

Please welcome corporate vice president, Energy & Resources Industry, Microsoft, Darryl Willis, and welcome back, Patti Poppe.

[MUSIC PLAYING]

All right. Hello. I'm back with the-- I know how this goes. Satya, first of all, he's amazing. He's a visionary. He has a lot of ideas, I bet an idea minute, and then somebody's got to go do something about that. Let me introduce Darryl, because he has to do something about all that.

I wore my Satya haircut.

Yeah, you look good. You look good. Yeah Darryl, I mean, it's so exciting, the role that Microsoft is playing. You're at the company at such an exciting time, adding to what Satya shared, how are you thinking about the transformative power of AI, and how it relates to energy. You've been in the energy business your whole career. How do you think about the intersection there?

I've been in the energy sector for over 30 years, Patti. And this is probably the most exciting time of my career, because I absolutely believe that using generative AI and the power that comes with it, we will be able to reimagine every single thing we do. I believe that every problem that we can define we can solve. We're living in a time where every problem can be solved through the technology and the capability that we have and partnership.

It's truly, truly amazing time. I think about the fact that this whole AI journey we're on is going to be bigger than the internet. It's going to be more transformational than the mobile phone. We are living in a truly transformational time that will really allow us to accelerate everything that we have to do around decarbonization and energy delivery.

One of the things I talk a lot about is the fact that energy gets a bad rap. But energy literally makes the world go round and round. Energy is not a bad thing. Emissions are bad. Good energy is good. And so we have got to continue to work on delivering energy to the world and attacking emissions as we move forward. And I think that AI and partnership will be essential.

Yeah, I mean, obviously, we can't keep doing it how we've always done it. It is the one product that every American uses the grid is connected to every household, every business, every farm, every factory. And I just think the smarter-- this is an opportunity for us to do it a lot smarter. At the natural age of when the grid has reached an age where it needs to be rebuilt anyhow, let's rebuild it smarter, not just rebuild it.

Agreed. I think also about some of the great things we're seeing in terms of how AI is being applied. And you're seeing a company like Microsoft partnering with the PG&E, even partnering with the nuclear industry. You never would have imagine something like that happening five years ago. And using something like Copilot to do something truly transformational-- I think, for example, about something in the nuclear industry, where when you're typically trying to get a nuclear license, it can take up to two or three years to get a license and cost over \$100 million.

Using Copilot using generative AI and the capability from the industry, we can cut that time in half, as well as the cost. That capability can be applied to hydrogen. It can be applied to wind. We're using our technology to really help figure out how to integrate more renewables into the grid, how to accelerate the optimization of the grid. So we're in an exciting time.

Well, golly! I think, I'm just a year late on my relicensing activities now. I wish I had that Copilot a year ago when we started our relicensing of Diablo Canyon nuclear power plant. So, Darrell, with data center growth and AI, how's Microsoft thinking about adding energy demand along with maintaining your important sustainability goals.

It's a great question, and it's interesting because in 2020, Microsoft said that we would, by 2025, run all of our internal operations and data centers on 100% renewable energy, and we are on track to do that. We also said that by 2030, we would be net 0. We made those commitments well in advance of us having the relationship with OpenAI and really being on this journey with generative AI.

So our data center growth has gone up exponentially since we made those commitments, but I'm pleased to say we're not backing off of those commitments. We will beat carbon. We will run all of our operations on carbon-free energy in 2025, and we will get to net 0 by 2030, as well. And that's the first thing I would say, Patti. The second thing is that I think about it like this. We need energy for AI, but we need AI for energy, as well.

We need both, we need energy for AI and AI for energy. So energy, AI will be a part of the solution. As much as we are creating dimension and a part of the problem, I believe that AI will really help us accelerate some of the solutions around energy utilization, around water utilization, around the materials that are required, and the invention of materials that we can use to construct data centers, around minimizing the footprint, and integrating renewable energy. AI is going to be an incredible part of that journey.

Excuse me. Well, I agree with that. And we're seeing applications here. And even in last year, we made real news at this same event, announcing our distributed energy resource management system. First one on the cloud. We're partnering with Schneider Electric and Microsoft to bring this optimized grid technologies to the forefront. How do partnerships with PG&E and partnerships, like our distributed energy resource management, materially affect how energy is delivered, how we're bringing AI to the grid?

Oh, that's a another good question. I think that partnerships are incredibly important. And the more unique and innovative and unusual the partnerships, the better, so our relationship with you all, and Schneider is a great example. And I believe that the problems we're trying to solve, none of us can do it on our own. And we'll get more done together than we will alone. And if you're working on something by yourself, you're probably going to get left behind.

And so for us, partnerships are accelerators to productivity. The journey we've been on with you all around with Durham's has been fantastic. We've got interesting partnerships underway with Constellation Energy and the nuclear space, where we've just announced the reactivation of Three Mile Island in Pennsylvania. Who would have ever thought that Microsoft would be involved in nuclear, and of all projects, Three Mile Island.

But it's a 20 year deal to access clean energy that's going to be needed by us and by, frankly, the world. So I think that partnerships, public partnerships, private partnerships, are incredibly important, and we cannot do it without companies like yours.

Well, and I learned about a partnership. I was actually at a conference this summer seminar in June. And I had a panelist from Enchanted Rock, who-- sometimes as a CEO, you don't always know what's happening everywhere in your company. And I found out about this project, and it's been the most amazing project from Enchanted Rock and Microsoft, where it's a little bit about what Arshad and I were talking about.

There's a data center here in San Jose, and Enchanted Rock has built a recirculating engine as your backup. And it uses natural gas, but then Microsoft buys offsets to that natural gas. So it's technically fueled by renewable natural gas that actually goes into the PG&E natural gas system to serve our customers. So it's fundamentally a net 0, 98-megawatt backup resource.

And that's a big game changer. I mean, these are the kinds of ideas and partnerships that we need to just amplify and grow even further. Any other exciting projects or partnerships that you're thinking about these days?

I mean, I think for us, one of the most exciting ones is the one that we've talked about, between us and Schneider. But also the work we're doing with constellation is quite interesting as well. And there's a host of work that we're doing across the sector in mining, in oil and gas, utilities, nuclear, wind, solar. There, a variety of partnerships that are underway that we think will help us, as I said earlier, be a part of the solution as we move forward.

Yeah, well, I'll give an update to those of you who are here at last year's Innovation Summit, when Darryl and I announced with Annette Clayton the Distributed energy resource management system. I also told a story last year, and I'll give you an update on that story because our DERMS platform has fixed it. Tesla had come to PG&E and asked for 3.8 megawatts for a supercharger station.

And our distribution engineering tools are very binary. And the tool basically says, what's the peak hour of the year, and can you serve that peak on this circuit in that location. And if not, you have to build something to serve it. And so we told Tesla, we'll get you that power in four years from now, which you might imagine didn't go over very well.

And so we went back and we really-- and this was a genesis of a reimagining of how we do distribution engineering planning. Our engineers didn't have the tools. They didn't have the technology that AI compute capability to actually answer that question quickly in an hour-by-hour load forecast. And what we discovered when we dug into that specific 3.8 megawatt location, we could serve 3.8 megawatt at that location, 360 days a year.

We were going to make the customer wait four years, because there were 20 hours in the year when we couldn't serve 3.8 megawatts. Well, if you're the grid operator, you actually care about those 20 hours, and your reputation hangs on those 20 hours. And heaven forbid you're going to let somebody promise to shut themselves off during those 20 hours.

That's not a bet a distribution planner or operator is willing to take. But now with DERMS, we actually were able to work with Tesla for that site. And we're able to add a new use case, where we control their access during those peak hours. They have that great telematics system on board, the Tesla cars. So if a Tesla driver is programming where they're going to go, it'll tell them to bypass that station and go to the next nearest one.

So we then, inherently, as the grid operator, are optimizing the utilization of the grid geographically, locally because of DERMS. And that capability now exists right now. We pulled that in five years, not just the power delivery to Tesla, but the capability through Durham's. We pulled that in five years. Congratulations to my team who made that happen.

But this is the first of 80 use cases we're going to be implementing together on the Azure cloud to make sure that we can, real time, optimize the utilization of the grid with real dynamic tools, like we're just scratching the surface. Enable that with AI and sky's the limit.

The sky's the limit. The data, the insights, and the pace. And I want to just pick up on something you said because I don't think we talk about it enough. But the speed at which we can get things done is changing as we speak, and going to go up exponentially. Anything that would take four years, we should be able to do in four months. If it was going to take four months, we should do it in four days.

If it's going to take four days, we can do it in four hours and in four hours, four minutes and four minutes, four seconds. That is where we're headed. And it's the partnership, it's the insights, it's the utilization of data and the belief that we can solve any problem, which I believe we will together. The speed is going to continue to accelerate. It's exciting.

Yeah, it is exciting. I love it. So Satya shared with me some of his personal tips about what he's using AI for. How about you, Darryl? Any tips for us?

I mean, I think the biggest tip is to just start using it. I use Copilot every day. I was actually talking with [? RJ ?] earlier around the fact that-- he's here somewhere. There he is.

He's shaking in his boots right now. He's like, oh, Patti.

I was preparing for a major-- I was reviewing a major ESG report, and it was around 30 or 40 pages. And I asked Copilot for some assistance to help me read this report and pull out the key messages and key points that I should inquire about. And it, within a few seconds, went through the 29-page document and said, these are the five or six topics that you want to pursue.

And I went in and pursued those topics and got a deep familiarity with them, familiarity with them and within 10 minutes. And then I said, Copilot, write me an email to the head of sustainability thanking her for this document and reflecting on some of these key messages in the report. It was not perfect, but it was 80% of what I needed. And so I did an exercise around evaluating the document in the course of maybe 20 minutes.

That typically would have taken me maybe three or four hours to do. That's one example. I used it, as Satya talked about, for emails. I get lots of emails, way more emails than I can possibly read. I say to people all the time, if you want me to respond right away, send me a text. If you don't want a response, send me an email. But now, using Copilot, I can really get a quick summary of all my emails and figure out which of the 10 out of the 1,500 I received overnight that I need to read and address immediately.

So it's truly transforming my life. And I would say that for me personally, it's probably added two to three hours of quality time to my day.

Wow!

So I'm no longer preparing for meetings after dinner. when I get home, I'm no longer working on Sunday nights, getting ready for the week because I'm able to assimilate and really get a handle on everything that I have to do using it as an assistant. It is truly an assistant, never a replacement, but truly an assistant to everything that I'm doing personally.

Wow. I got a whole laundry list going in my-- in fact, my laundry list, maybe, could be done by--

It could be

--Copilot.

Yes, eventually.

I thought you looked younger since I saw you last, Darryl. I see why. I see the secret to success. All right, well, thank you so much for joining me today. And so happy to have you with us, Darryl. It's truly an honor and a pleasure to work with the Microsoft teams. You've got a great team. And we're just pleased and honored to take this journey with you, and it sounds to me like we're going to take it faster.

Faster and together.

Let's do this.

Yeah.

All right.

Great.

Thank you, Darryl.

Great to see you.

Thank you.

Great to see you.

[APPLAUSE]