning for the energy to be added to the electrical grid and distributed to those end users. And all of this takes a great deal of time and coordination at multiple levels and with multiple entities.

So BOEM's role with transmission starts where everything else at BOEM starts. And that's with the Outer Continental Shelf Lands Act, which gives BOEM the authority to grant easements and rights-of-way on the Outer Continental Shelf for activities that produce or support production, transmission, transportation of energy sources other than oil and gas. It should also be noted that an entity must have a project easement or right-of-way to install and operate a facility that produces or supports production, transmission, or transportation of these energy sources other than oil and gas on the Outer Continental Shelf.

Now, transmission access is granted in two ways by BOEM. The first way is part of an offshore wind lease. BOEM's offshore wind regulations allow for one or more project easement to be granted without competition to support said production, transportation, or transmission of energy. A project easement is the defined location of the transmission cables or export cables that take the power from an offshore wind facility back to the shore so it can be inserted into the electrical grid.

Now, the other process that BOEM has is a right-of-way grant that allows for the installation of cables, pipelines, and the associated facilities on the Outer Continental Shelf that involve the transportation or transmission of electricity other than those produced by oil and gas, but not directly associated with an offshore wind lease.

And it might be worth noting that the Outer Continental Shelf, the way that I'm referring to it right now, is the federal lands that are outside of the federal-state boundary. So here on the West Coast, that federal-state boundary exists at three miles from the coast and out to 200 miles from the coast. So that 3- to 200-nautical-mile coastal area is considered the Outer Continental Shelf.

So transmission when it's associated with the lease considers a few different things. A lessee will need to work with the regional and state entities and the utilities to determine the appropriate landfall locations, along with the points of interconnection. And so that means that the lessee must work with the state and the onshore authorities to make sure that their points of interconnection are appropriate for injection into the grid.

Now, BOEM does not have jurisdiction over the landfall sites or in-state waters, and our jurisdiction, as I mentioned, it really ends at that federal-state boundary, which here on the West Coast is about three

miles offshore. In addition, a grid connection study is typically needed. And that's with an ISO or an RTO. And that's part of the planning process to make sure that the grid is prepared to handle this power injection and able to distribute that power to the end users.

Now, a project easement would be granted at the time of COP decision. And a COP is a Construction and Operations Plan. And that is the big meaty plan that BOEM receives that describes the facility, the transmission cables, and the project, how that facility will be installed and how it will be operated in perpetuity for the lifetime of the project. And all those details of the project easement must be provided as part of that Construction and Operations Plan and analyzed as part of the Construction and Operations Plan decision process.

Now, a Construction Operations Plan, or a COP, can include options in what's described as a project design envelope. And this allows a lessee to present multiple different solutions for their transmission-- so multiple different options for how that development will take place.

And a great example of what that means is a lessee is allowed to propose maybe an high voltage alternating current or a high voltage direct current solution. And with those two different solutions, there might be different numbers of cables. There might be different lengths. There might be different substations that are needed. A lessee can include all of those options in the same amount of detail in their Construction Operations Plan to be considered by BOEM and our federal and state partners. A few other things to know about transmission planning associated with an offshore wind lease is that the lease requires the submission of communication plans and progress reports. The communication plans are a fairly new lease requirement. And it is intended to improve communication between the lessee's and specific groups, such as other federal or state agencies, fishermen, and Tribal nations. And this communication is specifically targeted to hit those periods of time where the lessee is currently planning out what their Construction Operations Plan will look like, but has not yet submitted it.

In addition, the progress reports are provided every six months, and describe the activities and meetings the lessees have undertaken during that reporting period. And as I mentioned earlier, a Construction Operations Plan must include specific and detailed information on the project, all the survey results-- so what does the seabed look like, are there any specific habitats, what is the nature of the seabed, what does the area look like, are there any sensitive communities.

It includes a certified verification nomination. It includes a requirement for an oil spill response plan, a safety management system, and a lot of information that is needed to conduct the NEPA reviews and comply with other relevant laws and requirements, including consultations with Tribal nations. And finally, a COP review may be conditioned on the use of cable corridors, regional transmission systems, mesh systems, and other mechanisms where appropriate.

Now, moving on to the right-of-way process. This is a process that BOEM uses to grant transmission access for projects not associated directly with the lease. Now, the Outer Continental Shelf Lands Act requires a competitive process unless BOEM determines there is no competitive interest.

So first, BOEM will typically publish a request for competitive interest to solicit feedback on the competitive landscape for the project, and there are different paths if there is or is not competitive interest. Next, BOEM looks for any potential spatial conflicts with the proposed right-of-way and the criteria for the right-of-way as described by an applicant. And finally, BOEM may solicit information about the right-of-way and any potential conflicts with space or use or potential sensitive communities.

When it comes to issuing a right-of-way, BOEM has quite a bit of discretion to issue or not issue a rightof-way or right of use easement. And there are regulations that require survey work to characterize the project areas and support the submission of a General Activities Plan.

So instead of when you have a lease, and the big permitting document is the Construction Operations Plan, and the path where BOEM is considering a right-of-way or a right of use easement, the plan that is submitted that has all the information about the project is called a General Activities Plan.

The General Activities Plan must be submitted and approved prior to the installation and operation of the proposed facilities, and is described in quite a bit of detail in our regulations and has quite a bit of information requirements associated with it. The General Activities Plan must be submitted within one year of right-of-way issuance, and it triggers a NEPA review on those proposed activities and facilities. As I mentioned, BOEM reviews development plans called the Construction Operations Plan and the General Activities Plan to evaluate the proposed facility and activities for conflicts, hazards, and impacts. And in order to conduct these analyses, BOEM considers and references a number of things, including but not limited to some of those see on the screen.

So that would be the Outer Continental Shelf Lands Act requirements to prevent waste, conserve natural resources, and protect the environment; the minimization of conflicts with other ocean users, sensitive areas such as fisheries, mineral resources, like sand and gravel, benthic conditions, sensitive habitats, national security, and Department of Defense mission compatibility, and cultural resources, to name a few. There are also NEPA and associated project consultations.

And as I mentioned earlier, these are not just environmental consultations, but consultations as requested by Tribal nations. There's quite a bit of BOEM guidance out there to help the lessee's understand what the intent is in the regulations-- how we define information sufficiencies. There's also quite a bit of data and information that's currently available on websites, such as the Marine Disaster and other ocean data portals.

And while not listed here explicitly, there are recent efforts from the offshore wind industry to publish standards. A lot of this is being done by the American Clean Power Association. And this is to establish offshore wind industry standards. These standards are at various stages of completion, and BOEM is hopeful that they will benefit the industry at large.

And finally, while there is still quite a bit of work to be done and research to be done on transmission and transmission planning, as Director Klein mentioned in her introductory remarks, BOEM has funded quite a bit of research to help prepare and inform the West Coast for offshore wind and transmission planning. Here's a short list of some of the recent studies that some folks have referenced and that BOEM has specifically focused on to help support and inform offshore wind planning here on the West Coast. It includes the Offshore Wind Generation and Load Compatibility Assessment, with emphasis on electrical grid constraints, mitigation measures, and associated costs, that was completed in 2020; and Exploring the Grid Value Potential of Offshore Wind in Oregon, a study that was completed in 2020 as well; a Study to Evaluate the Grid Impact of Offshore Wind in Oregon that was completed by NREL in 2021; and the West Coast Power Flow Study, which is currently ongoing.

And this is a study that is being done by Pacific Northwest National Laboratories to identify constraints and opportunities for Oregon and California offshore wind power to flow energy to the San Francisco area. And there are three transmission scenarios that are being currently compared. I want to thank you so much for your time and attention. As I mentioned, transmission is a critical and complicated component of offshore wind. We really appreciate all of your contributions to the conversation about what offshore wind may look like and what transmission may look like to support that offshore wind industry here along the West Coast. Thank you so much.

WHITNEY BELL: Thank you so much, Mark and Jennifer.

Next, we'll hear from Liz Weber, the project manager with National Renewable Energy Laboratory. Liz, I'll go ahead and turn this over to you.

LIZ WEBER: So, hi. Thank you all for joining today. I'm here to speak to you about a recently announced new program from GDO, the Grid Deployment Office, the Tribal Nation Offshore Wind Transmission Technical Assistance Program. Again, my name is Liz Weber, and I'm part of the team at NREL, working in collaboration with GDO to execute the program.

Next slide, please.

The program is available for federally-recognized Tribes and Alaskan villages for activities related to the planning and the development of offshore wind transmission projects. The program is going to have three key components.

Next slide, please.

The first of which being is educational resources. We will be providing both virtual and in-person webinars, presentations, and workshops for Tribes and Tribal staff to participate in. The topics will not only include just the siting, permitting, and interconnection process, but we're also going to be focusing on topics about cultural and environmental impacts that are so important when we're working with Tribes. Next slide, please.

The second component of the program will be Expert Match. Tribes will be able to receive customized technical assistance in the form of modeling and analysis, support for policy and regulation review. But the wonderful thing about this program is that it's very flexible. And so we'll be taking those requests as they come to better understand what the Tribe is looking for and to be able to customize the result and the deliverable needed.

Next slide, please.

The final component of the program is participation support. And I'm very excited about this piece. Over the years of working with Tribes and through listening sessions, we've learned that it's not only capacity that can be a barrier for participation, but also financial resources. And this program is offering participation support in the form of funding for Tribal members and staff to participate in offshore wind transmission-related discussions and events.

We've seen over the years that sometimes certain events are more geared towards industry. But that is partially a result of how expensive they are to attend. And so this is going to be opening many doors to make sure that Tribal perspectives are not only just represented, but also that we can understand and incorporate them into our program design.

So with that, I thank you very much, and I encourage you all to reach out to the Grid Deployment Office. On the next slide, we have the website, various emails. Or I encourage you to reach out to me personally. There is a NREL team and also GDO a team behind all of these emails, eager and willing to answer any questions you may have. So thank you.

WHITNEY BELL: Thank you so much, Liz.

Next we'll hear from Katie Segal, the policy advisor in the Grid Deployment Office.

We will have time for Q&A after Katie's presentation. So please submit your questions in the chat box now.

Katie, the floor is yours.

KATIE SEGAL: Great. Thank you so much, Whitney. And thank you, everyone, really, for joining us today. We do really appreciate it.

I'm Katie Segal. I'm a policy advisor at the Grid Deployment Office at the US Department of Energy, and I'm working on transmission for West Coast offshore wind. I'll be presenting an overview of the convening series that we've been talking about, hosted by DOE and BOEM.

This first slide shows the tasks for our West Coast transmission work and where we are in that process. So we've previously completed a literature review and a scoping call in 2023. And thank you to those who were part of that. Later today, you're going to hear about our ongoing transmission study. And right now, I'm talking about the convening series, which is a set of workshops that lets us hear from you, where we'll gather your input and feedback to help DOE and BOEM develop a set of recommendations about offshore wind transmission for the West Coast.

This next slide shows that same information as the previous slide, but in a more visual format in case that's helpful for you. So just the circle part here is where we are now, at the convening efforts phase. So now I'm going to give a brief overview of the convening series. And you heard a lot of this from my colleague, Mark, earlier, but just a refresher. The goal of the convening series is to develop time-bound, regionally-specific actions for solutions to West Coast offshore wind transmission.

And again, when we're talking about transmission, we're talking about the process of moving the clean electricity generated by offshore wind turbines from the turbines themselves, across the ocean to shore, where it can then hook up to our electric grid and deliver power to homes and businesses and communities.

We are not talking about where offshore wind should be located or aspects of the turbines. But we do want to hear from you about onshore impacts that are specifically related to transmission. So that could be community benefits agreements, points of interconnection-- like, where will that transmission come onshore-- supply chain and workforce that's related to transmission. So those topics are covered in our series.

And we did recently complete a nearly identical process on the Atlantic, which you'll hear about more in just a minute. But I do encourage you, after this workshop today, take a look at our website for the Atlantic Action Plan. You can literally just put in your search box, "Grid Deployment Office, Atlantic Offshore Wind Action Plan," and that will help you really envision what we're working towards here because we are going to publish a very similar document as an addendum to that for the West Coast. So the same type of recommendations and all of that.

And at the top of this slide, you can see the categories that we had for our recommendations on the Atlantic. Now, they might be different for the West Coast, but you can get a flavor for the types of issues that we're planning to talk about. Take a look at those there.

So great. Now that we've talked about what the convening series is, I just want to take a moment to talk about what it is not. So while it is an opportunity for us all to think creatively together and think broadly about how we want the transmission future to look, it is not prescribing action, building consensus, or creating any mandates.

We will be collecting input through conversations and workshops, but we are not issuing a formal solicitation, and nor is this government-to-government consultation because we're not taking any actions or making any regulatory decisions-- just recommendations in a paper.

The output, like I mentioned, will be a set of recommendations published as a West Coast Action Plan. The output is not a regulatory action or a siting decision.

So now we're going to take a minute to talk about the convening tracks. As you'll see, we have four tracks, each with a different focus. And yes, there are some areas of overlap, which we can talk about in a moment. But for now, I just wanted to call out that we have a public track, a Tribal nation track, a regional coordination track, and a technical track.

The public track is meant to offer opportunities for feedback from community groups, fisheries organizations, industry, nonprofits, unions, et cetera. You name it, we want to collect all that input. The Tribal nation track is meant to be closed-door conversations for Tribal nations.

The regional coordination track is meant to be closed-door conversations for state government and transmission planning entities to really focus as like a working session for the people who are making the transmission decisions.

And our technical track is already underway, and it includes a wide range of participants, including Tribal nations, regional planners, utilities, researchers, subject matter experts, et cetera. And I will talk more about each of these in a moment. So one second. But I did want to highlight why we're taking this approach.

So we did learn several things on the Atlantic. First, we know that it's very burdensome to ask everyone to attend every event. We know no one has time for that. And we do understand how valuable and limited your time is. So we're trying to focus the conversations through the track system so that you can plug into the place that makes the most sense for you.

And we're going to try to join existing events and meetings as much as possible to avoid adding new events to everyone's calendar. So we can talk more about that.

We also learned that it's really hard to host roundtable conversations and create a space for really brainstorming and working sessions when there's a lot of recording or hundreds of people in the room. So that's why these events are going to be a mix of open forums and closed-door conversations, depending on the participants. But what we're learning will always be open and available to all.

And we're really trying to create a structure where everyone has a place to plug in, but the time commitment isn't too overwhelming. So the big takeaway here is if you're interested in participating in a particular session or conversation, please send us a note and we can direct you and work with you. And our email address is at the bottom of each of these slides, but I'll just read it out here. it's oswtransmission@hq.doe.gov.

How will your input be used, you might be wondering. So we all transmission is complicated. We all have questions about what will work best for the West Coast. But nothing is for sure. We know that you have insight and individual experience, and we really do want to hear your ideas. You can share those ideas with us by participating in the convening series or through other input sources, such as emailing us like I mentioned.

And after we've asked all the questions that we can think of, DOE and BOEM will develop some recommendations. We'll share those recommendations with you so that you can give us even more ideas before they're published. And then we'll finalize and publish the recommendations.

The objective of this series is not to obtain any group consensus or position. We're really just looking to seek as many recommendations as possible from all the individuals at these meetings.

So for the next four slides, I'm going to talk about those tracks that I mentioned. We'll start with the public track.

The goal here is to really understand your perspectives and information needs related to offshore wind transmission. It's also a chance for us to provide the most up-to-date information and get feedback. We're really looking to develop recommendations that center ocean co-use and environmental sustainability. So we'll want to hear from you on that especially.

We have a few different pathways for the public track. One is side sessions at conferences. So we know that conferences are expensive. So these wouldn't be necessarily limited to registrants. Anyone could attend. But we'll try to schedule them in a place and time that might be convenient for a lot of people who are already traveling for a conference, for example.

Another pathway is virtual sessions like today's kickoff meeting, but also a future workshop with prepublication information, and then other virtual workshops scheduled TBD. Those aren't scheduled yet. A lot of that will be based on feedback we receive.

We're also investigating other alternative feedback options for folks who can't make in-person or virtual calls during business hours-- for example, separate meetings. And you can also talk to us if you happen to be attending some of the conferences I've listed on this slide. We'll be at those ones for sure, and then others throughout the year most likely TBD.

Again, please email us and visit our website, as that will be a really good place for information and events as they do get announced.

Now, I'm going to take a minute to talk about the Tribal nation track. So we recognize that Tribal nations are not stakeholders. They are sovereign nations. And this track is designed to provide space for staff-level discussions about issues of importance to Tribes.

So in the Atlantic, we actually included Tribes across all tracks, but we received feedback that that was inconvenient and that dedicated conversations would be better. So in response to that feedback, we're creating this focused working session set for Tribes. And you'll see on the slide, we have a few dates already planned and more forthcoming, but I'll just highlight a few here.

So in February, we have an in-person listening session for Tribes scheduled just ahead of the DOE Tribal Clean Energy Summit. We also have an offshore wind workshop during the summit. And we really encourage you to register for the DOE Summit if you haven't already.

We'll also have virtual options. So a virtual listening session on March 7th. And we plan to have other workshops TBD, on the timing and topics, really depending on your feedback and interest, too, but we will make sure to have other opportunities. And we totally understand that Tribes may want to participate in other tracks. That's absolutely fine. It's really up to the Tribes how much you want to participate.

You may just want to focus on the Tribal track. That's fine. Or you may want to branch out to other tracks. We'll make sure your feedback is heard across those. And we do encourage you to explore the technical assistance program that Liz spoke about just before me.

Next, we have the regional coordination track. This is focused on state governments and regional transmission organizations or independent system operators and transmission planning entities. So the focus is on technical information sharing to support transmission planning. There will be opportunities for smaller sessions, like I mentioned, with Tribes participating, too, but our proposed approach is for two to

three workshops-- maybe one in March, April, maybe one in May, June, others TBD, and a pre-results workshop. And this track is really focused on economics and policy and discussions about siting and planning.

And last but not least, there is a technical track. So our West Coast Offshore Wind Transmission Study Advisory Committee, run through the National Labs, which you'll hear about in a moment, began in May 2023. Advisory committee meetings are held quarterly. And then there are subgroups that meet on an ad hoc basis. You can see what those subgroups are and how often they've met on the slide. I don't have time to read them here. But our advisory committee members include state governments, Tribal nations, developers, and component manufacturers, systems operators, and other ocean co-users. And with that, I will pass it back to Whitney. But I will just say thank you so much. And we are really eager and excited to hear from you and work with you all throughout this process. Thank you. WHITNEY BELL: Thank you, Katie.

So we now have some time for Q&A. We thank everyone who's been putting their questions here in the chat so far. But please, continue to put them in, and we will do our best to answer them.

So we are bringing a couple of speakers back up, as well. But actually, the first question is for you, Katie. We received a question requesting clarification about the geographic focus of offshore wind deployment. Could you clarify the national scope of the effort and explain why this convening work is focused on Washington, Oregon, and California?

KATIE SEGAL: Sure, absolutely. That's a great question. So DOE's work is certainly national in scope, and we address some national-level issues through the Atlantic Action Plan. So again, I really encourage people to look at that. We'll keep those in mind here as well. But the reason that this specific work is focused on Washington, Oregon, and California is that that's where we have federal activity or developer interest for offshore wind.

We haven't had any in Alaska or Hawaii yet, so we're not focusing on those states at this time. And another reason it's separate is that, with the West Coast, there is likely to be floating offshore wind. And that is a different process and may require different considerations. And we just realized the West Coast is different from the Atlantic. So we don't want to copy-paste exactly the same recommendations. I hope that helps.

WHITNEY BELL: Great. Thank you.

So this question is actually for someone we have not had speak yet. This is actually for Dave Ball. All of the coastal shores is the ancestral territories of the Tribes. How is the federal government working with Tribal nations to address offshore wind?

And Dave, if you want to introduce yourself, that'd be great, too.

DAVE BALL: Yeah. Thanks. So I'm Dave Ball. I'm with the Bureau of Ocean Energy Management Pacific Region. I am the Tribal Indigenous Communities Liaison here, based out of Camarillo, California, but across the entire West Coast. So thanks for the question.

So BOEM, in addition to our formal consultations when we have a federal action or undertaking, we try to maintain regular engagement, keep the Tribes informed of activities that are happening under our jurisdiction, and provide opportunity to hear concerns.

But one of the efforts that we've been engaged with for the last couple of years is through our West Coast Tribal Cultural Landscapes work, working with interested Tribes through the Udall Foundation to try to better understand areas along the coast and offshore of importance to Tribes that we need to be thinking about as we are engaging in these efforts.

Another thing that we've heard through our engagement is that capacity is a big concern. So we did recently enter into an indefinite delivery, indefinite quantity, IDIQ, contract with three Tribal-owned businesses to help provide capacity for Tribes when we have environmental reviews to assist with that process.

So I hope that addresses the question. Thanks.

WHITNEY BELL: Thank you so much.

Jen, I believe you're back up as well as a presenter. This next question is for you. We received a few questions about the role of other federal agencies, including US ACE and the Bureau of Indian Affairs within DOI. Could you speak to the role of the other federal agencies within this initiative? JENNIFER MILLER: Yeah, that's a great question. So different federal agencies have different authorities and different jurisdictions. And so BOEM is the lead permitting authority for this federal action. But we work with all of the other federal agencies and associations that have overlapping jurisdiction or overlapping authorities as their authorities and jurisdictions are described.

So for example, when we talk about the Army Corps or the US Coast Guard, some of their authorities may extend into federal waters. There might be some overlap. And through our federal partners, we work with and coordinate all reviews of plans and our environmental analysis as described by those authorities and jurisdictions.

I'm sorry that's not a more specific answer, but because there are just so many different federal agencies, and the jurisdictions and authorities are all very specific and have a lot of nuance to them, that's probably the most appropriate way to give an answer that is really clear and across the board. Thank you so much. WHITNEY BELL: Thank you. I appreciate your answer there.

Our next question is for Rick Yarde, from BOEM. And Rick, I'll ask if you can give yourself a brief introduction as you answer this question. Could you speak to compliance with existing federal laws? The subsea cables may traverse protected areas like Marine Protected Areas, Environmentally Sensitive Habitat Areas, National Marine Sanctuaries, Habitat of Particular Concern, and Essential Fish Habitats. RICHARD YARDE: Sure. Good morning or afternoon, everyone. My name is Rick Yarde, and I head up the Office of Environment in the BOEM Pacific Region. Thank you for the question.

First, I'll say, as a baseline, there are areas that are protected-- preserved, literally-- from any activity. And in those areas, things aren't permitted to happen, clearly. But that's not the norm in most areas in the offshore environment. There are a lot of areas with some special designation. And I'll use Essential Fish Habitat, which was the last one in that list of examples that were mentioned, as the example to explain the process.

So with Essential Fish Habitat, if there is designated Essential Fish Habitat in an area where a transmission cable is proposed, there is a consultation process. BOEM would work with the regulatory agency, which is the National Marine Fisheries Service, to engage in consultation to determine what potential impacts could be and how they could be appropriately minimized or resolved in order to find if there was a way to authorize activities in that area of otherwise special status.

So I guess, in summary, there are as agencies as there are-- with special designation habitats, there are processes. The way that you'll see that play out is in our environmental review process in BOEM for the federal offshore portion of the projects. We'll do an environmental impact statement at the Construction

Operations Plan phase as an umbrella. All of those other consultation process will occur under that umbrella, and you'll see those described in the environmental impact statement that's prepared to show those processes and how those special areas of special designation are addressed through the various consultation and permitting processes. Thanks.

WHITNEY BELL: Thank you. I appreciate you jumping in to answer that question there.

So our last question is for Liz. It's regarding the Tribal Nation Offshore Wind Transmission Technical Assistance Program. So Liz, are these offered to California non-federally recognized Tribes?

LIZ WEBER: It is currently being offered to federally recognized Tribes. So does the person who asked the question have a Tribe as an example?

WHITNEY BELL: I don't know. Let's see if they can put that in the chat. They just said to non-federally recognized Tribes.

LIZ WEBER: If that person would love to just email me directly, I can answer some of those questions. And maybe there might be a way we can work through that a little bit to see what the ask may be. But most Department of Energy programs, when we're talking about Tribes, Tribal nations, Alaskan villages, are federally recognized.

WHITNEY BELL: All right. Well, thank you so much. I appreciate it.

LIZ WEBER: Sure.

WHITNEY BELL: And we have put your email in there for that person to reach out to you.

That does wrap up our time for this Q&A. We do have more Q&A opportunities throughout the next hour. So feel free to keep putting your questions here in the chat.

So next, we'll hear from Travis Douville. He's the Wind Systems Integration Portfolio manager at the Pacific Northwest National Laboratory. So Travis, I'm going to go ahead and turn this over to you. TRAVIS DOUVILLE: All right. Great. Thank you very much.

Good morning and good afternoon, everyone. My name is Travis Douville, and I'm speaking to you today about the West Coast Offshore Wind Transmission Study to provide a project overview and also status at the same time. I am representing a multi-laboratory team. So a series of experts at Pacific Northwest National Laboratory and also the National Renewable Energy Laboratory. The team is working really well together. I'm excited to tell you about how we've scoped this out and where we are so far.

I will also mention that, as has been alluded to from prior speakers, this work is being completed in close coordination with the convening team. So we consider ourselves marching in lockstep through the calendar year here to understand the opportunity, surmount the challenges, for West Coast offshore wind. We start any research effort with the questions which guide our endeavor. So I want to spend some time listing these questions. There's a lot to read on this slide, but I'll call out a few of these just so you can get a sense for where we come from when we consider how this study should be architected and executed. And also, keep in mind that this is based on the scoping conversations that started one year ago and also the literature review of those 13 studies that have taken place, mostly in the last three to four years. So the first question that is interesting to answer from a truly West Coast-wide perspective-- this is the first study that's been able to really consider the entire West Coast, all the coastline of California, Oregon, and Washington-- and one of the key questions is just simply, how much West Coast offshore wind should be developed on the time lines?

And this is an important point-- the time horizons of the study are 2035 for detailed representations of the full Western Interconnection with offshore wind footprints incorporated in the generation mix-- and 2050.

So that's so that we have the near future and a longer-term future. But what are the installed capacity contributions for meeting state and federal clean energy goals, but also within the context of emergence of land-based wind energy, solar energy, energy storage? There's quite a bit that will change onshore actually, as you can imagine, between now and 2035 and between 2035 and 2050.

So we look for floating offshore wind energy's role in the generation mix of the Western Interconnection in 2035 and 2050. And that of course, must consider how much the system will change to meet our national and state goals for decarbonization.

Where should the generation transmission be developed? We have some interesting capabilities, some of those emerging from the Atlantic Offshore Wind Transmission Study, which we are deploying here. Importantly, what deployment pathways emerge between 2035 and 2050? We have an interesting opportunity here, which perhaps wasn't available to the early research. And that includes some work that myself and others at the Labs have done. We have an opportunity here to probe this pathways question. And in particular, option value-- what can we do now that sets the stage for the long-term benefit, for example?

How does the Western Interconnection function in 2035 and 2050 up to our expectations? And that means, how does it meet existing adequacy, reliability-- and by that I mean contingency-- steady state and transient stability requirements?

How does it perform within the context of resilience threats which are specific to the West Coast? We list here wildfires, earthquakes, and droughts. Those could present dynamic contingency sets which stress the power system, and have stressed the power system in recent years. We'd like to fairly comprehensively evaluate how those resilience factors may be fielded by these Western Interconnections with significant offshore wind contributions in the generation mix.

And then, very importantly, what are the techno-economic and also socioeconomic benefit and cost tradeoffs of these systems? I'll speak to you in a moment about four topology sets which we are refining right now in the study to help enable the answers to these questions through the full length of the study. So my next slide-- this is our very high-level flowchart of all the tasks. And it's fairly involved to go through each one of these tasks. So what I'll do is give you this overall perspective and then dive into a few of these, particularly the ones we're working on right now or will be soon engaging in.

So the study kicked off in May 2023 and runs through this calendar year. Most of the analysis needs to be done through October of this year. For this scale of work, we consider this a tight compressed timeline, but we're guided by past work and also work on the National Transmission Planning Study, and a functional and high-performing multi-lab team, and also a great relationship with the Department of Energy and the other federal partners.

So in Task 1, we've stood up an advisory committee, we've prepped data, we've actually done some tool development. In Task 2, we start with the zonal capacity expansion targets. So these are targets that span the Western Interconnection and let us know by state or by subzone of that Western Interconnection how much offshore wind should be brought online, how much onshore wind should be brought online. How about hydrogen combustion turbine units in the longer term? A whole series of generation types. We get a generation mix that comes out of those that zonal capacity expansion work that's led by the NREL team. We also get a sense for some inter-regional transmission needs that that tool sees.

Then, we use those targets and we build out nodal representations. And when I use that word "nodal," what I mean by that is individual wind power plant and generator power plant resolution. Think bulk

electricity system, fairly large scale. We're not resolving behind the meter solar less than a megawatt, for example. But we are looking at 50-megawatts, 100-megawatts, 200-megawatts-type power plant facilities, and also transmission lines of 230 kV-- kilovolt-- rating or higher typically.

We can go a little bit lower for key areas of interest, 115 kV, or even, in some cases, 69 kV, but the models are generally built around high-capacity electricity lines.

So what we do is, both offshore and onshore, build out a representation of that nodal resolution and then link those two together. So we come up with a representation of the Western Interconnection in a dispatch model, which helps us simulate the economic dispatch of individual generators and consider the flows on individual lines at all hours of the year. And we can run that over various sensitivities in terms of weather gears and different types of outages and different types of topology sets-- which I'll tell you about more in a moment.

So Task 3 and Task 4 are where those models are built that resolve the full Western Interconnection. And then Task 5, we look at adequacy, and we consider, do we have enough capacity online in the system to meet emerging loads in 2035 and 2050? Keep in mind, there are coal retirements, there are thermal retirements that happen in these time frames. The system, by many, is projected to be short on capacity, long on generation. So this is an important check.

And then, in Task 6, we step into the power systems domain. We do a translation through a tool that we've developed here at PNNL that helps us represent the system over all 8,760 hours of the year and a subset of the hours that are really needed to represent the extreme cases. And then we generate converged power flow cases and dynamic models for every single one of those hours of interest before we use those models in the next six months of reliability and resilience analysis.

So here is where we will consider carefully the performance, the detail contingency list of system operators, that we've convened around this effort and have been quite helpful, but also performance to NERC reliability standards, and also characterizing how these systems respond in the wake of significant natural disasters, which could occur through the Western Interconnection.

And then, finally, once we, out of Task 7, identify system reinforcements that are needed to meet reliability adequacy resilience standards-- our expectations-- then we step out, we true up the dispatch models in task 4 and 3 again. We do a final adequacy check to make sure we've got the system we want to see. And then we value it. And we do that in Task 8. We step out and do the techno-economic work and socioeconomic evaluation as well, which I'll tell you about more in one moment. And finally, we document the work.

The advisory committee was mentioned before. I also don't want to spend too much time, but I do want to tell you that this is a robust committee. We've benefited greatly from their continued engagement. We have a general group, which we provide a readout of the work in the kickoff and then every quarter. And then we have five what we're calling subgroups. And they have the following focuses-- a planning group, which helps us understand-- is comprised of state departments of energy regulators.

Also, we have folks who are not just from the states. We have people who-- sometimes the system operators come into the planning calls. We have folks who have studied the problem in various contexts, consultants, things like that, come into the planning group to help us vet assumptions with established regulatory processes and existing efforts.

There's an environment and siting group is composed of federal agencies and other experts that help us verify data inputs, prioritize emerging siting impacts. And a great example of that would be the Chumash Marine Protected Area that has recently been announced.

A technology subgroup, which helps us understand the capacity of an emerging floating offshore wind technology suite. System operators are a critical subgroup. And these are by invite only, primarily Bonneville, CAISO, and PacifiCorp-- in no particular order. But also we've got folks from the Power Council and Northern Grid and West Connect to help us as needed.

And then, finally, there's a community value and ocean co-users group, which is being stood up now. It helps us inform a set of values for consideration within this novel socioecological analysis.

So a bit more on some of the tasks here. And we're a little tight on time so I'll tell you that the first-- just a few details for those who are interested. I'm happy to answer questions later when we have more time. We start with the zonal capacity expansion work. So this is work done by NREL. It has two stages in this study. We have fast track, where we've identified through what we think are plausible and non-extreme assumptions based on state targets, federal targets, cost of technology.

Basically, we end up with these generation stacks-- and you can see, this is a capacity stack across the Western Interconnection in the upper image here-- where we can see the types of generation that are needed by the Western Interconnect to serve loads reliably and adequately through 2050. And as a subset of those-- the lower image to the right here-- is the offshore wind footprint.

So right now, this is what the team is building the models out to meet in 2035. It's 15 gigawatts, 13 of which are in California, 2 of which are in Oregon. And then, in 2050, 25 gigawatts in California, 6 gigawatts in Oregon, and 2 gigawatts in Washington.

There's also additional capacity expansion work that's being pursued right now by the NREL team to evaluate various sensitivities, as indicated on this slide.

In Task 3 and 4, as I said before, we start with those Task 2 zonal capacity expansion targets. And then we build out the system. We bifurcate this work. We build it out offshore. And this is, importantly, where we consider ocean co-use and various siting conflicts, including challenging bathymetry, which there is quite a bit on this coastline-- not only sea depth, but the contour of the sea floor and subsea canyons are particularly challenging in some of the key areas where you'd like to run some transmission.

So that kind of detail-- there's a whole bunch of things that go into that co-use consideration and ocean conflict consideration when we develop plausible offshore transmission. And that includes where generation should fall. That's done on the left.

And then, on the right, we build out the onshore system, which undergoes dramatic change from now to 2035 and from 2035 to 2050. Then, we iterate between the two. So NREL does the work on Task 3. PNNL leads the work on Task 4. And we come together and build out the coastal grid that supports the offshore wind that we want to see.

Adequacy, I mentioned, is an important piece of this work. And I'll just say briefly that the emphasis by this team is to focus on weather-synchronized simulations of load-- wind, solar data sets-- for historical and future conditions. And we do that by starting with projections of what load will look like in 2035 and 2050. You can see an inset of that for the Portland General Electric Balancing Area here to the lower left. There's a change in scale, of course, but also a shifting in time of day. And it actually becomes a bit more peaky in the winter in this particular example we've shown. But it's the bottoms-up approach to evaluate the change in loads.

We've developed some machine learning techniques in past work. And we apply those here, where we're able to basically map those load projections across many weather years. And so we end up with 70 future weather years, 43 historical years. And in addition to those demand and variable renewable energy supply coincident weather years, we also have 21 years of hydropower variability that we can put through the model. So we run stochastic force outages, and we have a way of robustly checking adequacy of these systems.

So we'll stop there in terms of the individual. I have one more. I'll zoom in for you on one task. But I just wanted to indicate that where the team is right now is constructing these topology sets-- and literally right now-- a call yesterday, a call tomorrow, internal calls all day today.

What we're doing now is developing four topology sets to help us answer those interesting technoeconomic questions later on in the project, comparing the value of different types of builds in 2035 and also in 2050. So think of a 2050 topology set across the whole West Coast, comparing one of those against another plausible topology set. What are the advantages of certain strategies linking regions, providing links within regions?

And then also this idea of pathways, option value, what can we do now-- now being 2035-- how can the policy encourage something in 2035, which might help provide a lasting benefit in 2050?

Those topology sets are being defined now. And that's a critical step in the work. Once we have those-we have one of the four done-- once we have the others done, which we'll have shortly, we'll be stepping into the power systems work, the reliability and resilience work, and then, eventually, valuing those. One last update for this group is just to talk a bit about this task 8.2, which is a new piece of work we're really excited about-- community-based and environmental benefit-cost analysis. It's composed of three main thrusts. The first is the assembly of a subcommittee dedicated or-- again, we're calling these subgroups-- a community values subgroup, which is tailored around this goal of identifying potential community benefits and costs, and having them help us shape the ecological services value. It's not a comprehensive effort. It's more of a demonstration of a new way of doing things. And we seek to have the help of this group to help us identify what ecological services should be in focus and should be prioritized.

The second step is to build natural capital models to quantify socioeconomic values of these ecosystem services and the link of those services-- ecosystem services-- some of these are shown at the right--lobster fisheries, for example, tourism-- how do those result in social benefits?

And then, finally, to execute those models and to run trade-off analysis to compare benefits and costs of various options. So we're excited about that work and happy to answer any questions about that going forward.

So that's all I have for today. That's my time. I want to yield back, and happy to answer any questions folks have.

WHITNEY BELL: Thanks, Travis.

In the interest of time, we're going to go ahead and have Alissa give her presentation and do a joint Q&A between the two of you following that, if that works with your schedule.

TRAVIS DOUVILLE: That's perfect. Thank you.

WHITNEY BELL: Great. Well, in that case, then, next, we'll hear from Alissa Baker, the senior technical advisor for Offshore Transmission with the Grid Deployment Office. And then, as I noted, we will have additional time for Q&A. So please, continue to put your questions in the chat.

Alissa, the floor is yours.

ALISSA BAKER: Thank you. And I've seen a sneak peek of some of the questions coming in. Fantastic. And there's just an overwhelming number of them, so we'll try to speed through my remarks, cover things as clearly and quickly as I can, so that we really have as much time as possible to get to as many questions as we possibly can.

So I want to talk about lessons learned. What did we do in the Atlantic that may be relevant? Just so that you can see that we're not inventing the wheel from scratch here. We're starting from a plan, and we're hopefully refining and learning from the things that went well and the things that could go even better here.

This map may look very familiar because you saw it in prior slides. This timeline is specific to the Atlantic, though. So all of these steps that we are going through now, we've gone through on the Atlantic. And we have some things that we've learned that we can share from going through that.

So I'm going to start with the scoping conversation just because we always have to start with scoping and outreach, right? We never know what we don't know until we get in there. So we really hosted a ton of listening sessions. We consulted with hundreds of entities across the various sectors, with various equities.

We hosted a series of convening workshops much like what's been laid out today. There were nine of them, divided over different topics, 40 hours of presentations of materials. And we collected a huge amount of feedback, a huge amount of topics that people wanted to dig in more in, they wanted to have recommendations developed around them. And so that's the starting point where we were working from. The study was another huge piece of the technical components that went into developing our work on the Atlantic. It is the sister study, essentially, to what Travis just described on the West Coast. It's answering very similar questions-- what is the topology that makes the most sense to build, and how can we do it and what's the value that can be added? Is it worth all of the work? Is it worth all of the cost to do this? And how can we do it intelligently?

One difference, of course, is the Atlantic Coast was much more densely populated with offshore wind lease areas. So there's a lot of configurations of transmission that our study team looked at, including radial configurations; intraregional, which is within planning regions already; interregional, which crosses those boundaries; and then a backbone, which spans the whole coast-- like, what does it mean to just connect everything together and see what happens?

So the goals of this, of course-- we're looking at, where's the high-value pieces, and then how can we map that out over time in an intelligent way to build? So I'm going to flip through-- if you see the map here-- this is the interregional build that we ended up recommending based on results of the study. It just got the most bang for its buck. And we're going to flip through every five years so you can see how this network develops.

Radial lines are, of course, key. They're always going to be key because some projects just doesn't make sense to connect them into larger systems or that's not necessarily necessary. But you will see a couple of different colored lines developing here as we click through, where those networks are connecting in and they're adding a substantial amount of value for the onshore system. So that's the end result for the buildout that we're looking at.

So I did want to throw this on here. I totally stole this from our Labs team. They put this together, and I thought it was really great. It's important for us to talk about not only what the study does answer, but what it's not.

And while we've done a ton of analytical work, it does not replace the interconnection-level study that is done by regional planning entities. And it is not telling us anything detailed about the siting or the permitting that would be necessary. And it doesn't prescribe the exact interlinks or the exact points of interconnection. So it's just to flag.

It is a high-level map. I think it does a really great job of helping us have conversations about what's possible and what may be valuable in the future, but it is not the end all.

So the key findings from this work-- I'll have to summarize here-- offshore wind is key. When we look at the resource mix as we transition to a clean economy, it's just a really important part of a balanced portfolio of different generation sources. It has a unique opportunity to expand. We've got a lot of onshore transmission constraints. I think everyone knows that, right? We've been having winter storms and outages. And I'm not saying offshore transmission will fix all of that, but there's something to be said for adding capacity and some more reliability.

And the study also showed that the cost savings-- the production cost savings and the resource adequacy benefits-- are outweighing the construction costs, which is significant. So that means there's value for the system, there's value for the ratepayers.

And then, by phasing things by time-- we're not building everything all at once. We're not building 50 years of transmission in a day. We're spreading these things out to reduce the development risk, reduce the upfront cost associated with those things. OK, that was a lot.

So all of that, and a great deal more things-- all the things we learned and discovered-- are in the action plan. So it's a huge document. I'm preferred to it because I helped write it, but we have over 41 recommendations, spanning a wide variety of categories. You can read it for yourself, look through the maps. Feel free to send us any questions or thoughts you have on it.

But I'm going to highlight just a couple of the recommendations for you today just to give you a taste of things that may be relevant that we learned that may be relevant here or just to show the breadth of what we're trying to tackle and what may be on the table for us to tackle.

So partnerships and collaborative efforts, that was key. That's one of the first set of recommendations that we've made. That means states getting together and talking to their neighbor states. It means regional transmission planning entities coming together and talking. And it means engaging with Tribal nations. There's just no way of getting around that. It's important on the East Coast. It's going to be important here. So we're here to facilitate that and make that happen as much as possible.

There's huge lessons on environmental stewardship. We looked at a ton of R&D that had been going on and that may be still needed, both on the Atlantic and throughout the nation. And I really just wanted to highlight the SEER Project, the Synthesis of Environmental Effects Research. There's a huge body of research out there. And I feel like one of our challenges is how do we get information out.

There's a lot of misinformation that goes around. Or sometimes people send me reports and I read them, and I'm like, oh, that went way over my head. Because there's a lot of smart people writing these, and sometimes I don't always qualify.

But I would encourage you guys to go look at the SEER Project. They really did a great job of breaking things down to make them digestible, to look at specific topics. If you're concerned about the impact of

structures on fishing grounds, if you're concerned about the impacts of sound on whales, there is research there that has been funded.

And if you go digging in there, and you're like, man, I do not see my question answered, please reach out to us. Because that's where we want to step in and help fill that gap. Maybe we need some more research. Who knows, right? So let's have that conversation.

Next up, we have the interregional value of transmission. Essentially, just the more that you connect these things in, the higher the benefits that we saw. There's just an extensive value for being able to transfer power from the north to the south on the Atlantic Coast. We suspect that-- that's something that we saw in the National Transmission Planning Study, the needs study, right? They identified the interregional transfer capacity is key and valuable. And that's something we found as well. But it's not just enough to talk about planning. We also have to talk about the processes and the regulations we have around how we plan. So that's also something that's focused on in this action plan. What does it mean when we talk about FERC Order 1000 in regards to this kind of planning? Addressing reliability standards, yeah. So it's not enough to just have a good idea. When you plan something, you have to meet these reliability criteria. And those reliability criteria may not have been-- in fact, I know they weren't-- we weren't building offshore transmission when those standards were being developed. So when you read through them now and you try to apply them to a design, they don't always fit because there are just questions about, what does this definition mean if I'm burying this cable and it's in the middle of the ocean?

So we've identified several areas where we think we can provide some refinement. We can work with NERC to make these things clear so that our transmission planners have a clear path forward and the systems we design are really reliable and resilient.

Supporting local communities. Of course, energy justice is key and front to anything that we're doing. I think, particularly, being an Oregon native myself-- I grew up in a small town and I know that sometimes big infrastructure can bypass our small communities and get directly into our large load centers. That's something that we don't want to talk about here. We want to make sure that the communities that are impacted by the infrastructure are seeing a benefit to that infrastructure and that that benefit is something that is greater than the impact that they're receiving.

So we see these as a huge opportunity for local communities for a variety of ways. And we're talking about job creation. We're talking about influx of funds. We're talking about better power reliability. But it could be a wide variety of things. So community benefits agreements are something that we're really pushing as well.

There are a lot of processes-- and I think this is the last one I'll flag for time-- that revolve around permitting and siting. We don't want to cut corners or not cover things thoroughly, but permitting can take a long time. And we've identified some ways that these can be expedited or just done more efficiently with all of the different jurisdictions and all of the different entities at play. So I'd encourage you to go read about that in our publication or come talk to us about it.

So that's the action plan. There is a lot of content in there. And this is really the start of what we want to do on the West Coast. I assume our West Coast work is going to be published as its own addendum to this, with region-specific recommendations. But there's an opportunity here to build on and refine all of the work that's come to date and really make it smarter and better.

So thank you so much for being here. And I'm excited to jump into the questions.

WHITNEY BELL: OK. Thank you so much, Alissa. I'm going to keep you on the screen and we're going to add Travis back up here.

Again, put your questions here in the chat. We'll get to them as best we can.

So Travis, our first question is for you. In the technical study, how are you modeling generation output from the offshore wind farms? Are you including periods of low wind and losses?

TRAVIS DOUVILLE: Certainly, thanks for the question. We are modeling variable wind speed resources. We're modeling the way those wind speeds are converted to power through the state-of-the-art wind power plant facilities. So that includes the individual turbines, but also all the balance of plant equipment and the stepping up of voltage to a park substation and the shipping of that power out and any losses accrued across the transmission system to the points of interconnection.

So we're modeling all losses. We're modeling availability. So the potential for those systems to go down. And we're modeling, of course, the variability of the wind speed itself.

WHITNEY BELL: Thank you for clarifying all of that. Another question for you. How is the transmission analysis coordinating with other transmission planning efforts led by other entities in California and Oregon?

TRAVIS DOUVILLE: Yeah, great question. First of all, I would say we started with the literature review. That was important to us. We knew that work had been done in this space, including recently, primarily in Oregon and in California. That's where most of the studies had focused. Many of them had focused where that-- if anyone has seen the mean wind speed contour maps, those are really promising, right at the Oregon-California border there, right at the scene. Many of them are there.

We also reviewed carefully the California Independent System Operator Transmission Planning documents and their 20-year outlook studies. And I would say we continue to evaluate those primarily through engagement of those entities on our advisory committee. And we have a system operator-specific subgroup.

So all of the transmission plans have really considered-- but those that have executed the plans and have continued to update them-- are considering the prospects for offshore wind transmission on the West Coast. And I'm thinking of CAISO. I'm thinking of Bonneville. I'm thinking of PacifiCorp. I'm thinking of Northern Grid. Those are all entities we talk to on a regular basis and are fully engaged in the study. WHITNEY BELL: OK. One more question here for you, and then I have a question for Alissa. TRAVIS DOUVILLE: Sure.

WHITNEY BELL: Will DOE and PNNL in particular analyze potential reliability and resiliency benefits of offshore transmission apart from facilitating the delivery of offshore wind generation resources specifically with growing wildfires risks for land-based transmission?

TRAVIS DOUVILLE: That is a great question-- a well-informed question, I would say. Thank you for that. Yes, that's in scope. It is an offshore wind transmission study. So we are considering transmission that brings offshore wind to the shore. But there is an opportunity, as we saw in the Atlantic study and as we've seen in past work on the West Coast-- there is a compelling opportunity to modernize the grid while one brings offshore wind to shore. Because we've never built the grid out in this way. So we have an opportunity here, potentially, where it makes sense techno-economically to provide a system benefit beyond the import of offshore wind electrons. And that could very well be in times of system stress. So that could be under a resilience event. There could be an alternate path through the water potentially. I want to underscore that those systems are not cheap. We would need to show that it's economically viable. But it's also not cheap to shed load. There are tremendous costs associated with that. So that is a piece of the analysis-- the short answer. Sorry to go a little longer on the reasons why.

WHITNEY BELL: Great. Alissa, we've had several questions come in regarding the convening sessions that will be closed and how the findings will be shared from those. Can you speak to that a little bit? ALISSA BAKER: Yeah, absolutely. That's always one of those things in government, the idea of closed door sounds very sketchy and you want to avoid it. But the reality is is that when we're having brainstorming sessions, when we're meeting with specific entities, or where the states we're talking, no one feels safe to brainstorm in a room with 500 people, where they may be being recorded and who knows if there's media or whatever, right?

And so the purpose of this is really like a lessons learned from the East Coast, that sometimes you have to have these specific, focused technical conversations, you have to talk to the states one on one about what are their policy needs, what are their concerns. Sometimes you got to be talking to the industry groups one on one, and just saying, let's just spend some time and talk about your concerns. So what that means is it looks like closed door from the outside. But all of the findings that we bring from that-- I'm never going to publish something that says, oh, yeah, Dan, from this organization over here,

said this crazy thing, but I'm going to say, man, we heard this fantastic idea and let's share it with you. And that will be part of our pre-results workshop that will be coming at the end of the year.

WHITNEY BELL: Great. So we did want to clarify a question from the previous Q&A regarding nonfederally recognized Tribes and their participation in the convening versus the Tribal TA program. Can you provide a little bit of clarification around that?

ALISSA BAKER: Yeah, absolutely. And that one is always dicey. There's federal law that restricts us just handing some federal funds out to non-federally recognized Tribal nations, but that's a whole other thing. But all of the convening work that we're doing, open to everybody. Absolutely. We want to invite everyone. We want to include everyone.

The educational support that we're doing through NREL's program, that's absolutely open to everyone. Please, come participate. And if you have a technical need that you want to work on with them or if you want to talk about participation support-- if there's a question, reach out. And let's see if there's anything we can do to navigate or anything we can do.

Unfortunately, this isn't a program decision about federally-recognized versus non-federally recognized Tribes, but we're trying to do our best to be as inclusive and dynamic as we can under what we have. WHITNEY BELL: Great. Well, that does wrap up our time for Q&A. So thank you, Alissa and Travis. I really appreciate it, and being flexible with moving things around a little bit here.

We do regret that we don't have time to address all of the questions here today. So if you didn't hear your question answered, please feel free to email the program team after the event so they can follow up with you. We just put the email address right there in the chat for everyone. It's the

oswtransmission@hq.doe.gov. So feel free to drop it in there.

Thank you, Alissa and Travis.

Next, we'll hear some recorded closing remarks from Deputy Secretary David Turk, for the US Department of Energy and the acting Deputy Secretary Laura Daniel-Davis, for the US Department of the Interior.

DAVID TURK: Hey, everybody. It's Dave Turk. I'm the deputy secretary here of the Department of Energy.

I first want to thank everybody for this excellent session and participating. And we're eager to hear the readout. And we've got a special way to close this out. We've got a fireside with no fire, and we're not there in person. We're virtual. But just a pleasure to be here with my deputy secretary colleague from the Interior Department.

Laura, I've got a question for you. You've got questions for me. We'll keep this lively. Let me start. What are some of the key goals we're working towards when it comes to offshore wind?

LAURA DANIEL-DAVIS: Well, that is a great question. And the answer is extremely exciting. As you know very, very well, the Biden-Harris administration has an ambitious goal of deploying 30 gigawatts of offshore wind--

DAVID TURK: That's a lot.

LAURA DANIEL-DAVIS: That is a lot-- by 2030. When we get there, that's enough to power 10 million homes. And we're going to cut 78 million metric tons of carbon pollution.

DAVID TURK: And that's just a start.

LAURA DANIEL-DAVIS: And that's just a start. It's just up to 2030. And this is all while we are building a domestic supply chain, we are creating these good-paying union jobs, and we're lowering consumers' energy prices. So we're standing up this brand new energy and doing all of that. And we are really moving quickly.

Interior has approved six commercial-scale offshore wind projects.

DAVID TURK: So everybody should be really excited?

LAURA DANIEL-DAVIS: Everyone should be really excited. That's the first one, and five more in less than three years. Which we are really excited about. I think that includes a couple of milestones I want to mention. The Coastal Virginia Offshore Wind Project. It's the biggest one in the country. It's going to power about 900,000 homes once it's built out.

And as well, we've got two projects, South Fork and Vineyard Wind, that are already feeding power to the electric grid. They're already doing their job. They're already built out to that degree. So we're really excited about that. And we really are advancing offshore wind coast to coast, including the Gulf Coast. We've had four lease sales, including, as you know, the first one in the Pacific that's going to bring forward that floating technology.

DAVID TURK: Can I sneak in an extra question before you ask me a question?

LAURA DANIEL-DAVIS: Yes, you may.

DAVID TURK: So this is the West Coast, right?

LAURA DANIEL-DAVIS: This is the West Coast.

DAVID TURK: We're making progress on the East Coast.

LAURA DANIEL-DAVIS: We are.

DAVID TURK: We've got to work through interest rates and supply chain issues.

LAURA DANIEL-DAVIS: We do.

DAVID TURK: And we're working through that together. Can the West Coast beat the East Coast and the Gulf Coast?

LAURA DANIEL-DAVIS: Can the West Coast? If they try really hard, yes, they can.

DAVID TURK: All right, good.

[LAUGHTER]

LAURA DANIEL-DAVIS: And that's why we're so glad so many of you are here and have had such a good session. And as the Deputy Secretary said, we are excited to hear the outcomes of what you've been talking about.

All right. I'm going to get to my question for you.

DAVID TURK: All right. Go for it.

LAURA DANIEL-DAVIS: So in 2022, Secretary Haaland and Secretary Granholm launched the Atlantic Offshore Wind Transmission Stakeholder Convenings Workshop Series. And it gave our administration really a lot of valuable insight into building out this successful domestic offshore wind industry. Can you share some of the lessons we learned from those convenings and that we're going to apply as we go in this West Coast series?

DAVID TURK: So we found that session incredibly helpful. It was 800 people. That's a lot of people. LAURA DANIEL-DAVIS: That's a lot of people.

DAVID TURK: All sorts of folks working in this space. And I think what's important about that session, this session, and further convenings that we'll have is this is not just Washington, DC, and us here, and our fellow folks working in the Interior Department and the Energy Department. This is folks all across the country, on the East Coast, on the West Coast, enabled by the government, incented by the government, with permitting and other kinds of things that we do, but this is a partnership.

This is private-public partnership. We all need to move this together. And the only way to make progress there is to have convenings like this, where we can have conversations back and forth.

LAURA DANIEL-DAVIS: Right.

WHITNEY BELL: Candid conversation, honest conversations, and deal with the challenges. There are challenges. But move on. So it was an incredibly, incredibly good forum. And I think the West Coast can do an even better job of these kinds of discussions going forward.

LAURA DANIEL-DAVIS: Yeah. I mean, there are some things that we don't see where we sit. So it's important to have these kinds of conversations, for sure.

DAVID TURK: Absolutely. Which is where my question comes in on partnerships.

LAURA DANIEL-DAVIS: Yes.

DAVID TURK: So explain the importance of partnership. Why is it so important to work with all the folks who are here at this meeting, and many others as well, if we're going to be successful on the goals that you talked about earlier?

LAURA DANIEL-DAVIS: Yeah. Well, look, this work that we're doing -- in this work that we're doing, partnership is everything. There is the all-of-government approach that the Biden-Harris administration is taking. It's the Department of the Interior. It's the Department of Energy. It's Department of Commerce's NOAA. It's the Department of Defense and others. And it takes all of us working together.

We also work really closely with stakeholders, with states, with Tribes, with local communities. We're learning from them what we can do to make this all work for them. We need them really involved.

We are working directly with the companies. We need all of them that are involved in offshore wind development, including the transmission and all of the buildout-- we need them to be involved partners in this hard, but really rewarding work that we're all doing together to build this new industry.

DAVID TURK: Great. I don't know if you're supposed to ask me.

LAURA DANIEL-DAVIS: I am. I didn't know if you had another followup.

DAVID TURK: I've got so many followups, but we're already way over time. I think we're way over time. We don't want to keep people from socializing and otherwise.

LAURA DANIEL-DAVIS: OK. So let's talk about challenges for a minute. In building an industry as essential and as historic as this-- this historic work that we're doing-- we're bound to face some hurdles. You've mentioned a couple of them already. What are some of the challenges that offshore wind faces? And how are our agencies turning those challenges into opportunities to create a strong and resilient industry?

DAVID TURK: All right. So before getting to the challenges-- I'm not supposed to do this, but it's just the two of us--

LAURA DANIEL-DAVIS: Just the two of us and the 800 participants.

[LAUGHTER]

DAVID TURK: I'm not supposed to have favorites in the energy space, right?

LAURA DANIEL-DAVIS: Right.

DAVID TURK: There's a lot of different energy technologies we're working to drive down the cost in a lot of areas.

LAURA DANIEL-DAVIS: Yeah, it's all important.

DAVID TURK: One of the areas, one of the technologies, I'm most excited about all is offshore wind. LAURA DANIEL-DAVIS: Yes.

DAVID TURK: Before this job, I worked at the International Energy Agency, which takes a look at all the different kinds of energy opportunities going forward. There was a report we did-- this is now maybe four or five years ago, but the findings hold true-- of looking at just the best areas for offshore wind all across the world. And I think the number was 16 times or 18 times the amount of electricity we currently produce in the world by all sources of generation that we could do by offshore wind just looking at the better sites all across the world.

So there's a huge, huge potential. The capacity factors for offshore wind, as you know, Laura, and folks know here, is just terrific. But there are some challenges. There are issues. We mentioned interest rates, supply chains, some of those near-term issues that we're working through. I think the important part is we work through them. We get through these initial projects. And then we get and scale it up.

And I think the potential here is just huge. When we talk about the West Coast we're talking a lot of floating offshore wind as well.

LAURA DANIEL-DAVIS: Exciting.

WHITNEY BELL: One of our energy Earthshots that we've got is to drive down the costs of floating offshore wind so that that technology can be there. So we'll work through these issues. But I have no doubt-- and I'd maybe put it this way-- we don't have any chance of reaching our climate goals-- and we need to reach our climate goals, the ambitious goal President Biden has put on the table-- without a very rigorous, aggressive offshore wind strategy. And I'd love to see the West Coast do even better than the East Coast.

So we're keeping track. We're paying attention.

LAURA DANIEL-DAVIS: We are. We're paying attention. It's one of the most important things that I think we are doing together. And you're right. We need to make it happen to meet our climate goals.

DAVID TURK: Great. All right. Well, thank you all again for participating. And thank you for the partnership. As Laura so eloquently put it, partnership between our agencies, but partnership with everyone else out there. And thank you for being part of this team.

WHITNEY BELL: Thank you, Deputy Secretary Turk and acting Deputy Secretary Daniel-Davis, for providing those recorded remarks.

I'd also like to give a special thanks to their staff who made it possible for us to hear from them today. Before we end today's meeting, we wanted to highlight some additional news from the Grid Deployment Office. GDO recently announced the Grid Resilience Technical Assistance Consortium funding opportunity for nonprofits, universities, and industry. The deadline for applications is Thursday, February 15 of 2024. Additional information is available at the link that will be dropped in the chat momentarily. With that, I want to continue extending our gratitude. Thank you to all of our speakers for joining us today. And thank you to everyone for each of your contributions today as well.

DOE and BOEM welcome any further comments or feedback following today's event. Please use the email address that is in the chat and on the screen to continue the conversation.

A copy of today's presentation will be available on the website by this Friday, and the recording will be available within two weeks on that same web page. And we will be sure to email you when that is available.

Again, thank you so much for joining us today, and have a great rest of your day.