
PODCAST

ABB Decoded: How technology can cut energy costs and drive efficiency

Morten Wierod, President of ABB's Electrification Business, discusses what products and solutions companies need to help with their sustainability and energy efficiency goals.

Anthony Rowlinson: Hello and welcome to the latest episode of ABB Decoded – the podcast that tries to make sense of the technology and trends that are shaping our fast-moving world. I'm your host, Anthony Rowlinson, and for this episode, we're joined by Morten Wierod, President of ABB's Electrification Business, to discuss the findings of a survey commissioned to discover what products and solutions companies need to help with their sustainability and energy efficiency goals.

One of the key learnings is that businesses frequently want to operate with greater understanding of their energy usage, but don't know how to start the process of transforming their operations. But that, as Morten Wierod explains, is precisely where ABB can help.

Morten Wierod: My name is Morten Wierod. And I'm head of our Electrification business in ABB. And that is helping the world going electric. And that's happening all around the world today and how we can electrify everything we do. So that is, in short, really what we do with electrification, helping the world going electric.

AR: Great, thank you. And earlier this year, we're going to talk about this quite a bit in the podcast, you commissioned the Energy Insights survey, for your part of the business. What is that? And why did you do that?

MW: We conducted this survey. And we asked there in more than 10 countries and asked more than 2,300 small- and medium-sized companies all around the world to get a better understanding. And being an engineer, in ABB we like to have facts to build on. So what we ask them is how is the energy transition going? With the backdrop of the higher energy prices that we've seen this year, and how does this affect the decision-making in companies? Do they make the right... continue the

investments that were planning to do? And how does it really affect every business on a daily basis? And I think the Energy Insight report that we got gave us a lot of that information.

AR: What was the motivation for constructing the survey and commissioning it?

MW: I say as being an engineering company, we do like facts and figures. So it was to get real facts behind some of the thoughts and beliefs we had, but to say: "Is it really true?" Does it add up but also when we are asking our customers and partners because that's really the truth? And how we are able to substantiate our assumptions. And to say that this is really what's going on.

AR: Okay, so having found that data through the survey, what are the main insights and the headline insights that you can share with us?

MW: First of all, it was very much in line with what we were expecting, because more than 92% of the respondents say that a rising energy cost affects their business and really threaten their competitiveness. So energy prices and energy reliability, this is both two aspects, we know that that is something that has been in the limelight now for the last year, especially after the war in Ukraine, which has affected Europe but also wider than that. So that has put really businesses at now at the point where energy has become maybe number one or two on their cost structure, while before it maybe was item number three, or four, or even five. So it has become a central point of attention for businesses and the effects of higher energy costs or less reliability from your power source and the power grid is that people are looking at the investments they do, for instance, in training their own employees and keeping, keeping the team members. And of course, it also jeopardize the future of investments when it comes to sustainability, because most companies today, they want to decarbonize their own operations, that is also coming through in the survey, but we see that more than 50% are saying also that this may delay the sustainability journey that they have planned.

AR: So it's not just a question of cost, there's a direct impact into business planning and even for employees.

MW: Yeah, that is the natural kind of outcome. I mean you're spending all your money on paying your energy bill, you have to delay some other investments, even in your own people, which you may say that is short sighted. But on the other hand, if you have spent all your available funding, paying your energy bill, there is nothing left and then these are some of the other items when it comes to new recruitment, but even investing in your own people when it comes to training and upskilling. And this is maybe the main worry which I see it because these jeopardize the future of companies. And our ambition here is to help companies to reducing their energy bills so they can keep investing in their people and remain competitive because that's needed in society.

AR: Just to clarify one or two points, when you talk about energy supply and cost, but then also energy security. Could you just explain the difference between those ideas?

MW: Yeah, In short, it would be that the energy reliability or security is that you always have access to energy, that's on one side. We see in many countries where you have longer cycle or blackouts, and this is of course then affecting both your costs, because that means that either you need to install additional, like a diesel generator that generates electricity for you, or you just have to shut down your own operations, your factories for a period of time every day. And that's costly, because that means the lack of production.

And then on the other side, you have the higher energy prices especially in Europe, what we've seen the last year, and this affects, of course, the competitiveness for European industry versus other parts of the world where costs may be lower.

AR: If I'm correct, I believe the survey showed this is quite a significant level of concern, there's quite a high percentage of businesses that have got this concern.

MW: Yes, we see that more than 92% of business leaders are concerned. And I believe that rising energy costs and stability and availability is really a threat to their competitiveness. So, this is more or less a problem for everyone. Of course, there are differences where you operate in the world, but in general, this has become a center of attention. On a positive note the opportunity here, and the solution is around energy efficiency. And because with more and better energy efficiency in your operation, you can save energy cost, and you can kind of come out of this you know, in even stronger way in the future. So that is how I look at it, to say that we can do more and we can help companies. Together with our partners, we can use ABB technology to mitigate some of these higher energy costs, but also create also a stronger power grid so that you reduce the risk for downtime.

AR: And are there specific areas where ABB can help? Are there specific products perhaps that you can think of that would help customers? If you're talking to customers about their concerns, what sort of solutions and answers do you give?

MW: How we address this is often by starting with an energy audit, which means that you look at where is energy being consumed in your operation. We use sensors to connect all the devices so you get transparency, because with data, we can make better decisions. So it's all about getting first a complete overview and assessment of where energy is being used. And where is it being wasted. Because if you identify that then you can come in with the better technology. A new motor can save up to 30% of the energy of an old one.

The next step is looking at all the other equipment that you have there and we use the style that you take the one with the shortest payback first. We're looking at your HVAC system, we're looking at the maybe there are gas heaters that can be replaced with heat exchangers and heat pumps.

When you have reduced or taken out all the energy waste, the last, the final piece of the puzzle is to then install the solar panel or being connected to a renewable energy source. Because then you're able to get this decarbonized future that most companies and societies looking for today.

AR: I guess this goes back to your point, actually about energy security as well. So you're reducing the cost, and you're increasing your energy security at the same time because you have a reliable

source.

MW: Absolutely. So it's a win-win situation for most companies when we do this.

AR: You mentioned Morten, that you've been working with many businesses to try and improve their efficiency goals and efficiency standards. Are there any specific examples that you might point to where you've had some success in this area?

MW: Yeah, and how we address this, as I say, we talk about starting small as often as a pilot, and then you scale it up. And I can mention one of the leading Swiss food companies, where we started with one of their facilities first doing an energy audit, looking at how can we reduce the energy. And then we were able to find two, three really good examples by putting in sensors on motors, but also sensors on all their distribution boards and their electrification network, because that gives you again, this access to data and information. And with all that data, we were able to identify the energy wasters in their network. And then we could use this know-how and duplicate to all their factories around the world. And that is an ongoing, now we have a list of more than 50 units and 50 factories that we are upgrading. And then when we are done with those 50, you can take the next 50. That is how we like to work with our large companies. It's the same experience we have in the data center business, you know, the large tech companies around the world, they are also interested first to save energy because data centers today consume a significant portion of energy. And when we are working with these companies, we are looking again, identifying some of the good practices and the easiest way to save energy. And then we roll that out throughout all their operations.

AR: And is it the case that once customers see one business, doing this kind of thing, does it have a knock-on effect? Do other businesses think “well, we should do that as well?” And actually, one example can lead to another good example because the benefits are obvious?

MW: It is and that's where we see, companies want to learn from each other. And because in the end, that's how you remain competitive. So, talking about data centers, also an industry where people are moving between the companies we all know – I'm talking about the Amazons, the Googles and Microsofts of the world – and we see there that good practices are being shared or that people are learning from each other. And when we have done one good project with one company. It's not like this is secret information. Most of this is just good practices that everybody wants to share. So also the outcome of the Energy survey was that more than 50% of companies have good intention. They have good ambitions about decarbonizing their own operations, but they also struggle how to do it. And I think that's really the key is about how do we address this challenge. How do we decarbonize because in the end we're talking about electrification, we talked about digitalization, but the end that gets pretty abstract. So it needs to be very practical. That's why we like to do the audits, we like to show them on one plant level, and then we can scale it. That's how we address it. And I think that is where we're going from more of a marketing- communication statements to actual actions that we can address the energy wastes that is happening in every building, every factory, every data center, unfortunately, too, that's happening today. But we need to identify it, and then we can fix it. And I think the intention is there. But it's often the know-how. And that's where I'm very committed as part of ABB, but also together with our partners, that we are able to share this information and help

companies to achieve their goals, because they, it's good intentions, but sometimes the know-how is missing.

AR: It's interesting hearing you talk there, you can see the engineer in you coming out, when you talk about making solutions and practical solutions to problems. I think that's very much an engineering kind of mindset.

MW: I always believe that when you have everything, when you have a problem, there is a solution. That's a nice thing about a problem. And as an engineer, I always believe that there is if there is a problem, there exists a solution and we can use technology to fix it. And that what keeps me very optimistic still that we have even today, already technology. We don't need to wait another five or 10 or 15 years to achieve energy efficiency and better reliability. We can do it already today because the technology is available. So there is no reason to wait for the silver bullet that may be there 10 years from now. I think as the world is today, we have to act now. So we have no time to lose, and we want to keep and we want to help the world getting more sustainable. That's one of the whole missions of why ABB exists.

AR: If we could just return for a moment to energy security. What did the survey show about investment in enhanced grid infrastructure, which is another area where ABB can contribute?

MW: We see in the survey that about 40% of respondents are planning to install on-site renewable energy sources either from solar and wind. And in addition, you also see that there is an interest for battery energy storage system, because this can balance the energy consumption over and the energy need over the over a daytime. And this is where we need to see a more resilient grid because today when we have more renewable energy, it also gets a bit weaker, we're missing some of these very strong power sources like nuclear power plant or a gas-powered power plant these are making what we call grid resilient, so making a stiff power grid. But now when we have more of a smaller network with wind and solar, this is giving a challenge to have a strong enough network and here we also have to install like synchronous condensers, which give mechanical stability to the power grid.

And I'm very happy that ABB can also play a role in that field to make a more stable and more resilient power grid. But I think the main part here is where companies are installing power, but also battery energy storage system, you may ask why do you need both, because batteries as such do not create any energy, they even would consume. But it is when we see now the big fluctuation in energy prices across the day that at peak period, like you want to reduce your energy consumption from the grid and you rather taking from your batteries. That is how companies today are able to flatten out the consumption. It would be like thinking about traffic, there are peak hours, there is enough roads in the world for all the cars we have. But there are peak hours where we have queues. These batteries will kind of take off some of the peaks of the network. So that means reducing the queues that we have in our power grid. That's why we also need batteries as part of the solution of a more resilient power grid. Because when the world is going electric, it is putting a much tougher pressure on our power network. And so to avoid some of these huge installation that is needed in transmission, because that will be very expensive, it's often easier to deal with it locally. Together with renewable energy, that is your solar panel up on the roof of a building, and then with battery energy storage, often in the basement. This is the combination that can reduce the stress of a power network.

AR: Thank you Morten. Obviously, this whole topic of energy security and supply is a vast topic, which in a way affects everything we do. But are there some specific points you could give to

customers, perhaps to reassure them – specific areas where you could say, “Look, do this, do this, do this, and that will help your journey towards a more sustainable energy solution.”

MW: Yes, absolutely. And I think this is what we do every day. And we are happy to help even more, our customers, together with our partners, to help customers to address the energy challenge. First of all, a kind of very short instruction or guidance would be start with know where you stand with doing an energy audit. So you get full overview and transparency of what's happening in your own operations. Then make a plan and we will help there to come up what is the biggest waste areas, where's the biggest saving opportunities, so you can then make a business case and see how this can be turned from waste to an energy opportunity. And then it's about also training your team members so everybody is on the journey. This is where also personal behaviors of your workforce is needed. Because we see also here the personal behavior of all the teams can also reduce the energy cost, like we can do in our own houses by turning off the light when we walk out of a room. And then it goes through your whole ecosystem or operations. How is it working? What do we do? And how can we get to a net zero target that most companies have today. So my overall message that technology is available, and ABB are one of the companies that can make this happen. So that is the optimism on my side that we can address this energy challenge, but we need to use technology to do it. And as I say we and our partners are very happy to help their companies to achieve their sustainability goals. And also to remain competitive and successful in the market. Because those two things very much go hand in hand.

AR: That's great. Thank you. I just have one personal question to ask you: when you're walking around a hotel or when you're travelling, do you find yourself constantly thinking: ‘That should be an energy efficient light bulb?’ Or, perhaps: ‘We could make this building work more efficiently?’ Do you find this stuff is constantly in your mind?

MW: Absolutely. This is part of, as my wife is saying, this is probably a company disease or part of being in the industry. And I see the energy waste everywhere around us. And I try at times also to point it out so people can make better decisions because it's not, most of the time, I would say, it's not with bad intention, but it's the lack of knowledge but this is what we have to change.

AR: And with those words of encouragement, we'll bring this episode of ABB Decoded to a close. But if you'd like to know more about ABB's Energy Insights Survey, just search for it in your web browser and you'll be able to find a wealth of materials, including the full report, on ABB.com. And if you've enjoyed the conversation, don't forget to like, share and subscribe, wherever you get your podcasts.

Until next time.