

M. Egea Casalduc: Alright. It's 11:02. Welcome to the 2021 Better Buildings Better Plants Summit. My name is Mariana Egea Casalduc and this is the Making the Case for Energy Efficiency Session. Thank you all so much for joining us today. We have a wonderful session and some fantastic speakers that I'm going to be introducing in just a moment. But before we dive in, there are a few housekeeping items that I'm going to quickly go over. First of all, please note that today's session will be recorded and archived on the Better Buildings Solution Center. We will follow up when today's recordings and slides will be made available. Next, all attendees are in listen-only mode, meaning that microphones are muted. If you experience any audio or visual issues at any time throughout today's session, please send a message to our technical support team through the chat window located on the bottom of your Zoom panel.

Again, I am your moderator, Mariana Egea Casalduc. I am an ORISE Science, Technology, and Policy fellow with the Commercial Buildings Integration team in the Building Technologies office that is located in the Energy Efficiency and Renewable Energy Office of the Department of Energy. I'm also the Better Buildings healthcare sector lead and then newest Better Buildings Hospitality sector lead.

Wonderful, so I'm going to move on to our agenda. Again, this is the Making the Case for Energy Efficiency Session.

Great, so like I mentioned, I'm going to be doing introductions in just a moment. Then, we're going to dive into case studies from Wendy's and 3M, and the Retail Industry Leader's Association, RILA, will be giving us some financing perspectives, and of course, we're going to have a short Q&A section. Wonderful.

So as you probably already noticed, the Better Buildings program is using an interactive platform called Slido for all Q&A, polling, and session feedback. So please go to www.slido.com using your mobile device or by opening a new window in your internet browser. Today's event code is #DOE. Our technical support is going to be chatting a link. If you click that link, it might just skip the part where you include the #DOE, and just say Join Event. That's all right. So click Join Event and look for Making the Case for Energy Efficiency in the dropdown menu and select that room. Once you enter the event code, if it does – if that does populate, please select today's session title, like I mentioned. Again, it's Making the Case for Energy Efficiency.

So I'll be giving everyone a few moments to open up Slido and select your session. I'm doing that here myself on my phone. And let's launch our first poll. Wonderful.

So we want to know what sector you're from. So if you can please start including your answers. I'm going to wait a little bit longer for that to populate. Wonderful. So we have 85 answers, and as of right now, oh – 94. We have a strong showing from our state and local government folks. We have contractors and service providers. Next up, we have industrial and manufacturing, higher education, K-12, and then if we can scroll down a little bit to see the other answers. Got federal government, non-profits, other, family housing, healthcare, commercial real estate, retail, food service and grocery, data centers. No data centers or hospitality partners yet. Wonderful. Let's go to the top. All right.

So we have a really strong showing from contractors and service providers. Thank you all to those 126 – 128 individuals that are participating with us through Slido. Okay. Let's move on to our next poll.

Great. So in one or two words, what is your area of expertise? Energy, of course. Energy efficiency, clean energy, energy management, green building. What else do we have? Data analytics. Love to see that. Product development, climate policy, housing systems, energy conservation. Looks like the bulk of the audience is in energy management and energy efficiency. HVAC, networking, and communication, heat transfer, energy modeling, sustainable finance, adaptation, solar energy, retrofits, legislation, water. Awesome. I'm just going to wait a little bit longer. All right. Supply chain, project management. We have some taxes. Great. Awesome. Let's move on to the next poll.

Have you tried Wendy's new breakfast? Simple yes or no. Oh wow. I recommend personally. Awesome. Totally fine. You have a chance to get your breakfast after Better Buildings, after this session, late brunch. Awesome, so let's move on to the next poll.

What is the ownership status of your company? Publicly traded, private equity-held, privately held. That's not private equity or co-op. Awesome. I'm going to give that a moment. Awesome. Thank you all so much for interacting with us through Slido. We really, really appreciate it. Great. Let's move on to our next poll.

Wonderful. So if you have any questions, please go to [slido.com](https://www.slido.com). We will be taking questions throughout the presentation and

reading those at the end. So as promised, now I'm going to be introducing our speakers. First, we have Scott Moline. Scott has been involved with energy reduction studies and initiatives over the past 30 years during his tenures at the Chevron Corporation, Limited Brands, KeyBank, and most recently, the Wendy's company. He is active in sustainability and has constructed seven LEED-certified buildings, including the first LEED bank branch in central Ohio. He is a member of the US Green Building Council Central Ohio chapter, and a former board member of that chapter. In his eight years with Wendy's, he focused on developing high return, energy reduction initiatives that are applicable for company and franchise restaurants. Together, with key suppliers, he has completed over 1,100 energy upgrade products producing a 12 percent reduction in energy per transaction and saving more than \$1 million per year, along with utility rebates of over \$1.5 million. He developed the Wendy's energy challenge that brought 19 franchises into the Better Buildings challenge representing more than 1,400 restaurants. Scott has a B.A. of Science in mechanical engineering from the University of Washington, and has been a LEED-accredited professional for the past 11 years. Scott recently started Fernhill Energy Advisors, his own consulting company.

Next, we're going to have Andrew Hejnar. Andrew is 3M's energy manager with more than 18 years of experience in leading sustainability initiatives at 3M. Hejnar's focus on improving energy performance and reducing greenhouse gases – greenhouse emission at 3M's facilities enabled 3M to achieve many of the ISO50001 energy management systems and superior energy performance standards, also known as the SEPs. Hejnar was named energy manager of the year by the Association of Energy Engineers, AEE, and is a fellow grade member of the AEE. Hejnar was also named one of Canada's Clean 16, as an outstanding contributor to clean capitalism in Canada. Hejnar holds a Master's degree in Energy Management, has a B.A. in electric engineering, and holds many energy management certifications, including certified energy management, certified energy auditor, certified carbon energy manager, certified practitioner in energy management systems, and SEP performance verifier.

Next, Erin Hiatt is the lead for the Retail Industry Leader's Association, RILA, also known as RILA. She manages the portfolio encompassing its diversity and inclusion, sustainability, responsible sourcing, and energy management committees and ESG engagement activities. She organizes educational content, convenes and facilitates benchmarking discussions, resource development, and stakeholder engagement for corporate retail

issue leads in each of these areas. Erin has been with RILA since 2012, serving in a variety of roles supporting and leading the association's CSR communities. Prior to joining RILA, Erin interned for two years with Progress Energy as their energy-wise SmartGrid change management and business process intern while finishing her undergraduate degrees. Erin holds a B.A. of Arts in Public Policy with honors, and a BA in French as well from the University of North Carolina at Chapel Hill, where she was a recipient of both the Edward Kidder Graham chancellor's award and the Michael A. Stegman award for policy, research, and advocacy. She was also an inductee of the Order of the Golden Fleece.

Wonderful. So now I'm going to hand things over to Scott, who is going to start his presentation. Scott, take it away.

Scott Moline:

Thank you, Mariana. Wow, what a group, what an introduction. So I'm really pleased and proud to be here, part of this session, especially with this very distinguished group. So I'm bringing the viewpoint of a retailer with multiple facilities across the US, and first, my thanks to the Wendy's company for allowing me to share some of the data that was developed over the last years we were working on a particular energy project. Next slide, please. John, are the slides up? Okay, let's go to the next slide please.

So starting, my question would be – I know we're making the case for energy efficiency, but I would ask, are we using the right words? So I would propose that energy efficiency or efficiency itself is rather a weak word. It's a euphemism, and it makes it sound as if we've done a lot and there's – really, this is optional, and there's not room to grow, where in fact, if we use the word waste, and I know that's a very powerful word, but if you look at the definition of waste, that's to spend or use carelessly, to squander. Squander is to lose an advantage of an opportunity through negligence or inaction. So again, very powerful words, but I would say the call to action is eliminating energy waste. There's so many parts of businesses that are driven around reducing waste because waste means profit. So maybe as part of in a polite way, using words like that, highlighting that projects really have potential waste in it, we can reduce that and save money, really starts changing the conversation. So next slide, please.

So with that, I put together six – what I considered steps for making the case for energy efficiency: understanding the science first, is it based in reality; create a compelling vision, getting – helping people that are not energy experts understand the program,

understand the opportunity; understand the waste, and then translating that into business speak; so developing that business case, part of that process; building consensus; measuring results. That's helping the non-energy experts understand that things are happening. Then, most importantly, celebrating success. It's a continual process going through. I'd say let's go to the next slide.

So understanding the science and our quote there from Einstein, "The definition of a genius is taking the complex and making it simple" really struck me. So much of this energy information and energy studies can get very complex, but I think one of our challenges as energy professionals is how do we translate that? How do we make the simple – or make the complex simple and help non-energy experts understand the opportunity and really, the business case regarding it? I'm not going to read all these bullet points, but where does the energy savings come from? Are there measurement and verification studies, so they can really have solid backing? Are there third-party validation studies? Are there other non-energy related risks or benefits? So often, what I found in my career is that's the goldmine is that fourth bullet. Where are the other benefits? There may be other benefits throughout the organization that a particular energy upgrade brings. So you're doing – accomplishing multiple goals with the same project. Let's go to the next slide, please.

So a little bit about quick serve restaurants in general. I'm not going to again, read. There's a lot of text here, but really, the basic message is restaurants, by their very nature, are very energy intensive. A lot of energy per square foot, five to seven times more than other commercial buildings. In fact, high volume, quick serve restaurants can use up to 10 times. So translating, so what does that mean? So that's a lot of vernacular, but it's not surprising that an average quick serve restaurant may use as much energy as 25 average US homes in a year. So putting things in context often helps the non-energy experts understand what is the size of the prize. I think there's a lot of – throughout my entire career, helping people understand how much energy or water is used in a particular location or group of locations is often surprising. They may look at dollars. They may look at energy costs, but they're not necessarily looking at consumption. So translating again, the technical speak, and helping people understand the baseline has always been helpful for me. Next slide, please.

So one of the things – so throughout this presentation, we've got the case study woven in it. We're talking about a company called Transformative Wave that was piloted in 2020, and then actually

went from a pilot with four locations at the start of 2020, and actually ended up with 79 rollouts by the year end, all in the midst of a pandemic. So how did that happen? How did – what were the steps, and what were the conversations? So this particular restaurant and again, my thanks to Wendy's for allowing us to share this case study. There is more information about the whole project on Wendy's 2020 corporate social responsibility report that was just published a few weeks ago. So some of the things we'll cover is Wendy's developed an energy score process. So restaurants didn't have an energy score through a portfolio manager like other businesses, or like banks or churches or schools. So that was an opportunity. The project started in early 2020, and we gathered information, built the cross-functional energy team, and ultimately ended up with 79 rollouts. Again, we'll weave that throughout the presentation. Next slide, please.

So understanding the science, now this is a pretty complex slide and I'm not going to delve deep into it, but just to give you an idea of what goes on with ventilation inside of a restaurant, it turns out that the – you've got a small building, roughly in this case, roughly around 2500 square feet with 25 tons of air conditioning. I did some quick math. That's about the rough size of my house. The amount of cooling is about 700 percent more cooling for the restaurant than my average house. I think I've got three tons of HVAC versus 25. Where's that all coming from? That's coming from exhaust hoods, so there's so much air flowing through there that literally it's pushing the rooftop units to the limit of their physical limitation. A whole course could go into this, but this was unraveling the puzzle and finding where the opportunities were. So let's go to the next slide.

So we engaged a company called Transformative Wave to help us understand more and were there opportunities in the HVAC realm, since that is one of the major energy uses within a quick serve restaurant. Could they help us understand where some of those opportunities were to save energy, and save money? So again, a little bit – they've been involved with Better Buildings campaign through the advanced rooftop campaign and saw, so they had a very good pedigree. Next slide, please.

So wow, this is really complex. I'm not going to try to explain all this, but again, back to the science. Where are the energy savings coming from? In this case, it really – as they looked at our systems, and they had actually been talking to franchisees, they were having some challenges getting up to speed of what was going on with the restaurant? Why did we have maybe what might be considered an

unorthodox design? We had a makeup air unit, but we didn't have economizers, and some different things. It turns out that there was a ducted makeup air system, and once we started sharing the engineering drawings with them, the light bulbs came on and they were able to actually put together a program that would control the HVAC units better, control the humidity, control space pressure, continually balance – gave us additional insight into what's happening in CO₂ levels inside the restaurant. So on the ventilation world, as we started talking about COVID, that actually gave us some great insight that, in fact, the ventilation inside of a restaurant, a QSR restaurant with this high volume of ventilation rarely exceeded much above ambient level. So that was actually a good baseline to say there was roughly five to six air changes an hour inside the restaurant. Again, a whole presentation to go over this, but giving you the background. We had the engineering background behind it, but that didn't tell the story. That didn't say where – what's the business case? Where are the energy savings? Let's go to the next slide.

So part of that is compelling that compelling vision. I put some questions on here, but really, as you're talking to different parties within an organization that may have different – and god, certainly lots of goals out there, really the question they're probably asking is "Why should I care about this project? Why should I care about something that's going on?" Questions that I would often ask myself is does this project support company goals? So certainly, saving money, saving energy was a goal, greenhouse gas reduction, reduced maintenance costs, reduced operating cost, improve customer comfort, maybe any of these company goals that are out there, and understanding how your project fits in with those goals really helps start building that business case, not only from an economic standpoint but also from a company standpoint. Why should this project be prioritized? You're competing for capital dollars. You're competing for expense dollars. Why should this be moved up? So again, back to that waste versus efficiency. Obviously, is there a strong business case? Can you show the ROI on that and make it – or have it so that it is believable and it's repeatable? The question is what must happen to make that vision a reality? What internal groups can benefit from it, and do you have your 30-second elevator speech? Not so much to get projects approved. I wish I could get projects approved in 30 seconds, but it's really to generate that interest, like, "We need to talk more." Let's go to the next slide, please.

So all that is setting the background. How did we go about, when I was at Wendy's, creating that compelling vision helping people

understand where the opportunities were? And part of that was the Wendy's energy score, a substitute, you might say, for the Portfolio Manager energy score. So it's 0 to 100 scale, based on total energy use, and it was normalized for weather, and normalized for transactions as well, so it helped take into account how everything was put together, and again, some very talented outside energy engineers. Go Sustainable Energy helped put that together and put the basis behind it. So you look right here. It was a totally different story in talking to internal organizations saying, "We've got restaurants out there that were built five to six years ago that significant capital investments were made, and on an energy score standpoint, they're in the low energy tier. They're in the low quartile." As we start digging into that, here's what the cost were being in that low quartile versus a high quartile, let alone the energy use and all that. So it really started highlighting the potential energy waste, or in case here, the actual energy waste. And then what could we do to reduce that waste and get a return on investment? So next slide, please.

So in building that business case, as you're starting to think through all of that, I always ask the question, "Do you speak CFO?" A funny story, I'll be very quick about this, but early on, I was asked to speak at Wendy's CFO conference, where our CFO had invited CFOs from many of the Wendy's franchisees. I was thinking to myself "Why am I here?" I got up to give my talk, and I said, "You know, I'd been thinking why I was here, and I came to the realization was we had finance part of the energy team. They were with us day in and day out. We taught them about kWh. They'd never heard of a kilowatt hour, but more importantly, they taught us about ROI." So we're able to tell that story to the CFO, and really having the finance team as advocates for us, saying "this is a good thing" because they understood, and they were able to translate it into their own speak. Some things to speak about, the risks, the benefits, understanding the business cycle. So budgets, year-end crunch, is there an opportunity to have shovel-ready projects ready to go, so if there are extra dollars, they can be reallocated. It really is kind of – obviously, if you're not able to get it into the multi-year plan or you've got one that is very high return, it might be accelerated. So and more importantly, or just as important, does this project impact another team's budget? Obviously, if you're asking for somebody else's money, that's not good. If you're giving them some savings from an operational standpoint, that's a benefit. So understanding how your project can have ripple effects throughout the organization. Next slide, please.

So I call this my money shot. Hard to – I wouldn't say hard to understand. Certainly, you can't read the scales and all that, but it's very clear to someone that when the projects, this is actually the real time day to day graph of the energy use on one particular rooftop unit, and after the Transformative Wave system was put in, and this was put in at the end of January in 2020. So not necessarily the warmest day, but actually, it shows the impact of the improved HVAC control once the VFD controls were put in and the Transformative Wave system was put in, showing a very substantial drop. So you don't have to be an energy expert to see the impact. So that's again, building confidence in that. We were fortunate to have a real-time system in place, separate and apart from the manufacturer or the – from Transformative Wave. So we were able to actually say this is separate and apart, our data. This is not anything they had control over, or could – obviously, we shared it with the, but they did not manipulate. Again, it's real data showing the savings. Next slide, please.

So, building consensus, obviously, the money shots help, helping teams be able to communicate and tell your story that I have found, is always helpful in building that advocacy, building that consensus, building your team that can help get the – make the case for energy efficiency or reduce energy waste. Seeking input from internal teams, obviously critical in any kind of project. Often, what I found was there were – might be concerns that were out there, and sometimes those concerns were actually where the biggest cost savings were at. Creating enthusiasm and support with teams that might be impacted, so for instance, the operations team, the facility team, and then what I call modulating your message. So one group may be interested in ROI. One group may be interested in kilowatt hour. One group may be interested in – so kilowatt hours, the utility company is interested in that. Greenhouse gas, that may be the sustainability team. CO₂ may be sustainability team, and the CSR team. So understanding how your project can help some other teams carry a message, I found, has been very, very helpful. Next slide, please.

So measuring results. So you know, defining success, defining where you think you're going to be, establishing that baseline, helping everyone to understand that, developing the measurement plan, these are basic steps but helping the non-engineers understand what the plan is, because it may be one where – one month after install. "How are we doing? Are we getting the savings?" Being able to show, "Yeah, we're on the step but our major savings are going to be at this time period" is always helpful. Next slide, please.

Thank you, John. So again, very busy chart here. This was actually one that we had developed early on and started using month after month. So this is 12 months of history, and we took a baseline, and this was our 2017. This is one HVAC unit, and we were able to show – actually, it was the three HVAC units at the location, but they were isolated, so those three HVAC circuits, two rooftop units and the makeup air. We were able to show that during the – we're able to get some very significant fan savings during the first three months. So February, March, and April. We knew that the energy use was going to increase during the summer, because the HVAC cooling is running more. Then it'll drop, but we had the baseline year of 2017. So you can see that money shot, month over month, we're able to show, we are seeing the savings against the baseline. It may not be absolutely perfect in terms of weather normalized and all that, but it is showing that cumulative saving that's going on. It did actually help in the whole process of working with AEP on rebates and so on. Next slide, please.

So we had another mechanism as well. That was actually through Schneider Electric that we were able to generate graphs and understand and compare multi-year energy use by month on very specific topics. Here, total energy use, natural gas use, peak energy demand, and again, it wasn't so much to tell the story on "Here's the engineering side", but we're looking – we knew we were going to get total energy savings, and you can see again, the blue versus the orange line. It's again, hard to see, but that's what the arrow is pointing to. The natural gas usage drop. We knew from better controls, better controls in the makeup air unit, we'd see that. Same thing on the peak energy demand, we'd see that. So with all that, we're saying, "Here's the charts" but what does that mean? It means a 15 percent energy use reduction. 10.6 percent energy cost reduction. \$3700 dollars a year energy savings realized, actual dollars year over year savings. A 27 percent reduction in natural gas use. So from an energy reduction standpoint, great. Operations, great. No impact on maintenance or actually gave better visibility on maintenance. So again, win, win, win. Next slide, please.

So again, we've got – had all that information. How do you celebrate success? How do you start communicating – and I call it the slow, steady drop of successes, so that people say, "Wow, we made some good decisions. Things are coming together"? Obviously, if things are not going as planned, what adjustments are needed? What are the lessons learned? The making the complicated simple. Creating those meaningful analogies. So what does that \$15,000 kilowatt hour savings mean? That's enough

power roughly to power an average US home for a year and a half. So again, it's like, "Wow, that's not insignificant." Again, driving to – we've eliminated energy waste versus that euphemism of energy efficiency. Next slide, please.

So starting to wrap things up, as we started looking at the energy score year over year in 2019, the location – test location one had an energy score of 37, and actually in 2020, ended up with an energy score of 74. Again, pretty substantial change in one year. The second location, and that wasn't even a full year. That was actually only six months. Went from a score of 21 to 59. So again, moving in the right direction. Showing those savings and saying, "Yeah, our numbers are showing that this actually did result in energy savings and is a good thing to celebrate in addition to just reducing energy costs." Next slide, please.

So you've heard me mention a number of these numbers. I'm not going to read them all. This is the data that actually started driving into the 2020 corporate social responsibility for Wendy's. So we're able to share that with the team. On a greenhouse gas standpoint, helping that story. We eliminated 24 metric tons of CO₂, a 10.4 reduction of greenhouse gas in one year. 27 percent scope 1, 6 percent scope 2. That sounds, "Wow, it would have seen more on scope 2, but actually it turns out that the scope 1, which is natural gas, bigger opportunities. So again, we're able to show we're getting the results out of that and getting some pretty substantial savings. Next slide, please.

So again, I know that I was proud. Transformative Wave was proud. GridPoint was proud. That was actually another project done at the same time. Very similar, but in a different – different applications, different restaurant type if you want to call it that. But again, very proud of being able to translate those stories and help other teams celebrate successes and tell a good – tell the good news of everything that was done and accomplished. Next slide, please.

So quickly in summary, demystify the science. How do you take the complex and make it simple? Identify the energy waste. What are the opportunities that are out there? How do you tell that story? Create that compelling vision. Create that teamwork to help build the business case, build the consensus. Measure results, and obviously celebrating the successes is fun every day. Next slide.

So there are – in the deck, there are slides or links there for the – people can use but I want to thank you for your time, and we'll take some questions, I believe, at the end. So back to you, Mariana.

M. Egea Casalduc: Wonderful. That was a great presentation, Scott. Thank you so much. We already have a lot of really great questions for you waiting on Slido. Now, next slide, we're going to be moving on to Andrew Hejnar. So Andrew, if you're ready, please feel free to start.

Andrew Hejnar: Yeah, I'm ready. Hello, everyone. Thank you for having me. I'm really humbled to be here, between so many different experiences. It's just amazing to be here. Thank you. So can we go to the next slide, Scott?

Quick introduction to 3M. We've been around for 119 years. Our vision is for 3M technology to advance every company, our products enhancing every life, and 3M innovation improving every life, or every home. Can we go to the next slide, please?

We have about 55,000 different products we produce. Many people know us from Post-it Notes and tapes, but as you can see here, many different product platforms. If we can go to the next slide, please.

I think that if you want to start your energy efficiency and sustainability improvement throughout, you really have to have sustainability goals established first. We have five different areas of sustainability goals. I focus on climate and energy. Our goals in indexed to net sales in energy efficiency ask for 30 percent efficiency improvement by 2025 from 2015 base year. We are also – we joined RU100 program in 2019 and by 2025, our electricity will be 50 percent renewable, and by 2050 will be 100 percent renewable. Just recently, we announced that we will also increase our sustainability goals in greenhouse gas emissions and by 2030, we want to be at least 50 percent – meeting less by 50 percent by 2030, 80 percent by 2040, and actual full carbon neutrality in our operations by 2050, indexed to a 2019 year. We also would like our customers to reduce their greenhouse gas emissions by 250 million tons of CO₂ equivalent through use of our products. If we can go to the next slide, please.

So strategies for climate and energy goals, in our opinion include three different areas: energy efficiency is the one area we focus on, and obviously this session is about making case for energy efficiency, but it's also important to have part of your portfolio in

renewable energy and of course, focus on greenhouse gas emissions. For energy efficiency, we have three areas of interest. First one is energy management standard. I will talk about this a little bit later. It's ISO50001 in superior energy performance. Energy monitoring and reporting and then design and project technology. For renewable, really two approaches, either try to get renewables from either existing sources on the grid, utilities, or install them on your own. Then, with greenhouse gas emissions, basically reduce fossil fuel dependence. If we can go to the next slide.

The next step would be to have a corporate energy policy. We have had one for many, many years. This is the newest policy we just approved last year. If anything, I like people to remember is that 3M is committed to continual improvement in its energy performance and the promotion of the efficient use of energy to produce and deliver products and services to our customers. If we can go to the next slide, please.

The next slide I borrowed from the Department of Energy. It kind of explains a systematic approach to energy management. If you can look at the left side of this graph, you'll see a pretty much full sin form, which represents an ad hoc approach where you have someone working on energy performance. You audit, and everything works fine. Then after a few months, costs are starting to be high again, and then the cycle repeats. When you have a systematic approach and senior management backing, you can sustain your savings, and you can really lower your operational costs and basic energy efficiency kind of becomes company culture. If you go to the next slide.

A little bit more explanation. Again, slight borrowed from Department of Energy on different, I guess, levels of energy management system. When we have a very basic functional energy management, like Energy Star for buildings and plants, and then we migrate to a slightly higher standards like ISO50001 and then superior energy performance, which basically verifies and measures internal credibility through third party management and verification deltas. If we can go to the next slide.

So at 3M, we now have 45 sites globally, certified to ISO50001. We have 30 of those sites in what we call USAC area, which is US, Canada and one site in Mexico. We are currently working to certify 9 more sites. All those sites on this continent are also certified to superior energy performance standard. So we can go to the next slide. In our opinion, there are three pillars to successful

energy management. The first one is metering and targeting. The second one is technology and projects and probably the most important one is to engage people. So if you go to the next slide.

So why metering and monitoring? Well, that old saying that what you can't measure, you can't control. It's very true for energy. You need to make energy visible. We can do it through submetering, or energy maps. We then need to establish energy baselines and establish energy targets, normalized for different relative variables we call them. So those would be product types, outside weather conditions, and some other related variables to 3M production. We also try to provide real-time energy information for operating personnel, so we don't have to wait a week or a month for our problem to appear. We want to address it in real-time. Of course, we provide energy consumption reporting for management for tracking and budgeting. So if we go to the next slide.

The second part of these three pillars was design and technology projects. We have different areas of interest here, combined heat and power. We installed of those units at sites where are stable and low gas natural gas prices were, and high electricity cost. You have to have a steady electrical baseload, steady heat sink and the government and local utilities support definitely helps. With HVAC and chillers, we estimate the conditioning of air is about \$5 dollars per cubic CFM per year. If you can imagine some of our sites exhaust – condition over 100,000 CFMs per year, so that's you know a very significant amount of cost. We do it through air balance studies, commissioning of equipment, optimization of chilled water systems and use of free cooling. With compressed air, most people know that it is one of the most expensive sources of energy. About 7 horsepower of electricity is used to produce only one horsepower of compressed air. My experience, most sites we visit leak at about 20 to 30 percent.

LED lighting is a no-brainer anymore. We should probably remove this from this slide because everybody is going LEDs. But if you compare LEDs to some older type of lights like metal halides and high-pressure sodium, which are still being used, you can achieve anywhere from 60 to 90 percent in energy savings. Then you get better illumination and longer life of those lights, so less maintenance costs. Then design and procurement, so when we do our capital projects, we do evaluate or include energy efficiencies into the design phase. We assess energy assessment in equipment updates, and we include alternative practices for energy intensive processes in the design phase as well. So if we can go to the next slide.

Using proper tools is very important. We actually use a very sophisticated energy platform called RETScreen. The software is going to help us to not only do a normalized energy reporting, but also it helps us with virtual energy analyzer, which basically helps you to do a very initial audit. It can identify some projects for you and it's a very good financial risk assessor tool as well. So if we can go to the next slide.

We try to engage people as much as possible. Employee engagement is very important to us. Why? Production staff operates and works with the equipment. That consumes energy, and they know this equipment the best. We also think it creates a better employee retention and satisfaction and increases trust in management. I have a quick question from David. So before I go any further, the software I discussed is called RETScreen. So how do we engage our employees? We have an employee suggestion program. There is no simple task here on the slide we use for that program. We have conservation awareness campaign, energy training, and we let employees that they matter. So if we can go to the next slide, please.

The potential timeline for ISO50001 implementation, which we strongly recommend for everyone, is basically establish a team, understand the standard, which is not that difficult standard to understand actually, evaluate gaps, refine your energy models, create site-specific workplan, execute tasks, re-gap checklist, internal audit, and if you wish, you can go to external certification. So if we could go to the next slide.

We also have what we call an enterprise level of implementation, ISO50001 certification, sorry, and superior energy comes under that enterprise umbrella as well. So I said that we had 30 sites ISO50001 and superior energy performance certified on this continent. They are all under this enterprise level of certification. Our enterprise team, which is a corporate team, support energy manual and SOPs, standardize tools and resources. We trained our people to become internal auditors, so we provide resources for that. Then we coordinate external audits. We also have common training manuals, communication materials, energy modelling program is the same everywhere, and we have quite big energy project expertise right now. So yeah, we can go to the next slide.

Additional tools we use to justify energy projects, which sometimes might have longer payback than some other capital projects is a program we call Multiple Benefits Methods. This

program really increases attractiveness of projects, and it's doing this by considering all main corporate interests in operations, logistics, production, marketing, sales, strategy and finance. It measures beyond energy savings and basically adds other components then just energy savings make energy efficiency more strategic. It makes energy efficiency more profitable, and it bridges the gap between what we call energy people and non-energy people. So it's a very nice program, very nice platform to adopt. If we can go to the next slide, please.

There is a very quick example of an oven installation process. We would have energy efficiency savings, the first on the left of the slide block, which is very common for all energy efficiency projects. So we get some natural gas electrical savings. We can have a type of fuel savings here. But then we add increased productivity to this, because we have better temperature controls. We have less maintenance. We have longer equipment life span, and then we have increased cost savings because we can produce more and we can also have safer machinery for our operators. Risk mitigation is another block with reduced waste and raw materials, less quality issues, and reduce staff turnover, and then some other benefits which in this case would be improve customer satisfaction, increase sales volumes, and improving operators' comfort. So if we can go to the next slide, please.

So again, with energy efficiency, we basically say what's the efficiency ratio achieved that we can use many different units there. Increased productivity would be burden rates, sales, COGS. Increased cost savings is pretty much the same as increased productivity, but we also add overtime rates and then with risk mitigation, quality issues, WIMS entries, raw material costs, waste disposal costs, and some other benefits are employee attendance, for example. Those could be many different other benefits from many different projects. So if we can go to the next slide.

So what would be success factors for a well-managed energy efficiency system? You have to start with senior management commitment, and you have to have employee engagement and support. Those are a must. Then because when we started this process back many, many years ago, we knew how to make masking tape and Post-it Notes, but we weren't experts in energy efficiency projects. So we leaned on the expert consultant support. We also leaned on our government and local utility support. We treat our energy projects or those ISO50001 and superior energy performance implementation process as another project. So we have a very rigorous project tracking information system. We do

have in addition to ISO50001, ISO9001, and ISO14001 in most locations, including mature locations. So that was also a little bit easier to implement a very similar instructor standard. Prior investment in internal energy programs was also important, and legacy of corporate leadership in sustainability really started our sustainability goal – not goal, but program back in early '70s. I believe it was in 1974 when 3M created the first energy manager position, corporate energy manager position. Then throughout the years, we continued this process. So if you move to the next slide.

We got recognized, which I'm very proud of. In 2019, we received clean energy ministerial global awards in excellence in energy management, and 3M Company and 3M Canada received insight awards for that. We were on a Dow Jones Sustainability Index. We've been on it for quite a while. Then between 2019 and 2020, that was the 20th consecutive year of recognition. We received a few awards from the Department of Energy Better Projects Awards. One of them was batteryless cloud steam trap monitoring system. That was the newest award. We just received it last week. Also, with the Association of Energy Engineers, we received quite a few awards from this very important association in energy management. Then the Canadian Industry Program for Energy Conservation, we received multiple of those as well. The IESO is Ontario Crown – kind of owned corporation, which gave us an energy manager of the year award for one of our employees. And I believe this is my last slide.

So Mariana, it's back to you.

M. Egea Casalduc: Wonderful. Thank you so much, Andrew. Let's go to our next slide. And now, Erin, if you're ready, please feel free to start.

Erin Hiatt: Great. Thank you so much, and I'll echo the other speakers' appreciation for the time today. It's wonderful to be speaking with all of you. So my name is Erin Hiatt. As mentioned, I am the vice president for corporate social responsibility with the Retail Industry Leaders Association. I often find the best way to introduce RILA is to introduce who we represent. So on the next slide...

We can go one more. So these are the companies that encompass RILA's membership. So in any retail product category, it tends to be the top two to four companies that are within that space, specifically that have a physical footprint as well. So when we convene our companies together within our structure, which is around committees and councils, it's the issue area leads within

these companies that join for those conversations, that are really a lot of the time based around benchmarking. So we can go two slides forward.

So the best way to introduce my role as well is to talk a bit about what the portfolio for CSR looks like within RILA. I give you that context to let you know the viewpoint that I'm coming from, but I think a lot of what I'll share is equally as transferrable to other sectors, even other industries quite easily. Within my portfolio, it really is the largest definition of CSR when you think about the areas that the retail industry touches. I think that's really important because as an energy manager, I see your connection points within a lot of these different other issue areas. I specifically oversee for RILA our energy management committee, our sustainability committee, responsible sourcing, which is around human rights as well as diversity and inclusion.

You can start to think about some of the intersectional pieces within those groups. We've heard a lot about emission strategy connecting the energy and sustainability teams. We've seen some comments around environmental justice connecting these DNI and energy teams. So I think part of my comments will be to keep an open mind and see how all of these things are interconnected. I would be remiss if I didn't mention that our energy committee is actually open to all retailers, as long as they're of a certain size, so that we've got a good peer group. So that if you're not engaged already, even if you're not a RILA member, you can join our conversation. So feel free to reach out to me if that is of interest.

On the next slide, I'll just note – what I'm going to do is just pose a few questions. I, obviously, do not have the technical expertise that Scott and Andrew bring to the table, but there are some larger trends within the industry, and I think within sustainability as a macro topic that are really important to keep in mind as you start to explore a lot of what we heard from the previous presentations about finding that cross-functional energy team and buy-in across different folks within the organizations, connecting this to your broader CSR work, using it to implement through engagement of people, because ultimately, you need that accountability and buy-in to be successful.

So one of the reasons that I inserted the question about holding status for companies is I also view this in my role through the lens of the way that environmental, social, and governance or ESG issues are rapidly developing. So for those of you who mentioned that you are publicly traded, or even owned by private equity firm

or under a co-op, you're probably getting a lot more indirect questions about this, or if you aren't, your sustainability and investor relations teams are. So you've really got a great role to play in helping to bolster that story. That's part of what I'll touch on as well.

So on the next slide, I wanted to challenge you to think about regardless of whether you feel like you've got the basics of making a business case for energy efficiency down. That is old hat. You've got great internal buy-in, or whether you're starting to build that out, that it's always worth looking at if there's different internal/external financing options, and also financing structures that might benefit you in expediting some of those approvals for the projects. So interesting approaches that we've seen executed within retail or related industries, and this is also mentioned in a internal and external financing guides that are linked on RILA's website and through the DOE's website, to think about opportunities like internal carbon pricing. If you've got emissions goals, you can use a shadow price that's only set internally to see how things would shift if there were a national price on carbon, or different structures like capital investment funds, or green revolving funds that may help you see the different projects you're looking at more as a portfolio of benefits versus just looking at that approval project by project. That can also lead to benefits like expedited approval. So if you've got that buy-in, and you're meeting certain thresholds, maybe you don't have to go through the whole process every time, and to leverage that cross departmental collaboration. So if you're seeing multiple benefits to multiple groups internally, maybe you could tap into others' budgets if its helping them achieve a goal.

On the external side, we've seen a lot of uptick in green and sustainability bonds. Within the retail industry, we've seen the likes of Apple and Starbucks and VF seed this opportunity within them to really channel funds towards specific use cases, and a lot of the time energy projects are going to support those. Then, you've got a variety of different mechanisms within the broader solution provider and energy service frameworks that might make sense for your organization. So I would say regardless of where you are in the process, there may be an opportunity to align where efficiency work fits in within your company's broader motivations around it that could make getting some of those resources a little bit easier.

So on the next slide, you'll see reiterated a few different benefits areas or different opportunities to touch on within your business case that might not always fall into a traditional finance worksheet.

What I have heard said that I really liked before, is that even if the impact is not easy to quantify, if it's not zero, it's worth mentioning for the right audience. It was mentioned earlier, great job of thinking about who your audience is when you're making each business case, but there's an opportunity to get buy-in from more than just finance when you're making the case for something. So if you're thinking about the other departments and teams that your project might benefit – if it's lighting, could it help with safety? If it's HVAC, can it help with comfort or keeping product fresh or safe within the space? Even broader than that within a sustainability or environmental justice context. It gives you the chance to connect with some other teams who might be able to come on board. We've heard a lot of these mentioned before, thinking also about risk avoidance. You've got a lot of folks in your legal team who will appreciate that. Emissions, how that fits into the company's overall objectives. Anything around resiliency, environmental justice.

We've got a great webinar looking at introduction to that for retail, and where your locations are situated within the community, we're seeing a lot of local cities and of course, under this administration, thinking about environmental justice implications where again, you're going to be able to tap into additional benefits and potentially think about government if you're not representing that group as a complimentary stakeholder, or if you are representing government, thinking about private industry in that way.

Then as I mentioned before, this really all plugs into that storytelling and reputation piece of it, regardless of what your organization represents. If you do have the investor viewpoint to think about, look at what your investors are saying. A lot of the large institutional investors are being pretty clear about their overall expectations around transparency and metrics when it comes to ESG topics and energy definitely fits squarely into that E, but then we also see a lot of increasing research around employee engagement benefits, where people want to work for an organization where they feel aligned with its purpose, and there's a role to be played for all of your work there. And of course, customer expectations. They may not want to learn about all the nitty gritty of a retrofit that's back of house, but the way that that fits in into your broader CSR strategy, it plays a really important role in making progress against public goals.

In the next slide, I also like to point out that while on the previous slide, I mentioned things that aren't always quantified, you might also say, "How can you possibly quantify some of those things?"

Sometimes you can. Sometimes you can guess and figure out a methodology that your finance team might be comfortable with for an estimation. But the other thing I'll say is there are teams internally who really a lot of the benefits that they deliver may be more on the intangible side. You can start to look at the way that they present some of their cases, if you have allies or folks you know in those departments to understand how they talk about them. So if you think about sustainability, marketing and communications, public policy, diversity and inclusion, these are all places where they wish they had the ability to say, "We're going to implement this and it'll save us estimated this amount every month, but it's not possible, and so they've thought about ways to really relay that message without it necessarily being bound strictly to a quantitative measure.

Then on our final slide that I'll show to you today, I just wanted to put out some of the thought leadership that I've been seeing about how you can start to quantify some of those intangibles. I already mentioned potentially taking cues from investors or the ways that we're seeing asset evaluation research start to progress and mature. We've also seen some really cool work from universities in this space. One that I love to share with folks is that NYU has their Stern Return on Sustainability Investment or ROSI platform where they've already started putting together retail case studies looking at some of those harder to quantify benefits from employee wellbeing, circularity and energy management, and they're looking to build that out even more.

Then again, I'll welcome you to take a look at some of RILA's resources. If you Google RILA energy management, a lot of what we've produced there is public. We had the good fortune of working under a DOE grant a few years ago on that. We're continuing to maintain a webpage called the value of CSR that really talks to some of the macro benefits that we're seeing from a lot of companies as they implement this. Just putting those questions out there to hopefully drum up initial new ideas, but otherwise, I think we'll be transitioning to questions next, and I will turn it back to you, Mariana.

M. Egea Casalduc: Wonderful, thanks, Erin. So if we can go to the next slide, we can kick off our Q&A portion. I'm going to start with the most upvoted question. It has seven upvotes. I would like all of our panelists to try and answer it as well. So it reads, how can we make a business case for energy efficiency when energy is so cheap in the United States compared with most other companies? So Erin, do you want to kick us off with that?

Erin Hiatt: Yeah, I mean I'll say at a very high level, I think as long as there's a return, there's a case to be made. Scott and Andrew can speak to this a bit more, but I would also say to look at some of the macro factors in play here. If you have employee engagement programs, or considerations from investors around ESG, again, these are additional drivers because those stakeholders are seeing benefits not only financial, but from some of these intangible spaces. I think that compliments the fact that a lot of these projects still do have a good return, even if some energy prices are low in particular regions.

M. Egea Casalduc: Scott, I see you're unmuted.

Scott Moline: Yeah, one of the comments on there was waste is waste, and companies pay attention to the bottom line. I think that really summarizes it very efficiently or very effectively. So much of – in my presentation, I talked about is energy efficiency the right nomenclature today going forward? We've got so many issues as a society facing us: greenhouse gas reduction, CO₂ reduction. So highlighting it as waste does start telling that story to say, just like other parts of businesses where there are dollars to be made by eliminating waste, speaking about energy efficiency is really waste reduction. Being able to translate, I think, really carries a lot of weight.

M. Egea Casalduc: Andrew, would you want to try to answer that question?

Andrew Hejnar: I think I did. One of my few slides at least, I presented where on the multiple benefits from energy efficiency projects, and if you base your calculations just strictly on energy efficiency, of course the cost of fuel or any type of energy source will be very impactful. But if you add those additional benefits I discussed, quite often that project becomes a lot more appetizing to the management because you have so many additional things you're gaining from those. Scott mentioned sustainability impacts, so greenhouse gas emissions reductions, possibly water consumption reduction, but then employee comfort increased, additional savings from productivity, additional savings from different maintenance activities, which usually when you have an energy efficiency project, those maintenance activities can be delayed quite significantly. I do agree that we have one of the cheapest prices of energy on this continent, but there are ways of still justifying energy efficiency projects.

M. Egea Casalduc: Wonderful. And I don't want to be repetitive, but it's also an interesting way that they framed this question. It reads how can we convince older folks and multi-family specifically to care about carbon and invest in energy efficiency measures when they will never see the financial benefit? I know we talked about occupancy, but maybe this might be a good point to talk about health as well. Not sure if anybody has a particular interest in answering this question first.

Scott Moline: I think we're all waiting for each other. I'll jump in there. I think that's one of the challenges in that sector, that multi-family building sector. Again, how do you get the upgrades when you're not going to see the returns? So really the separation between the financial ownership and then the operational side from the consumer. It seems like there's a lot of mechanisms that I've heard in other Better Buildings summits where that whole sector, there's things being done to incentivize and all that. I think awareness is one of the bigger ones. It certainly is a challenge, but my wife teases me, but I have a spreadsheet that I look at our energy use. "Yeah, yeah, we replaced that HVAC unit" and certainly not a multi-family home, but that awareness side really does make a difference.

M. Egea Casalduc: Excellent. So Scott, this is a question specific to your presentation. Does Wendy's consider this project to be complete? What's the ROI on continuous monitoring?

Scott Moline: I would say from that standpoint, we went – Wendy's went from being a pilot early on in 2020 to a 79-restaurant rollout. Certainly, there's a lot of – that's a good chunk of the company restaurants. Certainly, looking at – I know, from that standpoint, yes, we're seeing – they saw the successes, the multi-faceted side. Certainly opportunities working with franchisees, to get them to adopt it. So much of what has been done in the past is doing – getting the data, scaling it up, providing that information so that franchisees can benefit from that, and then they can start making the same kind of improvements. Complete is such a hard word. I would say that it's always an evolution.

How do we start leveraging that? Turns out the Transformative Wave system, unbeknownst, we were even starting it, because obviously at the end of 2019, we had no idea that the pandemic was coming. But being able to say, "Wow, we've got better control – or Wendy's has better control of the HVAC units, and the condition of that space real-time, really was a benefit that we hadn't even thought about. It wasn't even on the list. But it gave us

insights saying, "Those units are running exactly the way it should be, and it's providing clean, fresh air inside the restaurant with five air changes an hour", which I think was really an important thing. I think with that, I would refer everyone back to certainly, can get more information on the 2020 corporate social responsibility report.

M. Egea Casalduc: Okay, wonderful. With that, I think we are at time for questions. We have still so many wonderful questions, and those will stay on Slido. So if our speakers want to go in and reply through Slido, that would be wonderful. We're going to have our contact information displayed. So you can also reach out to our speakers with any questions that we weren't able to get there today. So if we can go to our next slide.

We're going to – would like to highlight some of the resources that were discussed here today. Once the slides are made available and posted online, you're going to be able to go through the Power Point and click all of the links there. They work. So you'll be able to access all of that information soon. Additionally, the Better Buildings Solutions Center has over 3,000 solutions to help you find proven and cost-effective strategies to help you reach your energy, water, and waste reduction goals. So let's go to the next slide and check out this video to learn some more.

[video playing]

Awesome. Let's go to our next slide. So we'd like to invite you all to attend the Better Buildings summer webinar series starting this June. On our webinar series, partners will discuss some of the most pressing topics they're facing today and share best practices in innovative new approaches to sustainability and energy performance. So to register, let's go to the – you can go to the Better Buildings Solution Center and click on events and webinars. So we can go to our final slide.

With that, I'd like to thank our panelists very much for taking the time to be with us here today. We have launched a short feedback survey on Slido and we ask you that you please take a couple of minutes to give us feedback on the session. Your answers will be completely invisible to other attendees, however, this feedback is really important to us here at the Better Buildings Program. We use it to design our webinars, our resources, implementation models, future summits, fine great topics for blogs and much, much, more. So the poll will be open until tomorrow. Please feel free to use that. If you have any other questions about the Better Buildings

Program or how you can get involved, please reach out to me. You can see my email right there on the screen, and if you'd like to learn more about the resources discussed here today, please check out the Better Buildings Solution Center for more information.

Thank you all so much for joining us, and thank you to Erin, Andrew, and Scott, and special thanks to our tech support team, and Bruce Lung for being such an awesome session lead. Great. So thank you all.

[End of Audio]