Maria T. Vargas: Good afternoon. My name is Maria Vargas. I'm the Director of the Better Buildings Initiative at DOE and it is so great to see all of you here in person. Thank you so much for coming.

Whether you work with DOE in the Better Plants program, in the Better Buildings Challenge, as a Low Carbon Pilot Partner, as part of the Better Climate Challenge, or as an accelerator working with us, you are all part of the Better Buildings initiative and the family and I can't tell you how great it is to see all of you here today.

Let me just quick show of hands, for how many people is this their first summit? How many first? Wow, that is amazing. Okay. That is terrific. Welcome, we are thrilled that you're here.

So for those of you for whom this may be your first summit, just to remind you, the goal of the summit from DOE's perspective to convene leaders like you across the US, regionally across the US, across sectors, across different parts of the economy, to share ideas, solutions, struggles, barriers, and successes so that we can learn from each other. It is a partnership in the truest sense, the Better Buildings initiative is, and this summit is bringing that to life.

So we really appreciate you being here. But because it's interactive we want you to interact. So in the sessions you're in ask questions, participate, contribute; that's why you're here and that's how we'll know if we've had a successful event, if people are interacting and collaborating with us.

This plenary session is no exception. We have two amazing speakers to kick us off. And then after that we will have a panel of partners, folks that come from the room and that are going to talk. You have index cards on your table, so please, as the panel is talking write down your questions. We'll be collecting those. We want to make this as interactive as we can.

Just know that this session is being livestreamed and recorded, so I'm supposed to tell you all that, so that's important. Okay, so now it is my great honor to introduce the Department of Energy Secretary Jennifer Granholm.

Audience Member: Woo.

Maria T. Vargas: Yeah, woo is right.

The secretary is joining us via livestream and I can see her. You can't see her yet, but you made her smile. She heard the applause and is very appreciative.

Secretary Granholm probably doesn't need a long introduction, but I'm going to give her a medium-sized introduction 'cause she's pretty amazing. She's leading the Department of Energy in helping achieve the goal of net-zero carbon emissions by 2050. She's doing that really at the top of the department by advancing cutting edge clean energy technologies, creating good jobs, good high-paying union jobs, building an equitable clean energy future, and she does all of that while also paying attention to the other core missions of DOE, which include leading the way in scientific discoveries and maintaining the nuclear deterrent and reducing nuclear danger.

Prior to the Department of Energy you know Secretary Granholm because she was the first woman elected as the governor of Michigan and she served there from 2003 to 2011. Without further ado let me introduce Secretary Granholm. Secretary.

Jennifer Granholm: Hello, everybody. Gosh, I so wish I could be there with you in person, but I'm here anyway this way to thank you for your work and for your leadership.

You represent more than 35 of the country's Fortune 100 companies. You out there represent more than 10 of the top 25 US employers, more than 100 state and local governments. You are out there cover about 14-percent of the US manufacturing energy footprint, 13-percent of total commercial building space. Through your work with Better Buildings Better Plants you've become market transformers. You're actually showing obviously your peers and the entire nation what's possible on energy efficiency and clean energy. You've brought decarbonization to the community level. You've transformed the places where Americans live and work and play and shop into healthier, cleaner spaces. And you are at the tip of the spear, many of you, committed to portfolio-wide energy efficiency and climate goals before it was even cool.

Because of that commitment you have made amazing progress. So here at DOE we are all about metrics. I'm excited to share the brand new impact numbers that are released today for the Better Buildings Better Plants program over the past year.

Okay, here we go. Collectively y'all have saved enough energy to power nearly 20 million homes for an entire year, avoiding 150 million tons of carbon pollution, saving over $15 billion. Better

Buildings financial allies have provided more than $28 billion to finance energy efficiency and renewable energy projects. Over 90 Better Buildings Challenge partners have met an energy reduction goal, 13 have met a water reduction goal, 27 financial allies have met a financing goal, and perhaps most importantly, you're sharing what you're doing so that others can follow your example. There are now more than 3,000 solutions and data displays in the Better Buildings Solution Center.

And these numbers, and they are impressive, and they are the product of your hard work and your dedication. They show really that if we work together we can achieve President Biden's ambitious goals of halving, cutting in half our carbon pollution in eight years and running on 100-percent clean power by 2035, and then of course reaching net zero by 2050.

Climate action and economic savings I think motivated you to join Better Buildings and Better Plants, and now there's another reason to accelerate our progress. A really important reason. And it's national security actually. Because Putin's war on Ukraine reminds us that not only the fossil fuel prices are volatile, but that they can be used as a weapon. And it's why we have got to move to clean energy faster than ever. No country on the planet has ever been held hostage over solar or wind access or geothermal, because they're inherently home-grown; they're inherently reliable and affordable. They're not volatile. Deploying clean energy is going to make our nation more secure and more energy independent.

And those deployments may well be, honestly, the greatest peace plan the world has ever known, because if every country were to focus on their won clean energy security no country would be under the thumb of petrol dictators like Vladimir Putin.

Each and every one of you is part of this mission. Your work to boost energy efficiency, to reduce the 20 to 30-percent of energy that buildings and plants waste on average is helping our nation reduce its dependence on fossil fuels and make clean electricity go further. All the money you saved from these measures allows you to lower costs for your consumers and to increase investment in clean, secure energy.

And your work to source power from clean energy sources, getting your peers and neighbors to do so as well, sends strong demand signals that we're going to speed up this transition. And these are big contributions, but honestly, all of us need to double down on our own commitments. We all need to set bold new targets. We

need to get other peers to join our efforts. We need to share our ambitions with local governments and utilities and get them to move faster too. We need you to let us know how the federal government can help you reach your goals, 'cause we are right here alongside you.

Through President Biden's bipartisan infrastructure law we're investing over $16 billion, for example, to upgrade and expand the grid so that it's easier to integrate clean energy. And over $21 billion we're investing to move these next-generation clean energy technologies to market. And in February DOE launched The Better Climate Challenge with over 80 organizations that pledged to cut in half their enterprise-wide scope one and scope two emissions within ten years without the use of offsets. Amazing.

DOE's offering technical assistance and we're holding peer exchanges so that organizations can help each other figure out how to meet those ambitious goals. And we now have more than 100 partners signed up for the Better Climate Challenge, including a few in this room. So we encourage all of you to join and get your peers involved too. There's so much to do over these next few years, but we've already come such a long way by working together and we are only just getting started.

So thank you for your leadership. Thank you for sharing your work. And thank you for your partnership in the months and years ahead.

And so now I think it's my pleasure to introduce my friend and colleague, Gina McCarthy, who serves as National Climate Advisor to President Biden. Gina.

Gina McCarthy: Thank you, Secretary. I really appreciate you being here and look at this – I have to get a picture like that. She is just so tough, isn't she? She's like a little kick-butt person. And she doesn't fool around. She's got a lot of people working for her, and as fast as she runs they're going to try to keep up. So it's great to see her and it's great to have all of you here.

I can't help but be at excited about how many people are in this room and in the overflow room. What is the matter with you people? Don't you have other things to do? No, I'm only kidding.

I just think it's terrific. And I know that part of the reason you're all here and part of the reason I'm all here is because Maria makes us come. It's true. She is unbelievably focused. She is just so good at

what she does because she pushes everybody around, only she's smiling all the time so you can't figure it out and you just follow wherever she wants you to go. And you know what you call that? Leadership. Leadership.

So, Maria, thank you for everything you do, and you and your team at DOE are just really incredible for being able not just to pull together this summit, but as the Secretary indicated, having so many important business leaders and government leaders and folks here that really can make a difference in the world. And frankly I've given a couple of commencement addresses recently, and you're looking out at a lot of young people who really are demanding change, and they're right.

You know, I can't say that we're moving as fast as we ought to, but we're going to keep trying hard. And I think you're all here because you know that they're not just young people who are going to be in academics their whole life; they're going out in the working world. They're going to be your workers driving you crazy to do more. Right? They're going to be people who are demanding more about us than we've ever given before. And they should. Because we have big challenges and big work that needs to get done.

And that's why I'm so excited about all the energy in this room, as long as it's utilized in an efficient way. We can't waste it, right? So it's great to have you all here. And first just let me thank every one of you who signed up as a partner in the Better Buildings Better Plants campaign and initiative. It's just a really great opportunity, I think, to be here and to share lessons learned and to learn from one another and to figure out how we can do our part so you can go back to where you're working and make sure you can hold your head up high and just say that you're part of the solution, not the problem. Right? You're part of the people who are working to make not just buildings better and plans better, but a future better for our kids and our families. 'Cause in the end that is what life is all about.

You know, I always get asked, "So how with all of this climate stuff that's so daunting, as well as an urgent challenge, how do you stay so optimistic?" Many people guess it's because I drink a lot, but that's not true. I might seem like it at times, but it's just lots of bubbly pleasure I take in being in crowds like this. You know, honestly this summit is one reason why I'm optimistic. I can't help it. Because I see the power of the folks out there like you, who are really not sitting on the sidelines and getting into the game.

You know, I see change happening. I see people wanting to address the challenges that we're facing today, and to do it in the absolute smartest way that we can. Because right now what I see that I did not see 20 years ago, when I was yapping then and I'm still yapping now, I didn't see solutions. I didn't see answers on the table. I saw a lot of creativity, blah blah blah blah blah.

Well, right now we have it. We have solutions. And on top of those solutions we invest in innovation, and that innovation before you know it is going to be business as usual. And you want to be in the front of that curve. Everyone in government wants to be leading people where we know we need to go, and showing people how to get there. That's how we work in partnership. And there's so many solutions, and if you keep being a leader we are going to be able to seize these opportunities. We're not going to have to force-feed any of these issues. This is not about sacrifice. This is not.

It's about opportunity. It's about what we see now that we've never seen before. Creativity and innovation that we didn't even dream about 10 or 15 years ago and it's sitting in our laps now. We're all being not smart if we didn't take advantage of it. We can unlock billions of dollars in savings. Billions. For people who need it now more than ever before. We can actually, with energy efficiency, create tremendous good-paying jobs so that we can support people and build our workforce again and pay them an equitable and healthy salary for the work they're doing, just by saving money on energy efficiency.

Why wouldn't we? And we can actually – I just gave a commencement address – you can see my – I really have been giving a lot of addresses lately. I was at Columbia School of Public Health yesterday, giving the commencement address. Because I think what people forget is that when we address things like greenhouse gases what comes along with that is tremendous public health benefits. I mean it's the opportunity of our lifetime to show families that work for you and families that you live near, and communities that you are improving the health of the families in the communities in your area.

There is nothing more fulfilling, at least to me, than knowing that the work we're doing on climate is not about the planet; it is about us. The planet could care less whether we're in it. In fact, I think we're the most annoying species the planet's ever seen, so we have to get our act together.

And the other thing is that if we're smart about this we know in our hearts that there have been so many communities left behind. So many communities that have been overburdened by pollution and under-invested in for many years. This is our opportunity to change that. This is our opportunity to say that instead of being at the back of the line we're going to put you in the front of the line. We're going to do what's right for you, which is what we should've done years ago, and start investing in the communities that need that investment the most.

And so this is just a wonderful time. I'm optimistic because we've woven together tremendous opportunities for us to show the values that we hold dear in the United States of America. This is all about values. This is all about saving money, not spending money. This is all about our ability to work as partners together.

And President Biden really has understood these opportunities, and since he's taken office he's really pushed us to make what I consider to be historic progress. And I'm excited about it. You have to get excited, because like I think the Secretary actually mentioned, the kind of goals he put before us, which make me choke a little bit every time I see them, because they're really hard. But I feel very strongly that because of what we have available to us today that we will make it. They're bold but we are going to get there.

Because President Biden when he came in didn't just – I don't know if you know this, but he used to be EPA administrator. And we were stuck with all this stuff and nobody else seemed to be doing much of anything, other than DOE, of course. But this time everybody's on the boat together; we sink or swim together, because President Biden said the climate is not just about the environment; it's about how we grow our economy, it's about our expectations of having a whole of government approach where every cabinet member is on the line to look at what they're doing to be able to make this world a healthier, more equitable, safe and secure place.

And so we are hanging out together, like it or not. Sometimes they don't like it. It's okay. It's a family. We get along and we fight and we get stuff down. That's how it all works. And as a result we've taken hundreds of actions based on already available legal and regulatory opportunities available to us to advance climate solutions in really every sector of the economy. We've fast-tracked wind and solar in a way that we never thought possible before. We are looking at advancing smart, cost effective standards on

everything from vehicle miles per gallon for our cars and our trucks, to appliance efficiency standards, to how you address methane emissions. And we're leading by example through a federal sustainability plan so that if the federal government stands up and paves the way others can follow.

We will never be able to lead the world if we don't start acting in a way that provides leadership ourselves. So we're looking at opportunities to actually have all electric vehicles, not just produced by GM or Ford; we're going to buy them and use them in the federal government because they add value to the values that we're selling to everybody in the United States of America. And so we're excited about all that work. And we know that we have to have partners, which is *[clears throat]* where you come in. Each and every one of you, whether you like it or not, is now married to us. We are strange bedfellows, but we will get along. Because you're doing a great thing.

You've made commitments to actually look at your own facilities, your own plants, your own ability to actually provide leadership t yourselves and to your workers. And DOE continues to push out innovation challenges so that we can make breakthroughs not just on efficiency, but on energy storage, on clean hydrogen, on heat pumps. You name it, we're challenging it. And we hope that you're looking at these opportunities to actually get involved in more than one effort, and so that we can work together and advance the kind of world we're looking for.

We're looking at new building performance standards. We have a coalition on that, with more than 30 state and local governments working together so that we can advance energy efficiency and building electrification. And of course I have to give a shout out to the Department of Energy's Better Climate Challenge. Woo-hoo. I like that word, "better." I was honored to be at a recent launch of that initiative with more than 100 organizations who have committed to cut their emissions at least in half in ten years. That's a daunting task. So if you aren't part of this, hang on, you will be; Maria will be tapping on your shoulder any minute, so run. Run.

It's also a great time for all the communities and businesses that have been calling year after year for the federal government to invest in our nation's infrastructure and competitiveness. President Biden's bipartisan infrastructure law is groundbreaking and it's game-changing, 'cause we need it. And finally the President got something delivered here that Congress has been talking about for ages and simply not delivering. So in the six months since

President Biden signed that law we've already announced $10 billion for over 4,000 projects that are going to strengthen our local economies and lower costs for families.

And as part of that law President Biden has also secured a huge down payment on our clean energy future. So when someone comes up to you and says "It's too bad we haven't had Congress support any kind of climate efforts." Can you remind them of what I'm just going to say?

I'll give you a few examples. The law includes our largest investment ever in upgrading our power grade. Ever. So that we can deliver clean, affordable electricity to homes and businesses all across the country. We're investing in energy efficiency from expanding weatherization assistance programs to helping schools make energy efficiency upgrades. We're building out a national network of EV chargers. Right? So that all communities, rural and urban, can benefit from electric vehicles.

And we're making the largest investment ever in climate resilience. Because we can't fix what we already broke. We have to start where we are today and make sure that we're protecting ourselves against the horrendous wildfires, the extensive drought, the crazy heat that we're experiencing, the superstorms. Already they are inundating us with challenges this year, because they're not going away seasonally anymore. They seem to be with us more than ever before, and we're going to build infrastructure that can withstand challenges, so that we know where we're heading and we take a look at the mapping and we don't rebuild bridges that are only going to fall down in ten years.

We have to work together. And we can implement this law in a way that does advance the President's Justice 40 initiative, which is to make sure that 40-percent of the investment in energy and climate can actually be delivered to those communities left behind.

So that's why I'm kind of excited, as you might be able to tell. I'm kind of excited.

But that doesn't mean I'm not going to keep demanding things. I'm going to actually continue, as the President will, to call on Congress. Congress needs to deliver clean energy investments and tax credits. That is on the table now and we need them now. We have to save money for families on their utility bills. Isn't that what you do when you go to public service? You take up the mantle and

you work for people. This is a way to do that for families all across the United States.

We can also invest in our businesses, 'cause that's what this is. 'Cause we're going to be deploying clean energy and energy efficiency in ways that's going to grow jobs and access to the technologies of today and in the future. And we're going to strengthen our energy security. I could not have to repeat, thankfully, what the Secretary said. She was so elegant in making it so clear that this isn't foo-foo work; this is a primary way in which the United States will protect itself and be in control of our own destiny. That's what you can deliver with energy security.

And we'll keep working on Congress to try and get these investments over the finish line, because we need them. We simply need them. We need them for you and I. We need them for rural communities. We need them for our urban communities. Because w have to go farther and faster every single day if we want to get ahead of the game.

And because all of your constituents are at the state and local governments and your customers in the private sector, they're all looking at all of us to lead. You made that commitment to do it and they're going to hold you to it. And I think we all deserve to step up and answer the call of the day, the actions that we deserve and our kids deserve to have a good future.

So have a wonderful time sharing all of your solutions, talking about things you're doing in your communities, in your businesses, what you're doing with your workers, and how we can all advance together. Because this is an opportunity not just for us to learn from one another, but to try to reconnect with one another again. You know, we have had a terrible couple of years. We had a disastrous last weekend. We have to figure out how the United States of America bucks it up and how all of us begin to treat one another with the kind of respect and care and love that we all deserve.

So we all want that for our kids, we want them to have a good future, y'all are helping to deliver it. Thank you very much, everybody.

Maria T. Vargas: Do y'all see why it's impossible to follow Gina McCarthy? There's no hope. Gina, thank you again.

So terrific and I'm so delighted that Gina was able to be with us today.

So for our last part of the plenary, as I mentioned, Better Buildings initiative, remember Better Plants, Better Climate Challenge, Better Buildings Challenge is they are partnerships; we are a partnership with you. So with that I'm going to ask five partners to come up on stage now. So rather than – you know, we've heard from the Secretary and Gina, and now it's our opportunity to hear from you and your voices. Hopefully in coming years one of you will be up on this stage as part of this.

We've asked partners from very different parts of the economy to come and join us today as part of a partner panel. I've asked them to not talk about their company or organization as much as to reflect the trends that they're seeing in their sector or sectors of the economy. Of course they're going to talk a little bit about how they're doing it, but it's to really talk about what they see as partners. And then we want to make this interactive, so ask questions. We've done these before; they've been very popular. And we were going to have stand-up mics, but that doesn't work, so please just write your questions on index cards and there are going to be people roaming around trying to get those.

I'm going to introduce them one-by-one. This is the way this is going to work. I've asked them to speak for five minutes at the most, so they're just going to give some brief introductory remarks about who they are, what they see, how their organization is thinking through things today, and then we're going to answer your questions. And I promise we will have you out of here on time for your 2:00 sessions, 'cause those are important as well.

So with that I'm going to go sit down. Okay, that's fine. Okay. Does my mic work? Okay, great. So we're not going to speak in this order; we're going to sort of speak in this order.

The first speaker is Randy Gaines. Randy is the Senior Vice President of Operations and New Hotel Operations for Hilton. So Randy's going to be our first speaker. After Randy I'll introduce the other speakers as we go. Randy, you're up.

Randy Gaines: Thank you so much. Good afternoon, everyone. First I would like to thank you all for the business in coming out today. We have 750 people. A big round of applause for you guys and the staff. And I'm going to start out by saying that Maria made me do it. So

anyway, so she's been a great partner, and thank you guys at the Department of Energy.

I work for Hilton Worldwide and we are a global hotel company. We have – we're represented in 122 different countries. We are a little shy of 700,000-ish kind of rooms, and so we're a big company.

I'm going to talk a little bit about our sector and talk a little bit about what we're doing in the hospitality sector. So if we could move it to the next slide, I'm going to give everyone kind of a little bit of an update on how we see the world in this business.

Back in the old days energy, water, waste, it was just kind of its own thing, and in the hospitality sector we've rolled into our ESG strategy. And I'm sharing Hilton's here and I am proud to say that we are part of the Better Climate Challenge and you'll see here that we are committed to that 50-percent by 2030, and I'll talk through that. More importantly I just wanted to show you from our company industry's perspective where this fits into our social, our governance, and the environmental.

I'm going to give you kind of a quick overview of what I call the three Es – or the three Ws; I'm sorry. So let's move to the next slide.

And it's all about kind of watts, water, and waste. And if you really look close, close, close you'll see in my slide that we are committed to the 2030 climate initiative. And the watts piece it should say that we're committed to 61-percent. And these are just kind of buckets that as an industry this is Hilton's personal plan, but I do sit on many different committees. Many of you have joined us at the American Hotel and Lodging Association; I've been chairing that committee for many years. We've been a huge partner of Maria and the team.

And the way that this works is the three Ws are kind of our roadmap to get there. And if you look at our sector obviously water is important, but waste is important, right, around recycling and what we're doing in that arena, around soaps and other things. So you'll see many, many different things.

Water is becoming a commodity, as you do know, and you've seen that in your business and many other businesses. And then more importantly around the watts side of the house we have a tool that we measure with. Most of our larger industries do. It's called Light

Stay and it's going to track us. So we all – as an industry we are working with travel and tourism and we are trying to influence the industry and to come up with similar metrics. So this a little bit of a payback on what that E looks like for Hilton.

And then ultimately what are we going to do? The next slide kind of gets us there. So if I can flip it to the next slide.

This is a really – you know, it starts at the top and then it's bottom-down all the way up to the top. Senior leadership believes in it and by 2030 we will get there as part of this climate challenge. And like all of us in all of our industries, we're peeling back all the operational SOPs and standard operating procedures. We learned a lot through COVID, just like you all did and had to sharpen our pencils.

Energy efficient is very important. Renewable power purchase agreements, that whole piece behind RECs and we've all talked about the SEC and what's next. But to get to 2030, that's a short goal, and that 2050 net zero, it's going to take a lot. And we're committed to it, just like everyone on the stage is committed to it. And that's going to take electrification, it's going to take on-site generation, and more importantly it's going to take even a deeper dive into what those offsets look like.

So the hospitality sector, this is just a little peek under the hood as to what Hilton's doing in the sector, and we're ultimately in a great place.

Maria T. Vargas: Great. Thank you, Randy. Awesome.

So nest we have Sean Uhl. Sean is with Chemours Chemical. He is the Sustainability Technology Director. Sean, take it away. You're our manufacturing representative today.

Sean Uhl: Yeah, thank you. I'm Sean Uhl, Sustainability Technology Director for the Chemours Company, so I'm responsible for things like decarbonization, product circularity, and water as well. My entire career I've spent in the manufacturing industry. I've been at five different plant sites and I've done roles mainly in operations, technology, sourcing, and logistics, and continuous improvement as well.

A little bit about Chemours. So some of the information on the slide behind me there, you know, we consider ourselves a 200-year-old startup company. A large chemical company, 7,000

employees, started in 2015, and a lot of products with recognizable names like Teflon, Viton, Krytox. You know, we believe our chemistries are critical to modern living and also to decarbonization. A couple examples that we have, our Nafion product line enables the production of green hydrogen and use. Our fluoro polymer products are really important in the electrification journey, especially in the XEV segment. And then in TSS low-GWP refrigerants as well.

But we know as important as these products are that the world demand and expects more sustainable solutions that are good for people and the planet. And so we believe in doing well in business first by doing good. And I think an example of that is our climate goals as part of our corporate responsibility commitment. And our goal is to have a 60-percent reduction in scope one and scope two greenhouse gas emissions by 2030, on our way to net zero by 2050. And towards that we've invested about $75 million a year in sustainable investments, whether that's emissions reduction project, energy efficiency, or renewables, since establishing our baseline, which was in 2018 for us.

So being here, being a part of the Better Climate Challenge and Better Plants is a very natural fit, very aligned with our goals. But as you'll learn here in a minute, as I keep talking, it's a very necessary collaboration and engagement. I couldn't agree more with the opening comments, and it's going to take us all to achieve these goals.

Brief information on our journey and a couple of things that I think have been critically important for us since 2018, the first is engagement of the workforce. You know, changes like this, we have to change the culture and involve everyone, of making use of every molecule we make in the manufacturing industry, but also doing so with the least amount of energy. And I really have to credit our senior leaders back in 2018 for making such a bold commitment at that time. And even today we still don't have a roadmap all the way to reach our goal.

I felt like that and the priority and the resources that have been given really has unlocked the organization to work on this, and I think it takes everybody from the shop floor to the top.

The second item was to me just that process of going through in 2018 of developing that initial baseline of emissions, of energy consumption, everything necessary to know what your scope one and scope two was. That was incredibly useful to us on two fronts.

One was having all that information, starting to see the weak spots, the bright spots, where one plant might be doing something better than another and getting an idea of where to start. That was one. Of course the systems attract at year-on-year.

The second is it started to enable the use of data analytics. And I think we're just scratching the surface with advanced data analytics and manufacturing, and I think that's going to be a very key part of our journey as we go forward.

So far at this point from the work that we've done and the work that's in progress now we expect to be more than 50-percent – have achieved our goal more than 50-percent towards our goal by the end of next year. So we'll have achieved more than half of the 60-percent reduction. So pretty impressive reduction so far.

But you ask what excites me, not only the opening comments there, but to me it's conferences like this and collaborations with all of you, because I firmly believe no single company can meet this challenge and we really need the collaborations on what the key issues in the manufacturing industry are and conferences and the Department of Energy. So really appreciate being here and I'll turn it back over.

Maria T. Vargas: Awesome. Thanks, Sean. Thanks so much.

Okay, next up is Darien Crimmin. Darien is the Vice President for Energy and Sustainability for WinnCompanies. And I was going to tell you about Wind Companies, but Darien can tell you about WinnCompanies.

Darien Crimmin: I'm going to mention WinnCompanies, but try to talk more about decarbonizing affordable housing. And just first, how great a secretary of energy do we have? That was amazing. And Gina McCarthy was just mind-blowing.

I really think it's so important to have leaders that are competent, that are honest, and that have integrity. You'd think that would be a prerequisite, but we've been proven wrong.

We all want to decarbonize our buildings, and at WinnCompanies we've been at the front lines of doing that for affordable housing, whether it's deep energy retrofit pilots or grid interactive buildings. But I just want to be honest, like it's hard work and something keeps bugging me, and it's because it costs a lot of money. And I'm not talking about regular basic efficiency measures; we've been

doing those for years. All of our sites – almost all of our sites have LEDs or boiler controls or other basic efficiency measures. What I'm talking about are deeper energy savings. Getting towards net-zero to save 50-percent of our energy intensity costs $40,000.00, maybe $50,000.00, maybe more per home – per apartment.

And if we're looking just to the energy savings to justify that investment it will never work. And so these are problems we are trying to solve because we want to be investing in these technologies, in these projects, and we have to really innovate and create ways for us to do that.

The good news is we know the technology is there, we know how to design net-zero new construction buildings. We know how to super-insulate existing buildings and convert from gas to electricity to heat pumps. We know how to improve resiliency in our communities. It takes innovation, not necessarily innovation, but innovation in finance, innovation in policy, and innovation in regulation if we're going to get there.

So we want to get there because we have a climate emergency, a climate crisis. Every year we dump 50 billion tons of carbon from the earth into the atmosphere. And we keep doing that. And if we keep doing that we're going to destabilize the equilibrium of the climate. It's just science. Maybe not just science – it's great science.

And we also have an affordable housing crisis. We have to solve both of those urgently. And I think affordable housing and climate change are two problems that are actually similar, because the market is not going to solve them by itself. We actually need government intervention, we need subsidy, we need new regulations, and we need good policy. We need smart climate policy to get there.

In 1986 the federal government passed a law creating the low income housing tax credit. This is the primary way that affordable housing gets built or preserved today. Is it perfect? No. Is it helping? Yes. It's driving tens of billions of dollars of private capital that wouldn't otherwise go to a problem like affordable housing. And I think we need to think creatively and innovatively about carbon and about how we solve a problem, which is just math, how do we decarbonize our buildings, especially affordable housing?

Do I have another minute? Great.

Maria T. Vargas: You have more like half a minute. Yeah.

Darien Crimmin: So I think the truth is we don't know exactly how we're going to get there, but we know business as usual will result in more of the same. I just read this week that US banks and investment firms are almost $1 trillion of new oil and gas investment over the next decade. They're actually – bank executives are calling it not an energy transition, but an energy addition. Cheap fossil fuels are needed to grow our economy.

And it's a complex problem, right? Especially now, at this moment of inflection, where we have real inflation. Energy prices are going up. But we have to be innovative in the solutions that are going to drive decarbonization.

What if the exported natural gas – the liquid natural gas that we're planning to send to Europe to basically rescue Europe from a fascist, what if 20-percent of that had a carbon tax? What if that carbon tax turned into a dividend that helped to fund the decarbonization of our own infrastructure? It's that type of innovation, I think, that we need, and we need to start thinking about that seriously, because the alternative is not great.

So I'd like to say all the easy problems have already been solved and we're here to solve the problems.

Maria T. Vargas: Thanks, Darien. Thanks. We asked the panel to be provocative; there you go. So thank you.

Okay, Katie. Katie Bergfeld from District of Columbia.

Katie Bergfeld: Yes, thank you. So first of all I want to say thank you, Maria, and DOE team for inviting me up here with these very impressive industry leaders to talk about what we're doing here in the District of Columbia that's new towards decarbonization.

I also want to say thank you for putting me fourth in the lineup, 'cause that means I get to build off what Randy, Sean, and Darien have said, but I don't have the pressure of being the grand finale, so good luck, Jon. *[Laughs]* No, actually the grand finale will be the Q&A I'm sure.

But so I'm going to talk about a very specific policy that we're standing on. But we have a climate action plan here in the District called the Clean Energy DC Plan. And I'm going to talk about a

very specific story that talks about us moving towards decarbonization, mostly because I don't have much time, and also because I think that the implications from us implementing this program are a little bit farther reaching and can provide more examples to the industry.

So just to give a quick few facts, the District has a goal of achieving greenhouse gas reductions of 50-percent by 2032 and carbon neutrality by 2050. And 75-percent of our greenhouse gases come from our buildings, so if you're talking moving towards carbon neutrality here in the district you have to address the efficiency of your buildings, specifically existing buildings. And that comes through a program that we launched several years ago called the Building Energy Performance Standards Program. I think many of you in the room are now familiar with these; we were the first in the nation to pass a BEPS policy, and so we've been implementing it over the last couple of years.

I'm not going to go through any more facts. I think Maria wants me to sort of tell a story here. And I think what we've done really well through that program, and it will help us as we move farther on decarbonization is really digging in from the data side of things. We all love data in this room probably, right? We make very data-driven decisions here in the District. We're very firm in doing that. But also taking that data and the implications of it and the practical decisions that we have to make to our stakeholders and talking to them about it and saying, "This is what the data is showing us, but we need you to help us figure out on the ground what the story really is, what really should we be doing here, what decisions should we be making and how should we be moving forward?"

And we've created this really great iterative process through the BEPS program where we do this research, we do the data analysis, and then we go to our stakeholders and we say "This is what it's telling us. These are the decisions we think we need to make, and we'd like to collaborate with you on how to come up with solutions to address your challenges."

Because at the end of the day if we achieve 50-percent greenhouse gas emissions by 2032 but we haven't addressed issues like equity, public health, housing affordable, economic vitality, have we really been successful? And that has been our approach, is that the nature of a Building Energy Performance Standards Program is comprehensive and the impacts of it are very comprehensive, so we need to be talking to our stakeholders about more than just that. We really need to figure out what are the pressures that are facing

them from all angles and then we need to figure out how we can make our policy goals address those challenges while also moving towards our vision of a carbon-neutral city.

And the most prime example of this is the work that we've done with multi-family affordable housing in the district. They were a sector that we engaged very early on with the BEPS program and as I said, we had this iterative process where we would go to them and say, "This is what the data is showing us. We hear from you that you need flexibility. We hear that you need help in reaching our requirements. What can we do to get there?" And having that conversation and really listening to them.

And so that has resulted in us standing up a multi-family affordable housing retrofit accelerator, of which we received $35 million from the American Rescue Plan to go towards helping multi-family affordable housing make the whole building retrofits that are necessary to meet our BEPS program and go further than that and address issues of public health, equity, all of that. And so we're really proud of that, but we know that we have a lot more work to do.

And the major takeaways I would say for a jurisdiction that's sort of moving in the same journey that we are, this is just a small story of a small blip of a very comprehensive plan that we have here in the district. But the takeaways I would say, the major ones for me and the way that I operate with my team at DOE is you have to come at it from an angle of you can't be afraid to fail. You're never going to be sure that the decisions that you're making are 100-percent correct, but the work we're doing is too important to stop. And we have to have the fortitude to keep moving forward while also having the self-awareness and the humility and the flexibility to meet stakeholders where they're at and make adjustments along the way and recalibrate. And I think we've done a really good job of that.

And then the second piece I would say is particularly when you're engaging with stakeholders it's really important to meet them where they're at, but also continue trying to push – I wouldn't say push, 'cause you don't want to push anyone – pull them into your vision, you know, moving forward with you and make it a collaborative approach from that angle.

And that's it. I have lots of other lessons learned I'd be happy to share, but I'd be happy to continue the conversation after this.

Maria T. Vargas: Great. Thank you, Katie. And certainly last but not least, Jon Utech from the Cleveland Clinic. Jon is a long-time partner with us and all the sectors on stage I was thinking had been impacted by COVID, but as you can imagine, the healthcare space. So Jon's got way more to say than five minutes, but turn it over to you, Jon.

Jon Utech: Thanks, Maria. Yeah, boy, thrilled to be here. This is my third conference in a post-COVID world or whatever we are, trans – trans-COVID world, transitional COVID world.

I'm here from Cleveland Clinic. We've been a Better Buildings goal achiever, and it was one of the most successful and important partnerships that we had, but you're all here, so I don't need to sell you on that. But it's been a tough time for healthcare. I'm really here representing healthcare.

COVID kind of pressure-tested us in a way that no one could've anticipated. In pocket and spurts, it tested both healthcare's resilience, our society's resilience, our ability to work together. I think there's really important parallels from the COVID experience to climate change, 'cause climate change is starting to poke at our society and societies around the world in similar ways, it's just a little bit of a slower burn, if you will.

So I have friends who are in the healthcare industry out in California and they're seeing an increase in instance of wildfires. There's a couple healthcare systems where a wildfire went through Santa Rosa, California and they had to evacuate their hospitals. And there have been stresses on the grid and their ability just to maintain their critical healthcare operations, given the changes we've seen from climate change, threatens healthcare's ability to deliver the vital services that we need.

So why is healthcare in this game? Because really this whole climate thing is a health issue. It's really a health issue on two levels. Number one, the way that we create energy has health consequences. Gina touched on this, but there was a report that came out just this week from the *Lancet Journal on Planetary Health* that says that 9 million people every year die from pollution. Biggest killer of human beings on the planet is pollution. And of those things it's air pollution, primarily from fossil fuels. Other things too. 6.7 million people from air pollution.

So what I tell all the caregivers – all our employees are caregivers, called caregivers at Cleveland Clinic, is when I tell them to help with our energy programs is "This is another way that you can be a

healer." And really all of you in this room are healers. Healthcare is this healing mission, which is why energy efficiency and climate are so important in the degree to which all of you get your organizations to set and achieve these goals. You know, there's millions in economic consequences and that certainly is a conversation that everyone can have. But there's a tremendous health benefit as well.

So I've been doing this nine years; I think this is my night summit. I'm super-excited about the momentum that I see in my sector.

So I tell this little story, there's a healthcare sustainable conference called Clean Med. When I joined Cleveland Clinic in 2013 I calculated our carbon footprint, put together an energy efficiency strategy, and presented this at this big conference. And there were eight people in the room.

Healthcare just wasn't there. Just they weren't interested. And I was there last week in Kansas City and it is what everything everyone is talking about. And it's gone from a leadership body of maybe 15-percent of the sector, everybody's talking about it. The American Hospital Association, the National Academy of Medicine, all the big journals, *Lancet,* we're moving. And really I think the primary thing that I can do is encourage our system to get there more quickly.

So there's about 6,000 hospitals in the country, about 900 have a climate commitment. We need to get to 1,800 and 2,700, and etcetera. I think by the end of this decade we need 80-percent of the sector heavily encased in this work, and the quicker we get there the better, because there's just dire consequences if we don't. And during the Secretary was quoting that we have 15-percent in manufacturing. I forget the exact numbers, but leaders are here.

What I really want to charge all you with is bring a friend next year. Bring a colleague from a competitor.

One of the really cool things about sustainability is that it's a we thing, not a me thing. Right? We need to do this together. Like if Cleveland Clinic became the perfect greenest hospital in the world and had – I mean that'd be terrific, but it really wouldn't matter all that much globally. We need to do this together. And healthcare is 8.5-percent of the carbon of the US, I think on its own about the sixth-biggest country in the world. So we're making it a we problem and all of you in the industries that you represent need to do the same.

And really it's my goal, I'm proactively targeting people I know to try to get them to set climate goals and helping them. 'Cause really the ultimate thing we all need to do is focus on transparency. That's what this is all about. We need to say what we're doing, show what we're learning so we can get there more quickly. Thanks.

Maria T. Vargas: Thank you, Jon. Thank you, panel.

You can see why we asked these folks to be part of the panel. So lots of good questions, so we're going to go as fast as we can, 'cause we've got ten minutes left. So here are some very – I don't know which – it's hard 'cause they're all good questions, so let me ask this one. It was one of you that asked this question.

What's the most challenging non-technology barrier to your industry in meeting its net-zero goals? Anyone want to take that real quick? Rapid fire answers 'cause we're going to get through lots of these questions. Non-technology barrier.

Darien Crimmin: Money.

Maria T. Vargas: Okay. Darien says money.

Randy Gaines: People.

Maria T. Vargas: People.

Katie Bergfeld: Collaboration.

Maria T. Vargas: Interesting.

Sean Uhl: I would say the age of the infrastructure in the manufacturing industry is one, I think.

Maria T. Vargas: I love it.

Jon Utech: I'd say there's some regulatory challenges around the amount of conditions that healthcare has to use. That's not technically –

Darien Crimmin: You're not supposed to say government.

[Laughter]

Maria T. Vargas: Can't say government. We're all in this together.

Awesome. You guys did well lightning round. Okay, next question.

How did you all go about determining which strategies or projects should be prioritized? Go. And I'm –

Randy Gaines: Money.

Maria T. Vargas: Money. What does that mean?

Randy Gaines: Well, you know, low-hanging fruit. ROIs. The easy ones. Remember, we've all had a rough few years with cash, so if it has an ROI and it delivers sustainable results it's very fruitful for our owners and operators.

Maria T. Vargas: I love it. Anybody else?

Sean Uhl: Yeah, I think one of the first things we did after assembling that baseline was start to put together the roadmap of what we knew how to do across the globe with the different plant sites, and that lets you do a very similar thing, which is find which ones had the biggest impact first and then start planning them out over the decade is how we approached it.

Katie Bergfeld: Yeah, I would say data. Like having the data to understand where you're going to get the biggest bang for your buck, even from a policy perspective is important. And you can start there and then sort of move your way down.

Maria T. Vargas: Awesome.

Jon Utech: Impact. We're focused on the things have the biggest impact. It's pretty clear to me in the work that we've done now there's three areas that really matter in terms of healthcare's carbon footprint. We're already working on energy efficiency, source of renewables, we've got electrified buildings, and that's challenging for a number of reasons.

Maria T. Vargas: We're going to work together on that. Okay, here's one:

What was a key lesson from your work in energy efficiency that you're applying to decarbonization? Is there any one or two lessons that you learned in your efforts to be more energy efficient that you're taking into your decarbonization efforts?

Look at this, someone stumped the panel.

Randy Gaines: So inefficiencies, you know, it's a ginormous task. Eating the elephant one bite at a time and not taking on too much and less is more and not setting too – setting achievable goals. Be realistic about it. It's a journey. 2050 is a long ways out, so I think that ultimately not overwhelming the workforce, understanding that we're all moving to the gig economy and what's happening in the world, and setting realistic expectations but very achievable expectations.

Sean Uhl: I would've said the data analytics. I think early on, I mean with having the data, being able to build dashboards customized in the manufacturing industry for those actually building the things, or in our case making chemicals, and the engineers monitoring the process I think has been a priceless start. But I also think, again, applying advanced data analytics models to some of that manufacturing is going to be really key in the next five or six years as we work further.

Jon Utech: I'd say collaboration. I mean the way that we found the best and implemented the best solutions so quickly was by learning from others and getting ourselves up to speed. I think that's even more important now than ever.

Maria T. Vargas: Awesome.

Darien Crimmin: I think it's making sure we're not too far out in front of new technology on the efficiency side. You know, we want to make sure the technology is tested, it works, it's not going to cause maintenance problems, etcetera. And the same can be applied for decarbonization and what our realistic goals are so we don't get out ahead of ourselves.

Maria T. Vargas: Awesome. You guys are doing well getting through these questions. Okay, I'm going to try to read this one.

A couple of presenters talked about engaging their workforce and creating internal champions. How have you tried to do that? What has and has not been effective in getting your workforce engaged on these clean energy and climate goals?

Randy Gaines: It's all about the workforce; they're the ones that make it happen at the ground, right? So engaging them on a personal level and a professional level. So understanding their own carbon foot – at their own home, their impact and that their work matters, and that the impact they're having on the operation is just incredible. I mean

our company, we're number two great places to work out of the top 100 companies, and it starts with them. So I think that just them understanding that they do make the difference, that we're influencers and they're making a difference. So that buy-in has been just incredible, and obviously we know how important these labor challenges are, so recognition, all the other things that you –

Maria T. Vargas: That was another question. Abound workforce are you experiencing a shortage and does that factor in?

Randy Gaines: Yeah.

Maria T. Vargas: How would that factor in?

Jon Utech: What I would add to that is I have this deck called the climate pitch deck, which is nine different ways of talking about climate change. I think there's different ways of talking about it, and actually ways we reach our caregivers, we talk about a lot of different ways. We talk about how we want to save energy at work, you can do it at home, that's good for you. There's kind of this moral thing, there's a health angle. I think finding different ways to talk about it because people are different and you're going to engage a broader set of people if you sort of have all true but different ways of sort of pitching this.

Katie Bergfeld: Yeah, I would say from a policy perspective the question for us is do we have the workforce trained well enough to really move towards decarbonization in the district, right? And so that's really what we're focused on. And also looking at it from the beginning, a lens of equity and ensuring that you're creating not just jobs, but careers. That's the feedback we've gotten from a lot of workforce development programs here in the district, is not creating a job for somebody, but creating a career and a pathway for someone to have a longstanding career in the field that you're in.

Darien Crimmin: I think bringing staff closer to data, energy data in particular is really important. And it's definitely something we are improving on in real-time.

Maria T. Vargas: Awesome. So we could be here all day 'cause lots more great questions, but we're going to cap it there. Will you guys help me thank the panel for being here today?

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