

**Transcript for #93. Who Owns the EV Customer?
Arcady Sosinov, CEO, FreeWire Technologies
May 22, 2023**

Tammy Klein (00:01):

Hi, everyone. Welcome to the show today. I am...I always say I'm so excited, but I really am, I'm always excited, but I'm really, really excited to have with me on the show today, Arcady Sosinov, who is the CEO of FreeWire. So you've probably heard a little bit about FreeWire being peppered into the podcast, especially having interviewed Parkland recently and I'm so happy to have Arcady here today to talk to us about FreeWire, what FreeWire is doing, and about the electrification space in general. Arcady, welcome to the program,

Arcady Sosinov (00:54):

Tammy. The pleasure is mine. I really appreciate it.

Tammy Klein (00:57):

So let's get right into it. For the listeners who may not be so familiar, can you talk a little bit more about FreeWire, what FreeWire does? So I kind of gave it away in the intro, but you can talk a little bit more about it and what sets FreeWire apart from other charging providers out there?

Arcady Sosinov (01:18):

Happy to. There's a number of different answers to that. So first of all, FreeWire is a technology company, and we focused over the last nine years on solving what we believe is the biggest pain point within the world of ultrafast EV charging infrastructure. And that pain point is the utility infrastructure required to support ultrafast charging. If you look at most commercial retail sites, they don't have the kind of power necessary to enable high-speed fast charging for electric vehicles. A typical gas station or convenience store may use 50 kilowatts, five-zero kilowatts of power by itself, but a Tesla will consume 150 kilowatts at a minimum. And you can imagine having a bank of vehicles on a site that needs to charge at the same time, and all of a sudden you need a megawatt of power. And that's not the kind of infrastructure that the site was designed for.

(02:16):

That's not the kind of infrastructure that the utility expected that site to have. So in order to deploy high-power charging, we either need to build out our aging grid infrastructure or what the technology that we've landed on and have developed and designed and brought to market is something that we call battery-integrated charging. That means we've paired battery storage with high-power charging, and that enables us to deliver that ultrafast charge without requiring any utility upgrades on sites. Where the company's a little bit unique is that we develop these technology solutions, we also develop software to manage these charging systems, and we have a suite of services to help our customers deploy them in the ground. We sell this entire package of technology, software and services to a retailer, meaning that there are thousands of retailers across North America who are interested in becoming charging operators, but they don't know what they don't know.

Tammy Klein (03:23):

Very scary for them.

Arcady Sosinov (03:25):

It's very, very scary, this is an entirely new business that they certainly haven't tried before. They don't have the teams internally to understand what they don't know, how do I deal with utilities? What do customers need on-site when they're charging? Where do I place these things? What does interoperability with vehicles look like? There's a lot they don't know. And so we set 'em up with a package of this entire technology, software service plus EV education and awareness programs to help them become a highly sophisticated operator of charging infrastructure. So we sell that entire package to them and they have now all of a sudden spun up a business internally, they're able to market it, they're able to deliver high power to customers and, and really start to capture the rest of share of wallet of that customer just like they would if they were selling oil and gas.

Tammy Klein (04:25):

You know what I heard earlier this week, someone told me for some fuel retailers, they're more interested or more comfortable with the idea of dispensing hydrogen at their stores and locations than they are electrification because it's such a black box for them. And I thought that was incredible because I don't see widespread dispensing of hydrogen myself personally. I mean, and certainly not in the coming years, whereas I do see it with electrification. But I think that highlights what you're talking about, which is the discomfort, the lack of, 'we don't know what we don't know,' the lack of, you know, really having an understanding of the space and what's required. And frankly, for some retailers, in the early years they dabbled and tried, and it did not go well for them. So it really underscores what you're saying that they would rather do hydrogen because it's more comfortable for them than charging.

Arcady Sosinov (05:31):

It's interesting that it should be as easy to sell an electron as it is to sell a hydrogen molecule as it is to sell a hydrocarbon. They're all just commodities, but they work in very different ways. And I understand where the retailers have a little bit of heartache doing that. Electrification charging your vehicle just takes longer. So you've taken this thing that should, that was previously 90 or two minutes long, which is refueling your vehicle, and you've turned that, that now that into a 15 minute experience and your site and your retail offering may not have been designed for that 15-minute experience. You also now introduce the complexity of interoperability. I know I can pour a hydrocarbon or a hydrogen molecule into a vehicle, and it's gonna work every single time because the vehicle doesn't need to talk to the hydrogen dispenser or the fueling dispenser.

(06:24):

Now with electrification, there's a complex handshake and communication protocol that has to happen, and they don't always work, frankly speaking. The industry is not there yet where it's, you know, really turn, cure, plug and play whatever terminology you want to use. So that is a scary thought for the retailer of someone having to walk into the store and say, "hey, this charger doesn't work with my particular car." And the retailer goes, "I don't know what this looks like." So we understand that, and that's where we try to bring some of this. We spend months and months and months on education with these retailers before we ever sell them a single unit of product. And that education, we feel, is one of the most important things that we can offer them. But we also then try to help them understand what are the issues you're going to run into with utility infrastructure.

(07:17):

Because there's something really interesting happening, I think, in the oil and gas space that never happened before, which is that the oil and gas majors and super majors historically they own their extraction, exploration, refining, distribution, all the way to selling hydrocarbons to the end consumer. They own that entire value chain. And now all of a sudden with electrification, they own the selling of the electron to the end consumer, but they're not in the generation of electrons. They're not in distribution, they don't own the wires. And so now all of a sudden from being a price maker and owning the value chain, they're a price taker to a utility who is and whose rate structures and business models are specifically designed to be confusing. Specifically designed so that a facilities manager or retail site operator, especially for the franchisees who have, you know, one to 50 sites, there's no way they understand what a demand charge is or what their utility rate tariff really breaks down into.

(08:35):

So that is a scary thought for these oil and gas players, and what I think they're going to happen is they're going to continue developing technologies and continue moving upstream in that value chain of the electron and try to take part of that value chain away from the utilities. Now, who do I think is going to win? I believe it's gonna be the oil and gas majors, because if you look at the utility market fragmented 3,500 utilities in the US. If you look at the super majors, you and I can both count all of the super majors on this planet, right?

Tammy Klein (09:16):

Mostly on one hand, but there's a couple on the other...

Arcady Sosinov (09:19):

Yeah. So there's just the balance sheets and capital budgets between these super majors are so large. I mean, they printed record EBITDA and record profits in 2022,

Tammy Klein (09:33):

Now a lot of them are plowing it into renewables to your point.

Arcady Sosinov (09:39):

And you already see some of these, you know, makings in the industry. Shell bought their first utility in the UK, right? So now they're a retail utility operator in the UK. BP has an entire generation division called First...what do they call it? It's not First Solar, but it's a solar division. That specifically spins up solar plants and goes into the generation space. So there's, there's a lot of movements in the industry to show that the integrated oil companies are really becoming the integrated energy companies, but that's to the detriment of the utilities that they're now having to face across the table.

Tammy Klein (10:22):

So basically what you are saying is, or what I hear you saying is, your technology kind of leapfrogs to a certain extent over the utilities, and then the oil and gas, and I a hundred percent agree with you by the way they want, they're going to want to control the space, and it's gonna be good for them in terms of their decarbonization goals and, and other sorts of things they're gonna leapfrog around the utility. So, you know, I wanted to ask you more about how you get started, but since we're on the topic, where do you think that leaves you know, utilities? Because, I also think when I look at FreeWire's technology and I see the coming of NEVI funding, the expansion of charging everything that is going to have to happen on the utility side for conventional charging, if you will, to stabilize the grid.

(11:27):

I do think that that's gonna be an issue in the future, but also like just adding the interconnection and everything that has to...all 50 PUCs in 50 states...having to approve, multi-billions of dollars of projects and just, I just see this massive backlog that has the potential for happening. to me, I look at what you guys are doing, I'm thinking, wow, these guys are really well positioned. So is my thinking right, when it comes to these issues that we may be seeing with utilities, PUCs getting projects approved, adding interconnection infrastructure to be able to support charging? And it seems to bode really well for you guys.

Arcady Sosinov (12:19):

Well, your predictions are already correct. The utilities are already a hindrance and you can see that there are 12 to sometimes 30 months or more delays in deployment of charging infrastructure. And it's not the charging companies or it's not the retailers moving slowly. It's them saying, if I need new power to this site, then utility has to bring that service to my site. And that's a public works project that's assessing upstream substation capacity and then running wires overhead or underground and getting them to my site. And usually it takes, again, 12 to 24 months just to get those wires to your site in the first place, and then you can install charging infrastructure on your site. And that's a non-starter if you're looking at some of these programs. NEVI being a great example, that was a seven-and-a-half billion-dollar announcement that was announced in August of 2021.

(13:22):

And now, fast forward, almost a year and a half to today, only one state has issued their kind of NEVI RFP and of course, some of that delay was due to uncertainty around the guidance and the guidelines. But think about it from the Administration's perspective, and they're saying, we announced this money almost a year and a half ago, so taxpayers felt like they spent it at that point. There's that natural feeling, but what do we have to show for it? We're now a year and a half later, we are not seeing the charging infrastructure in the ground. There's not a single NEVI deployment quote unquote that's happened because the programs are just spinning up. And once those programs start to get awarded in each individual state, then you're looking at another 12 to 24 months or more for the utility to build out their infrastructure.

(14:12):

And it's hard in some of these places, NEVI is focused on infilling highways across the country, and some of those highway locations are 20 miles from the nearest utility infrastructure. And, so you're gonna look at and look back on this, and it's gonna be a two to three-year gap between the announcement of NEVI and actually seeing charging infrastructure in the ground and consumers feeling like, and taxpayers feeling like they got

something for their money. And that does not bode well for the Administration. That does not bode well for them. So, what our technology is designed to do is to enable the incredibly rapid rollout of charging because we did all of these utility infrastructure upgrades and we just, we just did this and prove this out at, at a pretty significant scale with Parkland and you, you spoke to Scott on another show who's incredible. And we work with him almost every single day. In fact, probably every single day we talk, we talk to him. But Parkland said, we need to roll out these sites in British Columbia and we need to create a network, basically day one. Not these one-off sites here and there. And you don't create that consumer adoption. You don't create that consumer feeling of having a location that I can go to. So we wanna just deploy,

Tammy Klein (15:32):

I call it ubiquity. You need to have a sense of ubiquity for consumers to sort of really feel the comfort.

Arcady Sosinov (15:38):

That's right. They need to know that they can come to your site and charge. And, so they want to create that ubiquity. And over the course of three months, we deployed, you know, 40 plus units across I'd say 25 sites or so in British Columbia. And that's in the middle of the winter. So it was quite challenging. You can imagine. You can imagine. But yes. But we did that. And the only way that's possible is not relying on utility upgrades. And, so they've been very pleased. We've done this across the country. We continuously go out to retailers and we say, you don't need to go through this complex and time-consuming and costly utility infrastructure project. You can go with this solution, use existing power on your site, and still deliver that high-power charging too to customers. And what they also sort of need to understand and remember, is that for every one of our units that we deploy, we call 'em the boost charger, there's an embedded battery system in that system intrinsically, it actually strengthens the grid for everyone that we deploy. For every unit that we deploy, we're actually helping the grid, not hurting it. Because what we're effectively doing is flattening the demand curve instead of this peaky or spiky demand curve that you would typically see with high-power charging. We just have a constant draw all day. And it's a relatively low power draw. And if you aggregate that at scale you can now see that the utility can predict what its demand will be at any point in time. And that's actually quite helpful for the grid and it serves the lower rates for all ratepayers. So you're right with your question.

Tammy Klein (17:25):

So I wanna go back and I wanna ask you a bit later about the applications because they seem like they would go beyond charging, but we'll come back to that. I wanna ask you about how you started FreeWire because you had a successful career in finance doing your thing there, how did you go from finance to charging? What led you to jump ship and get into this space as opposed to another technology space? And, what was it like for you as a founder, coming up with this idea and then putting it together, selling it to investors, doing the whole thing?

Arcady Sosinov (18:14):

Wow. I'd love to tell you that story. So, as with any good entrepreneur or founder story, it starts, actually starts with an immigrant story. And as you can tell by my thick accent here, I am an immigrant and I was Ukrainian-born. And it's funny, I used to not be able to say that because nobody in the US knew where Ukraine was. And now I can actually tell people that I'm from Ukraine. We moved to the country in 1991. And as soon as we moved here, my dad needed to find a job. And the first thing that he could find is that most immigrants find is driving a taxi. And so I grew up from the age of five watching my dad drive this taxi.

(19:04):

And, every single weekend we would work on this car. And this car was the life for the family. It's what put food on the table. It's what, honestly, it's what put myself and my sister through college and so it was very... automotive was very important to us. This car was very important to us. And working on it every weekend was my relationship with my father. And so every weekend it would be checking or changing the suspension. I did an engine swap at 11 years old. And so that stuck with me. And everything about automotive stuck with me. And so eventually I ended up going to school, I graduated college, and I got a career in finance and my mom was very proud, of course. but, you know, I reached a point where I started to be a little bit disconnected from what I did and the work and it's interesting. We were developing models and pushing these models through an algorithm and those algorithms decided investment decisions and stocks were traded and money was moved and pension funds maybe in five or 10 years would get more money. And so that was the work. And that the

impact there just didn't seem immediate enough for me. I went to graduate school in California, and during that time I said, listen, this is my moment. I have no mortgage, no kids, and it's my moment to do something. And I've always wanted to do something in automotive. I harken back to those days working on cars with my father, but there was no way I could go into legacy automotive.

(20:48):

I could see it in 2014 when I started this project, which is now a company that there was an ecosystem forming around electrification. It was forming in the San Francisco Bay area. There certainly were no EVs on the streets of New York or Houston. But in the Bay Area, I saw something happening and I decided it was the time to make a bet. So I started doing what any entrepreneur does, which is I rolled up my sleeves, I went out and asked questions of anybody who had an electric vehicle charger. And these are mostly companies like Google and Facebook. They had some chargers, but these were some retailers as well. I just walked up and I asked questions. I said, hey, why did you install this? What are some of the pain points?

(21:35):

And the pain point consistently over and over and over again, I kept hearing was the whole utility infrastructure build-out was a pain in my rear. And when you hear that so many times, you think to yourself, there's gotta be a way to fix this. At that point, I'm not an engineer. I know nothing about batteries except for the fact that I put two of 'em in my remote control and I can change the channel on my TV. But I realized that there was something there that I figured that you could use energy storage to circumvent some of these utility upgrades. And, so I just started building a prototype the same way I would work on cars. I sort of figured it out, and I built this little prototype of a battery system on wheels that could charge people's cars.

(22:21):

And I said, could this be the solution to your answer? I went back to those retailers, I went back to those corporate campuses and actually showed them what I had built about two months after the conversation that we initially had. And, you know, then there's some emotion there. People are impressed. And this is Silicon Valley. So you see these kinds of sparks happen every once in a while and people know what the sparks look like out here. So I got some instant feedback and I got a customer who said, "hey, if you could figure this out, we'll pay you for it. In fact, here's a pre-order and we will pay and PO, go try to raise money on this." And that customer was LinkedIn for their...it was their director of global workplace.

(23:09):

So, he said, if this works, this can really solve some of our problems. I used that PO in this little demo and prototype that I had built and walked around, you know, with a tin cup and asking angel investors if they were interested. And, some were. Basically scrambled up enough money to build something real and it went on from there. When I launched the product the first time, it was a mobile charging service. It wasn't what it is today, which is ultrafast stationery with integrated batteries, but it was a mobile charging service because that was where the market was at that point. I launched on LinkedIn's campus and the person moving these things around was me. I was out on LinkedIn's parking lot every single day.

(24:00):

I would wake up at five in the morning, get to the office by six, take these mobile batteries, put them on the back of a truck, get down to LinkedIn's campus by about 7:30 or eight every morning and set up this charging service and then charge people's cars all day. And in between charging cars, I would grab a, a sport coat, put it on, drive over to Sandhill Road, which is the famous road in Silicon Valley where all the VCs are lined up, shake my tin cup, get back in the car, go back to LinkedIn, move these mobile chargers, battery integrated chargers around and rinse. And I did that for about six months before I was finally able to hire my first employee to do this. so I ate my own dog food. You know, you kind of roll up your sleeves and do everything. But nine years later now, here we are, and the company has 250 people and growing. And, we've raised \$250 million in venture capital, so that tin cup ended up being very, very large.

Tammy Klein (25:12):

Like a really big flask. It's like a big Yeti.

Arcady Sosinov (25:20):

It was not without its turmoil and those chasms of death or real in the world of entrepreneurship. And we crossed many of them but thankfully the market ended up being what I expected. Just me taking a bet on the fact that electrification would come. There was still the conversation for many years after 2014 that this was never going to be the market that it would be. And now we look forward to today, and the automotive OEMs, the vast majority of 'em committed to full electric by 2030 or 2035. They've announced \$626 billion in spending by 2030 to develop electrified engines, platforms. So <laugh>, it's, yeah. It's no longer an 'if'.

Tammy Klein (26:06):

So what specific point in time...like you started in 2014, that really it wasn't to me anyway, it wasn't clear that there really was going to be a massive...you know, Tesla was and is a game changer. And I knew that, but what was it? Because it was so early and it wasn't a given, there weren't supportive policies that are in place. Like we're seeing coming into effect. Now the consumer interest in all these things is beginning to coalesce. So what was the fact, you know, the point in time for you where you said, yeah, this is, this is gonna happen. I mean, was there something specific or, you know, like for Scott...like Scott Sharabura, he said, was when GM announced they were gonna go a hundred percent electric in 2035, and that's for him, was that point in time where he knew there was no turning back and this really was gonna be a thing. Did you have a similar light bulb that sort of gave you confidence that this was gonna really happen?

Arcady Sosinov (27:19):

Yeah. It had happened a lot earlier than that. I mean, it had to, for me to build this, but it was when I tore apart my first electric vehicle, and this was not too long after I had started the company, so it was probably 2015 at this point. I had already kind of made a bet, but it was still in the early days. But I remember getting a Fiat 500E and it was probably the Fiat 500. It's a little tiny car. And it was when the Fiat, Chrysler now, still existed, and they created this compliance car for California, and they got a hands-on one, and I just wanted to see what was inside. So weekend project, you know, put it up on a lift, tore it apart, drop a battery pack and I looked at what remained, and there was almost nothing on the ground. I mean, it was just a battery pack that was relatively simple to design at this point, a motor that looked and was effectively a souped-up washing machine motor. The same motor that we've been using in washing machines for, whatever it is, you know, many decades now. a more powerful version of that is effectively what sits in your, in your vehicle and not much else. You know, the complexity of these combustion motors with wires and pipes and hoses...

Tammy Klein (28:47):

And people overlook that it's very costly to produce on different platforms to boot. It's not cheap. Oh, yeah.

Arcady Sosinov (28:55):

And I just think about it now, imagine you telling me or telling my kids, you telling your kids one day that we used to drive around and there were thousands of little explosions that happened within the hood of the car and we had to control those little explosions. So how did those explosions happen? Well, we used dinosaurs and that concept seems crazy and complex. And when you look at how simple the platform the electric vehicle is, you start to think to yourself, simple simplicity always wins. It always wins. You're gonna be able to cost that down to almost nothing compared to where we have combustion motors. And at that point, I said, this has to win.

Tammy Klein (29:39):

So you talked a little bit earlier about your prediction. I'm gonna call it a prediction about the oil companies getting into the energy business, but now several of them have partnered with you. We talked about Parkland, we talked about P66, how did you convince them, you and your team - how did you convince these guys? Because oil company people in my very direct experience, they're extremely conservative and they're tough. I mean, they're really tough guys. So how did you guys manage to pull that off with these companies? And I know you're working with others as well.

Arcady Sosinov (30:24):

Yeah. Me and my team are the key points there. But yeah, it's everyone from Chevron and Phillips 66 with both announced national rollouts, and those deployments are somewhere on the ground and others are going live shortly to Parkland, BP, Road Ranger, RaceTrac, Rotten Robbie's, there's Circle K and a number of

others. And there are more that we're signing up every single day. And, really, there's a couple things we did. One is we decided early on that we believe the natural owner of the EV driver is the retailer, the oil and gas company specifically, but the retailer more broadly. We don't wanna be the ones to own that driver. And other companies in our space took a different approach. There's EA - Electrify America and EVGo, and their focus is on owning the end customer.

(31:20):

And we looked at, and we said, the retailers have only end customer for a hundred years now. They know how to upsell them car washes and coffee and candy bars. They've integrated loyalty programs into their retail offerings. There's this...they are the natural owners of that end consumer. So we're gonna take the approach of being a technology OEM to the retailers to help scale them up and to be a very sophisticated operator of charging and infrastructure. That was a bet that we took in the early days. I'd say it was counter-positioning. Nobody else in the EV charging space had really thought of it this way. So we counter-positioned ourselves against others in space, which by the way, is a very powerful strategy for an entrepreneur listening to this show. Counter positioning is one of the most...it's a bold bet to make the high chance of failure, but it's a very powerful strategy if you get it right.

(32:14):

So we counter-positioned ourselves, and then the market kind of proved us right. And, it really supercharged last year, as I mentioned, when the oil majors started printing record EBITDA record profits. So if you look at the market last year, the energy sector of the SB 500 was the only sector that actually was positive. It was...it rose about 57%, whereas the entire market was a 19% drawdown. So these oil and gas companies presented record profits and started putting that money back into decarbonization technologies. And by the way, they had enough money for both share buybacks and investing in exploration and decarbonization. They can spread it around. and taking that bet meant that we became attractive in the eyes of that retailer. We weren't threatening because we didn't wanna own that end consumer.

(33:14):

That's really important. That's key to a retailer. They have some history with other companies that have come in and said, "oh, we're not gonna touch the end consumer." Then they touch the end consumer. And so there's a little bit of, "do I have to really believe that I keep the end consumer and you just handle the technology piece?" And so we had to prove that out effectively. And then we developed a technology that had specific and significant value propositions for these small retail and fueling sites. You know, the fact is these small fueling sites don't have this space to install a new utility transformer on their site. They might have a small transformer right in the back, but they can't install. There's just not a large enough amount of land there. They don't want to give up parking spaces to put new switchgear and power distribution panels. They don't want to dig up the forecourt. The fact is...

Tammy Klein (34:19):

Which is very, very expensive to do, by the way...

Arcady Sosinov (34:22):

Very expensive. And frankly, I don't want to expose what's underneath. I don't know what's happening with the tanks down there. I just don't want to, I don't wanna open that up. Scrutiny. And so developing a technology that didn't require that that big build-out on the site didn't require you opening up the forecourt, that doesn't require any new utility infrastructure to be deployed on-site, which they don't have space for anyways, was just a really unique value prop combined with our approach of saying, "you own the end customer." We give you the technology, we help scale you up. That was a really compelling value proposition to these folks. With a couple of 'em, we've even taken another step. So we've said, "listen, we know the holy grail for you is to be able to go from selling electrons to tracking that consumer and their purchasing habits within the store.

(35:13):

And that kind of retail integration, that integration with loyalty programs, that's a key that isn't quite there in the industry today." So we worked with one of our top retailers, Parkland, and to do this actually, so we integrated our AMP platform, which is our software management platform with their consumer platform, which is called Journey. And that integration allows 'em to track what's happening throughout the value chain for that

consumer as they're charging all the way to capturing the rest of their share of wallet. So that's really key. And it's kind of a first-of-its-kind integration. And we plan to do this with more consumers, but you can see every step that we take is how do we make our consumers, or sorry, our retailers more profitable and how do we help them become even better? Operators are charging infrastructure.

Tammy Klein (36:10):

So you talked about at the very beginning you know, being an energy storage or energy company. So to me that implies that perhaps there are applications or potential applications or, or other commercial pathways beyond charging. Is that true? And if so, can you talk about what kinds of things you guys might be thinking of for the future?

Arcady Sosinov (36:41):

This is our little secret, but not so little anymore. So yes, we're fundamentally a vertically integrated energy storage company. We make battery packs.

Tammy Klein (36:53):

You've proven you could do it and in a difficult place.

Arcady Sosinov (36:55):

We make power electronics, we make battery packs, we make energy management software that's fundamentally what we make now that happens to be used in an application to deliver ultrafast charging for EVs and that's great. But fundamentally, every single day, , what we're deploying on customer sites is a large format battery and our goal as a business is, of course, we're happy to solve the pain points of ultrafast charging, and we're happy to scale retailers, but there's so much excess capacity in all of those batteries that we've deployed and aggregating all that capacity. And yeah, being able to use it to part, to provide grid services is a really lucrative business model. So we're starting to reach the amount of deployed capacity in certain market geographies.

(37:52):

Where we're a pretty important player in that geography. I mean I keep harking back on this, but British Columbia. We're the largest deployed battery in British Columbia. And even better, we're a distributed battery. So not only it's not just in one place, it is the largest battery and it's also distributed. And in many of the markets that we're in, we're either already or one of the top few largest batteries in that market. Now what we have to do is convince our retailers that it is valuable for them to aggregate that capacity that they own. Cause remember, they own the asset. Aggregate the capacity that they own into this central platform of ours, because it's gonna provide them some sort of value. That value of course, is money, right? It's either savings on their utility bill or it's a new revenue stream from grid services that they didn't have before.

(38:46):

But if they do believe that and basically allow us to use some of that excess battery capacity and aggregate that, then every party wins. They either get savings on their utility bill and a new revenue stream - the retailer does. The utility gets all of this new distributed energy storage capacity that they can leverage to lower their costs. And then FreeWire gets a revenue stream as well, because we're gonna capture on both sides of this market, we're gonna capture something totally. We're gonna capture something from the retailer. So it is really a win-win win. And I truly believe the holy grail for distributed energy resources or DERs as they're called, the holy grail is energy storage. I mean, energy storage fixes all. Because what we fundamentally have as a problem with our aging grid, the fundamental problem is the mismatch of supply and demand.

(39:43):

It's an age-old problem. Mismatch of supply and demand. The utility doesn't know how much energy to produce or generate at any given time because demand is unpredictable. Either everyone's turned on their air conditioners, everyone turns them off, it's hot one day, it's cold one day, all these electric vehicles plugin. So the mismatch of supplying demand is the problem and energy storage just fundamentally solved that. So you know, it's, I think it's really, people don't really realize about that, about us as a company. I mean, you're unique Tammy, and you're quite well-educated about this. But, the end goal for FreeWire is to really announce ourselves and become this really vertically integrated energy storage company. EV charging is just that kind of

Trojan horse for how we get the batteries on site but then managing all that battery capacity at a real scale is what becomes incredibly interesting.

Tammy Klein (40:41):

Yeah. And I think that kind of differentiates you guys as well because I don't know that, I don't see other companies doing it like that or doing it at all, doing that at all. And it really gives you...it's not just about the added revenue stream and growth, it's just about the... as you grow the company diversifying the portfolio and further ability to scale up. In other words, you are not subject now to the whims of how many consumers buy an idea. I think there's going to be a lot of them, but there's sort of like a, I don't know, like an insulating diversifying factor there that I think is gonna serve you guys well.

Arcady Sosinov (41:28):

Yeah. Yeah. So the utilization we'd love for utilization of EV to be high. But it doesn't need to be in our case, because there's so many other value streams that a battery can provide...

Tammy Klein (41:40):

Exactly.

Arcady Sosinov (41:40):

...a retailer and so that's right. I mean the market for energy storage is only going to grow. We are a bit insulated compared to others in the EV charging space. And really, it hearkens back to what I said earlier about the oil and gas players kind of wanting to move upstream and own more of the value chain from the utility. This kind of cold war happening between oil and gas and the utility. Some of our customers that are the more sophisticated super majors have realized that to deploy battery storage on their sites actually creates, gives them leverage against the utility.

Tammy Klein (42:24):

Yeah.

Arcady Sosinov (42:24):

I mean, it's kinda like that age-old, you know, if you owe the bank a little bit of money, they own you. If you owe the bank a lot of money, you own them. So, if you own a lot of storage capacity in a utilities kind of area, then you effectively can demand things from the utility. You can say, I want to create a customer rate structure, and that rate structure is gonna be flat and it's gonna have a low pricing per kilo hour. You flip the balance of power in that equation. So, one of our largest customers and one of our largest investors, and this is public, is BP. BP is quite sophisticated. I mean, one of the most sophisticated in fact, and they understand the value of having battery storage on all of these sites. And they understand that they need to create leverage and control using these batteries against the utilities. And so that's another really interesting factor that I think is not evident at first site, but I think you understand,

Tammy Klein (43:30):

One of the last questions I wanna ask you is how do you see EV charging...back to EV charging... evolving over the next 10 years, as well as sort of the EV market? And one thing that I want to ask is, do you foresee consolidation in the charging space? So what do you think it's gonna look like, especially as NEVI funds come down? The Inflation Reduction Act is on its way to implementation. How do you think this all will affect the charging space? And, how do you see the market, you know, consumer uptake for EVs evolving over the next five to 10 years?

Arcady Sosinov (44:17):

Well, let me be direct that consumer adoption of EVs will come when the charging process becomes more simple and more reliable.

Tammy Klein (44:29):

And it's, and it's not and the reliability is shocking to me. It really is. It's like really bad.

Arcady Sosinov (44:35):

No, it's really bad. Yeah. I've been driving EVs exclusively now for almost 10 years and so I've, again, I've eaten my own dog food and I don't have home charging. I live in a multi-unit dwelling here in San Francisco. So I street park and I charge in public for 10 years. So, trust me, I know better than most what it's like. and it is. It is horrible. And, we're doing everything in our power to fix that. I think we have better than industry reliability and better than industry and quality in our systems, but it's still not good enough, not good enough to my standards. And so there's a lot of work that needs to be done to the industry to make sure that every time you go, you can plug it in and charge.

(45:21):

And some of the issues, they're ourselves shooting itself in the foot. And some of the industries, some of the issues are the regulator shooting the industry. And as an example, you saw recently Tesla said no thanks to California's free money because we don't want to install payment systems, physical payment systems on our Tesla superchargers. I can tell you for a fact right now that those physical payment systems, those card readers, that, you tap, swipe, dip, they are an incredible pain point for the industry. It's shocking how poorly they work and how poorly they can handle transactions. So, you know, that's one, just one tiny little example of...

Tammy Klein (46:11):

Yet the state persisted...

Arcady Sosinov (46:14):

The state persisted, and they're all prone to breakage. I can tell you, they break all the time because they have a hole where you can insert something. I mean, you know, the water's gonna get in and dirt's gonna get in, they break. So there's issues with the industry that has to get resolved. And I believe it's moving in that direction, but there's still a long, long way to go. And then I do see consolidation in the industry happening. A hundred percent. I mean, and it's gonna happen a lot faster when it starts, it's gonna be a lot faster than anyone ever expected. You already see some of this. Shell bought Volta. You know, someone needed to buy Volta. So it was, Shell stepped in and purchased that asset, which was a good deal for them.

(47:03):

But even years ago, BP bought Chargemaster, which is now BP Pulse. Shell bought Greenlots, which is now Shell Recharge Solutions. You have EV Connect was just purchased by Schneider. SK purchased Evercharge and you're gonna continue to see this happen. So the big guys are stepping in the big players who said, "that's it, I've seen enough. Let's go." And they're investing billions of dollars into buying up different parts of the value chain of charging. By the way, the value chain of charging super long is one of the most complex and widest things I've seen out there. There's everything from hardware to software to networks to on-the-ground field support maintenance companies. There's just, there's so much there. So they've come in, but there will be a few pure-play kind of charging companies who break out of the mix.

(47:57):

And these are the companies that are well-capitalized, have differentiated technologies and business models, and have some level of scale. Hopefully we're one of those. You know, I think we're differentiated enough and we're scaled up enough that we certainly have the ability to break outta the pack, but there will be consolidation and we've done so that consolidation ourselves. I mean, we announced an acquisition about two quarters ago. We announced a company called...we acquired a company called Mobilize, that uses AI to determine what the best sites are to deploy charging and what those cash flow forecasts look like. And, and we'll continue to do it. But the consolidation will be fast and furious, and you're gonna be left with a handful of companies in the space.

Tammy Klein (48:45):

So last question - really last question. Quick question. What excites you most about this space and why, especially, I mean, you've been around for a long time, started out in your dad's garage, so to speak, working on cars, left finance to start this company. It's doing well. You've seen so much more yet to come. What's been the most, most exciting thing about it all?

Arcady Sosinov (49:18):

There's been a lot of ups and downs since we started the company. It, again, it was so the industry as a whole it wasn't evident that electric vehicles were a thing until really 2019, 2020. And I was pounding the table for five, six years before that. But what's most interesting to me about is what electrification could enable. So I think it's pretty clear at this point that driving an electric vehicle is more cost-effective than driving a combustion vehicle. And what is that? And, by the way, it's a simpler vehicle, so insurance rates should come down on the vehicle because of its simplicity. maintenance certainly is almost nonexistent. What really enables is it enables people to live in different places and live further away.

(50:12):

And I think combined with this kind of remote, Zoom culture that's formed, I think it's gonna change cities. I think if you, if it's not as expensive to drive an electric vehicle, would you be willing to live 20% further away, 30% further away? I've always kind of thought about how that cost of that in the energy we have the levelized L COE, a levelized cost of model, maybe there's a levelized cost of the mile. How when that drops pretty precipitously and pretty quickly how that changes consumer behavior. And that's really what I'm trying to figure out. I think what some of the retailers are trying to figure out as well is how does consumer behavior and traffic patterns change? I predict it will. people will live further out because it's gonna be cheaper to get to work. I believe that with the rise of autonomy, and I don't mean full autonomy, it doesn't have to be the self-driving car. But the fact is, I can get on the highway right now in almost any vehicle and take my hands off the steering wheel and it's gonna get me to the exit on the highway where I need to go. Do you know what a relief that is?

Tammy Klein (51:18):

Right? I'm waiting for it. Yes. It's a crapshoot driving where I am. I mean, you just never know. I mean, you could have an alligator spring out at you, or you could be hit by an older person. It's like anything else.

Arcady Sosinov (51:28):

Yeah, that's true. But in Florida specifically, I mean, it's wide, wide lanes, open highways, bright and sunny. There's not extreme weather conditions usually. Sometimes there's very extreme, but usually not. Not that often, but it's the perfect place for it. And so I use it every single day. And, you know, it's a de-stressor. I'm willing to live farther because of it. And I think a lot of people are gonna see that. And I think that, and our entire, our cities are gonna change dramatically. One thing that, and I'll end with this story, is - I was in London and I was driving, actually, interestingly enough I left a meeting with BP and I was driving back to my hotel and I'd get in a black cab. And these black cabs were formal. These diesel vehicles. And they kinda shook and they kinda made a noise and a grumble every time you got in them. And now they've come in and they've alleged five, many of these black cabs, a company called LEVC. And so the cabbie he's chatting with me. He's talkative. I tell him that my father was a taxi driver for 26, 27 years. And so we have a little bit of connection sparked up there. He tells me he's a Cleveland Browns fan, I believe, or not. And then couldn't believe it. Couldn't believe it. And we talk about that a little bit. And I ask him, "hey, how do you like driving this vehicle?" And he goes, "you know what? I didn't expect this, but, you know, every day when I was coming home from work after driving my old black cab, I would be tired. I would have that smell of fumes of diesel, that I would have a headache. The vehicle shook all the time because it's diesel and I'm driving 14 hours a day, and I could feel the aches and pains in my shoulders and in my back, Driving this car. I come home and I'm not tired anymore. I don't have headaches. The car is smooth. And just that, those micro-vibrations, they don't affect me anymore. My wife tells me that I'm happier more generally, you know, awake and less tired when I come home."

(53:37):

And when I heard that, I thought, oh my God. You know, we think EVs are great for regular consumers like you and I Because they happen to be more cost effective and cooler. But for the people that operate vehicles professionally, who made that a career, the fact that they can come home less tired, it's a game changer. That's when I realized that what we were doing was really, really worth it.

Tammy Klein (54:07):

Well, Arcady, thank you so much for being on the show today. It was a real treat and pleasure to talk with you and hope you come back, especially as you guys continue to grow and scale up.

Arcady Sosinov (54:17):
Thanks for having me, Tammy.