

**Transcript for #92. The Challenging Journey of a Ukrainian Sustainable Battery Company  
Guests: Serhiy Kaminsky, Founder, SorbiForce and Kevin Drolet, CMO, SorbiForce  
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Tammy Klein (00:01):

Hi, everyone. Welcome to the show, today, I am so pleased to have two guests with us. Serhiy Kaminsky. He is the Founder of SorbiForce and Kevin Drolet, who is the Chief Marketing Officer. So we're going to talk energy storage today, and it's a really special episode. I haven't done a lot of shows on energy storage at all. It's a topic I've been wanting to get into, and it's really special to me because of the circumstances that are involved, which we're going to hear a little bit more about in the show today. The founders of this company are from Ukraine, and they've had an interesting journey both on the energy side and given the developments that have been happening in Ukraine. So Kevin, Serhiy, welcome to the show. Great to have you both.

Serhiy Kaminsky (01:13):

Thank you.

Tammy Klein (01:16):

Yeah, it's my pleasure. So, for the listeners who may not be familiar, can you tell us more about SobiForce? How did you and your colleagues come to create the company? And we'll start there.

Serhiy Kaminsky (01:32):

Thank you for the question. Yes. Our company, SorbiForce, it's a commercial evolution of a famous Ukrainian startup. We created our company eight years ago. It's clean energy technologies. And, after deep analysis, I found that a battery is the key element of the energy of the future. As we know, the sun and wind are unstable sources of energy. That's why we are losing a lot of energy just because we have no places to store this energy. That's why I decided to be focused on battery technologies. I gathered together the best scientists from Ukraine. I created an R&D Center in the western part of Ukraine. And for the last seven years, we were dedicated to this very important work. And now we are succeeding. We have completed our R&D process, and now we are on the way to scaling our technology.

Tammy Klein (03:00):

Really, really exciting. So, what's been your experience transitioning from Ukraine where you started and founded the company, as you just mentioned, and now into the US where SorbiForce is now incorporated? What's been, what's that been like for you all?

Serhiy Kaminsky (03:22):

Yeah, it was a really big challenge for us. As you know, my country is fighting a brutal oil dictator. Yes. And I'm grateful to all the people of America for their help and support of our country. And you know, it's symbolic for me to move forward and develop green technologies even faster. And I understand that to be a global company, you need to be at the center of events, in the center of the revolution. And now the green energy revolution is happening here in the United States. That's why I have decided to establish a company in the United States. Yes, we already, we have already incorporated our company SorbiForce in the United States. We are supported by Google. Google made a non-dilutive investment in our company. And it was amazing, really. And we are also supported by the government of the United States, and that's why we are located now in the University of Arizona Tech Park. And I'm very grateful to all

of these people. I'm really excited and it's awesome. And now we are able to push this technology, to push this green revolution from the United States. Yes. I think this is really a revolution. We are on the way to great changes in our energy field and in our civilization.

Tammy Klein (05:28):

So can you talk to us a little bit more about what is the uniqueness about the SorbiForce battery? And then maybe Kevin, this would be something for you to comment on as well as something I'm wondering about is what markets you're targeting. You know, what are the applications that you're, you all are seeing for the SorbiForce technology, and then also how customers and, and potential customers are reacting to the product. But let's start with the uniqueness of the battery itself. What makes the SorbiForce products so different?

Serhiy Kaminsky (06:09):

Thank you for the question. We are loving freedom. Freedom is our religion. That's why we value independence and independence in all meanings. And that's why our battery, it's like a symbol of freedom, freedom and independence. We have no metals inside of our battery. And we have no toxic materials or something like this. Our battery can be local for any countries in this world through the raw materials for our battery. It can be produced from waste, can be agricultural waste, plastic waste. And our battery can be 100% made in the USA. As you know the United States strongly depends on materials from outside of the United States. And it's a question of national security. And it's, it's very important since, and that's why we are happy to get to present our battery and our battery. It's like a symbol of independence. Maybe Kevin can add something about what we have.

Kevin Drolet (07:57):

Sure. So people will notice I don't have a Ukrainian accent. I'm actually from <laugh> from the States. and I was fortunate enough to meet Serhiy and his co-founder Oleg and began working with him and am truly inspired by the technology that they have brought forward and the mission to really change the world. To Serhiy's point, what compromise, what makes this battery is carbon, salt, and water. They've developed a carbon that can be pulled from recycled plastics, agricultural waste and salt, for example, up over from desalination plants. So what's really interesting is that the materials for the battery people actually pay us to take them <laugh> <laugh>. And we're actually...so it's more than just that they're recycled materials. But we can also change things in terms of no mining of precious metals. No mining means no processing of those precious metals means organic means it can be grown locally within the US in communities...

Tammy Klein (09:11):

Or carbon intensity, I would assume.

Kevin Drolet (09:14):

Yep. There's...exactly, there are no supply chain issues associated with price fluctuation for these batteries. So the innovation here is a game changer. I will tell you, you had asked about what's the market response? We were just recently at the Grid Edge conference in San Diego and talked with hundreds of utilities and companies, the Department of Energy, and others we're part of a pitch. And there is a tremendous amount of enthusiasm for this technology. we were told it...actually should be mentioned that Serhiy is one of the top innovative scientific minds of Ukraine and is brilliant in terms of what he's developed. People see that. They see the possibility of this technology disrupting, essentially storage as we know it, energy.

Tammy Klein (10:09):  
Oh yeah, absolutely.

Kevin Drolet (10:11):  
And not just in many ways. So like, for example, because the battery is constructed the way it is, it is out of the materials, there's not the same fire risk or fire risk of with lithium-ion battery safety. You think about a lithium-ion battery in a school bus of kids, or that they can't put this storage next to some utilities because of fire risk or in basements for EV charging. So the application is also pretty varied and wide. I mean, we can take this battery and use it to support industrial, solar, and wind farms behind the grid, behind the meter for utilities that can be used to support EV charging stations. so, so many things. And we're just, we're super excited. It's all new but we're getting a tremendous amount of interest, probably a little bit overwhelming for us, honestly, right now, <laugh>.

Tammy Klein (11:11):  
I bet, I bet. I would imagine the interest would be super high because again if you read behind the meter for EV charging, I mean, and, and then for solar storage for solar and wind, I would think it would be among the greatest applications here. And everything that we're reading about that's coming out is related to permitting, interconnection and just, just all of the permitting hassles that are currently seen for a lot of projects. And I just see a lot of red tape being cut right in half with the type of battery storage that you're talking about. And then to just have the just the, the sustainability aspects and the carbon intensity reduction aspects of it as well. I'm not surprised, <laugh>, there's a lot of attention here. I just see those as just really, really, really positive benefits.

Kevin Drolet (12:25):  
Yeah, absolutely. And I think it's worth mentioning Serhiy had a factory in Ukraine, has been a business and put all of its resources to this technology. And one of the things that I think is very inspiring here is the mission is to really impact and change the world. It's not just to sell batteries at a lower cost, but it's also worth mentioning that this battery will cost less than lithium-ion battery for a number of reasons. and that will also change the game because currently, that is one of the challenges both price fluctuation in lithium. But also just the, the cost of lithium is, is higher. And that's obviously the standard that everybody is the go-to. and we're going to come in at scale roughly at a third of the cost of lithium. And that is, that's going to change the game. It's going to make storage possible actually, yeah. For applications where it's not financially viable for people right now, including potentially for consumers. People who have solar and potentially for home batteries. So it's pretty exciting.

Tammy Klein (13:44):  
It is. So Serhiy, Kevin, how do you both see the energy storage market evolving in the US, in Europe, in other parts of the world over the next 10 years? Serhiy, how do you see it?

Serhiy Kaminsky (14:04):  
Yes. I think we have to fall off the path of decentralization of the energy system. I'm looking forward to the creation of many independent, smart grids that will be combined into cooperatives. And it'll be combined into systems and into the electrical grids. I think every person who has a battery in a car or in the house or in an office, will have the opportunity to optimize their energy costs. Moreover, I think the battery itself will play an important role in the economy. For example, with artificial intellect it can be like a money-making machine, this battery can optimize energy flows and will decide when to charge, when to discharge, and will

be an active participant in our daily process. And I think yes battery, it's a key element of the energy of the future, and I believe in it.

Tammy Klein (15:33):

Thanks, Kevin. How about you? How do you see it?

Kevin Drolet (15:37):

I mean, I think that in a global market, there's the question of energy storage. I think, to Serhiy's point earlier is it's a central question. I mean, we saw that we were at Grid Edge, we were at Distribute Tech. You know, if you read publications and you're in this space, storage is a major issue and there's not enough of it. And, the technology is certainly developing. and it's great. I mean, it's amazing. There's a lot of tech going, but there's nothing quite like this technology where it's hitting everything, where it's hitting a safety, it's hitting cost, it's hitting sustainability, it's hitting being able to be produced locally. So there's a huge need in the market.

(16:28):

That's what we found also, that there's just tons of demand for storage like this. And as we grow one of the things that we're figuring out too is developing energy storage systems so that it's more than just a battery, obviously. but I think it'd also be worthwhile, Serhiy, if you can speak to the cycles in life. cause that's a big question we've had is how long does your battery last? And some of those things are also very interesting and advantageous of this technology, and I think it'd be worthwhile, if, Serhiy if you can speak to that some.

Tammy Klein (17:04):

Love to hear how you see it.

Serhiy Kaminsky (17:07):

Yeah. Our battery has an extremely long lifespan. For example now we have confirmed about 6,000 cycles of charge and discharge. And it means about at least 10 years of operation and our aim in the nearest future to be about 10,000 cycles and 15 or even 20 years of operation.

Tammy Klein (17:42):

Wow.

Serhiy Kaminsky (17:42):

And yeah, it, it's really, it, it's real. And, we have no theoretical forecast. It's 6,000 cycles. It's practical real cycles and real testing equipment. And yeah, it's another advantage. We have good parameters, the technical parameters, and we can be a good battery for any application.

Tammy Klein (18:19):

So where do you both see the company going within the next 10 years? When can we expect to see sort of the market appearance of the product? And then for you, Serhiy, do you see remaining here in the US with the company, do you see a return to Ukraine? Do you see basing the manufacturing here, manufacturing in Ukraine, all of the above? How do you see it?

Serhiy Kaminsky (18:57):

Thank you for your question.

Tammy Klein (19:02):

yes. It's a tough one.

Serhiy Kaminsky (19:03):

<laugh>. Yeah, it's a good question. So actually, I am a citizen of the planet. I have no borders. I don't like any borders. And I'm trying to think globally. As I told you, to be a global company you have to be at the cutting edge of this, in the center of the revolution. And now this revolution is in the United States. And since we are a US company, we have really global ambitions. We are going the way of multi-billion dollar startup and maybe you know a lot of Ukrainians already made multi-billion dollar companies. Maybe you know that WhatsApp Messenger was created by the Ukrainian team and sold. Also some Ukrainian guys were in a team of PayPal and other famous companies. And we hope that we are the next one. We are the next Google in energy

Tammy Klein (20:35):

That's a pretty exciting vision

Serhiy Kaminsky (20:37):

Yeah. That's our ambition. And we are on this way.

Tammy Klein (20:44):

Kevin, care to add anything? No, it's kind of, kind of hard to top being the Google of battery storage. That's an amazing vision!

Kevin Drolet (20:53):

I mean, one thing that I've learned with working with Serhiy, I think company culture matters a lot just to speak to that. And one of the things I've learned and the many meetings and, and work that we've done together is the vision is, is big. I mean, the vision is big because the vision needs to be big. Not just big to make like a billion-dollar company and make lots of money, but if you're going to take a technology that's going to really impact the world, you have to think globally, and you have to think big. And if you're at any step in the process, if your vision is small or incremental, you'll get sidetracked from your big vision. And it's one of the things I love about the vision that Serhiy has and, and his dedication to this, obviously with his life and all his energy.

(21:42):

And that's what we need. I think that's what we need for the planet too, from the standpoint of the climate crisis we're in and making big changes. We have to think really big. And so, yes, big, big company but a lot of people being able to adopt this battery, people being able to develop this all over the world and utilize it. I mean, we, for example, were talking with a gentleman that works with many of the Native American nations here in the US and we were having discussions about potentially having to build out to support native communities here who don't have energy. I mean yeah. Navajo Nation

Tammy Klein (22:26):

Still an issue.

Kevin Drolet (22:28):

Right? So if you think about globally, also the technology, being able to serve underserved communities or places where people don't have energy or storage it can be a game changer there. So on one hand, yes billion-dollar company, it certainly will be that I have no doubt. And it's going to help the globe though too. So it's, it's, it's not even, it's not just about the dollars in that sense. but it is about, it's just

Serhiy Kaminsky (22:59):  
The tools. Yeah. It's just the tools.

Kevin Drolet (23:02):  
Just the tools,

Tammy Klein (23:03):  
Right. You know what I mean, I even think about it for myself since I live in Florida, lot of sun, we're about to put in solar - residential solar - on our house, but we don't have the storage capability. So if we want to do storage, we have to buy a generator. And it's like, this is such a, I mean, the whole, it's sort of, you, you want to have a generator here because I live in <laugh> hurricane Central. but it's a waste. It's like, ideally it would be great to have the battery storage. And what's available to us today is, it's expensive and it's inadequate for residential use. So that leaves us with buying a diesel generator, which kind of defeats the purpose, I think, of going solar. So I see like to be able to provide rural communities or, less developed communities, battery storage so that they can do, really integrate renewables, but just for regular, average, everyday consumers like myself, another app application, the, the, the ability to have that in my home and to have that backup, which just is so attractive. So I guess I should stay tuned.

Serhiy Kaminsky (24:35):  
Yeah. Thank you. It's really, so, and if you have something, you have to have a place to store this, right? And if you have no battery having solar panels, it's some kind of illusion of the green beam. That's why that battery, it's really of this green energy puzzle.

Tammy Klein (25:10):  
Yeah. I think you're right. I think you're right. So last question for both of you, starting with Serhiy, what excites you most about this space and why? I mean, having the Google of battery storage, that's pretty exciting to me, but what most excites you about this space, especially just given the challenges that you've been through? What keeps you going?

Serhiy Kaminsky (25:42):  
What's most exciting? As I told you, I love to be independent and independence and freedom, it's my nature. And I'm trying to do anything to go this way to be independent, to have freedom, and to help people to do the same. And yeah, I'm driven by these thoughts and vision. I have not only batteries, I'm just focused. Focused on this technology. I'm just focused on this battery but I have about 80 other amazing technologies. And I'm bringing this technology with me, and we will do other side projects in nearest future.

Tammy Klein (26:55):  
Oh, I'm interested to hear more about those when you're ready to talk about them.

Serhiy Kaminsky (27:01):  
Yeah. Also, I believe that sooner or later we will not need batteries anymore. Batteries, it's strange to hear that like a producer of batteries, telling that batteries will not need any more in the future. But I believe that we'll have other technologies to have energy for electric vehicles, for our houses, for our businesses. Yes. Sooner or later we are looking.

Tammy Klein (27:38):

So, if not, if not batteries if that's not sort of the ultimate, what do you see? What do you see that transition sort of looking like? What, will it be in your view?

Serhiy Kaminsky (27:52):

We have a lot of energy around us, actually. We are living in a spherical capacitor. Our planet is a spherical capacitor. Our ground is a minus, and our ionosphere is a plus. So it's, it's the only one insight from me.

Tammy Klein (28:16):

So you think that that's what is going to sort of power us that will sort of be the next wave, so to speak., technology built on that.

(28:22):

Yeah, actually, I have a prize from GENIUS in New York State. We have won a prize among 2,000 GENIUS students from all around the world. We had a third place bronze medal, and our project was the absorption of energy, extraction of electricity from the atmosphere. It's one of my projects.

(29:03):

Wow. Wow. Wow, wow. So, Kevin, what excites you most about this, this space? What sort of keeps you going?

Kevin Drolet (29:12):

People like Serhiy

Kevin Drolet (29:15):

Well, I've been in the marking space for a long time, like a couple of decades. And I made a decision that I really wanted to mainly focus my energy and efforts supporting people that are doing renewable, and climate tech projects. And that led me to meet Serhiy and Oleg, his partner. and I think this innovation is super exciting. and this is the kind of thing in the way that we need to be thinking, and that's what excites me. I mean, we're in a precarious place, our humans on this planet. And we need to think in this kind of way. And so people that are coming to the table with this kind of technology, I think we need to support them, fund them, popularize them and make sure that this technology and, and others like it become as commonplace as this seatbelt. Like, I always think about like at some point people started wearing seat belts, I don't know when, and it had to do with technology and policy. and now we're all wearing seat belts, right? So our approach to climate maybe needs to be similar, where we're all putting the seatbelt on, but I think also the technology behind SorbiForce and, and the energy storage and battery is that it makes it very simple for people to put the seatbelt on, right?

Tammy Klein (30:42):

That's exactly it.

Kevin Drolet (30:44):

The cost of it, the safety of it, and I'm very excited to see what else Serhiy comes up with and to be on the ride with him. So, very grateful for that. <laugh>.

Serhiy Kaminsky (30:55):

Thank you. Thank you. Kevin.

Tammy Klein (30:58):

Me too. Serhiy, Kevin, thank you both so much for being on the show and talking about SorbiForce and energy battery storage. It's been a real pleasure.

Serhiy Kaminsky (31:09):

Thank you, Tammy.

Kevin Drolet (31:10):

Thank you, Tammy. Thanks for having us.