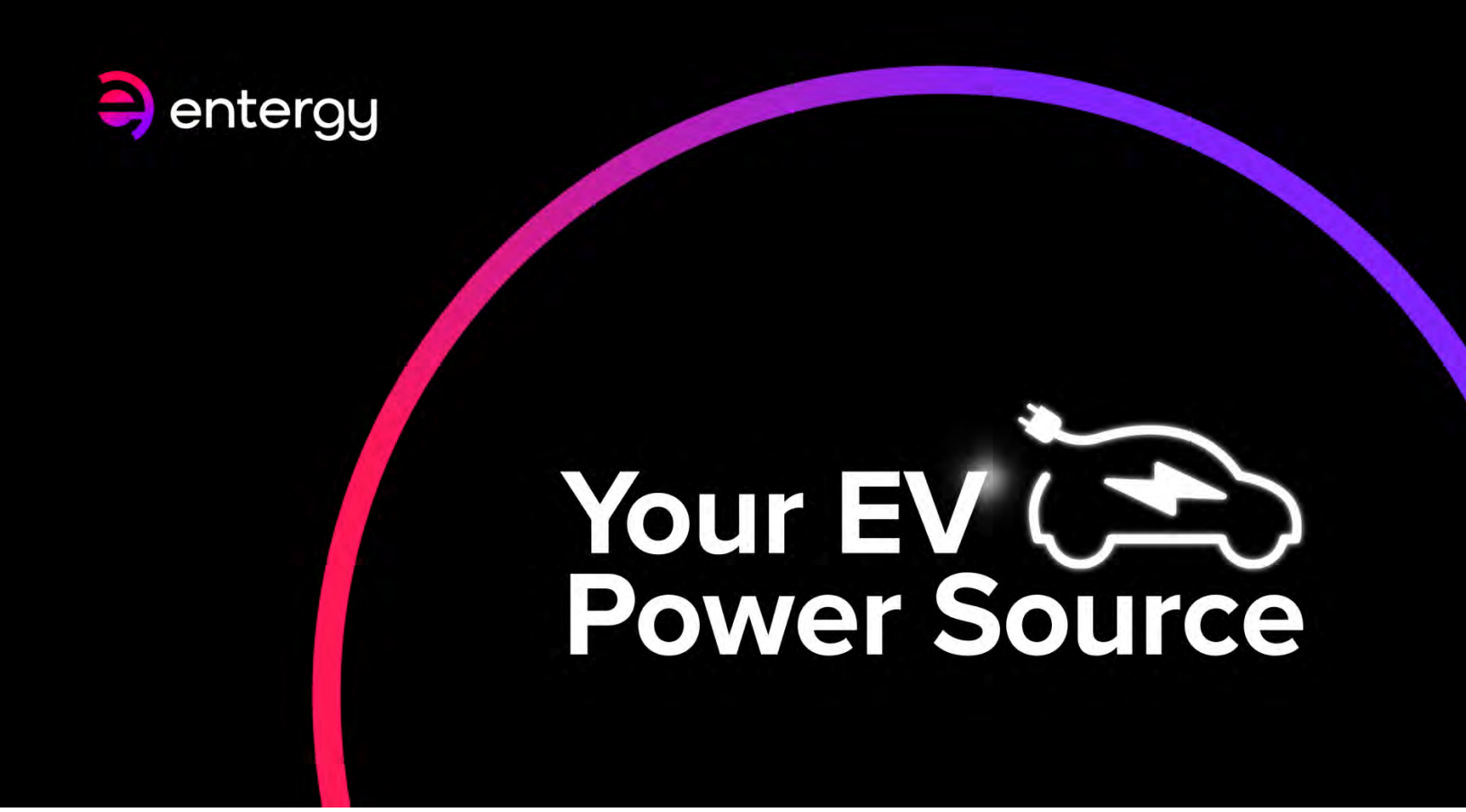

Episode 3

EV myth: “There’s nowhere to charge your EV”

In this episode, hosts Scott Barrios and Amy Flower are joined Jeff Cantin, president of Solar Alternatives, to debunk the concern that there’s nowhere to charge your EV. i discuss how to plan long road trips with an EV, advancements in EV charging infrastructure, and how the National Electric Vehicle Infrastructure (NEVI) Program is powering up America’s EV future.

Solar Alternatives provides clean energy systems and management solutions, including solar and battery storage design, installation, and maintenance.

Mentioned in this episode:

Entergy incentives for Level 2 or DC Fast chargers – Entergy eTech EV Incentives
Electrify America charger locator
ChargePoint charger locator map
ChargePoint app
National Electric Vehicle Infrastructure (NEVI) Formula Program
National Alternative Fuels Corridors information

Connect with EV owners and test drive an EV in your area at a local Drive Electric event
Connect with other EV owners and enthusiasts:

- Mississippi Facebook EV group – EV Mississippi
- Louisiana Facebook EV page – Drive Electric Louisiana
- Louisiana Facebook EV group – Louisiana Electric and Hybrid Vehicle Alliance
- Louisiana Facebook EV group – Northshore EV Club
- Louisiana Facebook EV group – Tesla Louisiana - Owners and Enthusiasts
- Arkansas Facebook EV group – AR EV Owners
- Arkansas Facebook EV group – Arkansas EV Club

Connect with the guest:

Jeff Cantin on LinkedIn

Considering switching to electric:

Calculate savings, find chargers near you and learn about more resources to help make switching to electric easy on emobility.entergy.com.

Important sections of the conversation:

0:00 – Intro
1:20 – What it's like to drive an EV
2:40 – Planning for road trips & finding chargers
5:04 – What happens if an EV runs out of battery?
5:51 – Hypermile
7:19 – Charging at home
9:49 – How long it takes to charge at home
11:12 – Charging on the go
14:35 – Why people are concerned about the lack of EV chargers
15:57 – New innovations coming with EV chargers
18:13 – EV charging and overloading the grid
19:49 – Who decides where public chargers are installed?
21:07 – Attracting more business by adding a public charger to your location
22:44 – NEVI
24:14 – National Alternative Fuel Corridor Program
28:15 – How easy is it to use a public charger?
28:25 – Considerations for installing a home charger
32:10 – Faster EV chargers
34:06 – True or false?
36:22 – Test drive an EV

Transcript:

Jeff - 00:00:00

It is interesting to see how it's changing and what's definitely what's coming down the pipeline. The charge rate of the chargers, even the standard chargers that you can get at home and for workplace, those are getting faster, which is nice because the vehicles get a little bigger, and as the trucks come out and the batteries get bigger, it's nice to be able to charge those a little faster. So having some higher amp chargers is really nice. That by itself, even though that's not a big technology improvement, it is very nice. But the ability to see the status of the charger, for it to send you a notice, if it's having a problem of some kind, to get that so you don't wake up in the morning to find there was a problem. That communication is improving a lot and that is interesting.

Scott - 00:00:58

Joining us today is Jeff Cantin, the owner and president of Solar Alternatives. Solar Alternatives is a solar and energy management firm that provides clean energy systems and management solutions, including solar and battery storage design, installation, and maintenance to commercial, industrial, utility, and residential customers. Jeff, welcome to the podcast.

Jeff - 00:01:19

Glad to be here.

Amy - 00:01:20

Yeah, welcome, Jeff. Today, we're going to talk to you about the new age-old concern that there's nowhere to charge your EV, and it's one of the biggest frictions that drivers have. Before we get into the topic, you're a proud EV owner. I think you've had a couple in your day. Tell us what you like most about EVs.

Jeff - 00:01:36

Wow, yeah, I have had a couple. I remember back in the day, it was the little Mitsubishi i, which is a tiny little car, and then the Nissan LEAF, the Tesla, and now the Rivian. And somebody that's coming from my background that's a little more like more engineering or technical, but also likes cars, there's a lot to love about them. I mean, the driving experience is indescribable. You have to be in a car, you have to be in these cars to understand it. And then the technology, there are things you can do in an electric vehicle you just can't do in a gas car.

The technology that they can put in them. So the experience, I think, is very much when you're driving it. For me, at least, I get spoiled with them because the experience of the acceleration and the smoothness is just not something you find in a gas car.

Amy - 00:02:19

They're so quiet, too. It's so nice.

Jeff - 00:02:21

Oh, yeah.

Amy - 00:02:22

Not all that noise. I think we described it also earlier as driving a cell phone. There's just all this functionality that you didn't use to have because it's now a digital electric experience.

Jeff - 00:02:34

That's exactly how I describe it. When people ask what it's like, it's like, well, it's pretty much a cell phone on wheels.

Scott - 00:02:38

Yeah, exactly.

Jeff - 00:02:39

Exactly.

Amy - 00:02:39

Yeah.

Scott - 00:02:40

Somebody who's owned a lot of different cars, and we've talked before, you've done some long road trips as well, too, across the country and even around the region. How do you plan for those journeys, and how do you find chargers? Talk us through that journey that you go on.

Jeff - 00:02:55

A Good question. And I toot my horn, but in 12 years of driving EVs, I've never ran out of battery. And it does take a little bit of planning. You have to think about almost like you're going to have your cell phone for the day. You think about where your charger might need to be to be able to charge it up. You need to think about the same thing for the car. So if I'm going cross-country, which I have a property in Utah, so I'll go from New Orleans to Utah, the apps, there's a few of them that will tell you where the charging points are. Sometimes you have to check a couple of them. You have to check one to give you the route and one to make sure the charger is what the status of the chargers are. And that has been improving over time in my experience. And the route, though, is very predictable. It tells you where to go, how long to charge. The apps will even give you a sense of how the weather impact is going to be on your driving, something that I never experienced in a gas car the ability to do that. So it's pretty interesting to know, to be able to get from here to there, what the impact on my range is going to be.

Amy - 00:03:52

Yeah.

Scott - 00:03:53

Yeah, like someone who also drives a lot, too, with my car, like, I love it because you put in the exact type of car you have into that because it's the battery size that you have. It'll tell you even how fast to drive because that has impacts on the battery as well, too. And what I love, it's like, okay, you're going to get here at this time. You need to charge for this amount of time. You might not need to charge 100% or 80%, whatever it may be. Hey, you might only need to get to 65% and that will get you to the next stop. And that stuff, it's faster to do that than constantly keep going up. Because also the battery charges faster when it's, you know, at a lower percentage as well, too. That's kind of one of the nuanced things that people learn. But all these apps and things do this calculation for you. That's the beauty.

Amy - 00:04:34

Even the car itself, right? Some cars do that for you themselves.

Jeff - 00:04:37

Well, it builds your habits, right? So your car tells you when to do it. And then the habit of plugging it at home or plugging it at work or remembering to top off, something you kind of do inherently. In a gas car, when you're driving around, you might think to top off, but when you're in an EV, you have that opportunity to charge at home. So it becomes more of a habit of, let me make sure I keep a good, healthy range in the vehicle, and that's what lets me have the confidence to go wherever I need to go, at least.

Scott - 00:05:04

And you mentioned you have not ran out of battery yet, but forbid something happens. And what would happen if someone did run out of battery with an electric vehicle if that did happen?

Jeff - 00:05:15

In my experience, and I've had friends that have had that happen, but if they run out of battery, typically the worst case is I've seen like a Tesla will get towed to a Tesla supercharger, and then it'll boost it up and it'll be on its way. But really, when you think about what it takes to empty a battery, the cars don't just kind of conk out and go to zero. They give you a pretty good sense of like, here's your status. Here's when you need to be charging. You're getting close to the end of the range. Go ahead and charge. So there's very rarely like a surprise that you're going to need to charge. And I've found that the ability to hypermile, right, to actually extend the range that you do have.

Scott - 00:05:51

What's that term?

Amy - 00:05:52

Hypermiling?

Jeff - 00:05:53

Hypermiling, yeah.

Amy - 00:05:54

Expound upon that.

Jeff - 00:05:56

And I always try to think of analogies with gas cars. And I haven't found an equivalent to Hypermiling. But if your car tells you you have 50 miles left, say, on it, that's assuming 50 miles of the way you've been driving typically for the last 150 miles, right? So it's trying to extrapolate what you're going to have in mileage. But in reality, your driving can dramatically change the efficiency of that last 50 miles of range. So I've had experiences where I've been in LaPlace around New Orleans and had to travel to Harahan back to my office. And it's about, I think it was about a 24-mile run. And I think the battery said I had eight miles left in it. And I still got back to Harahan. But you had to use very good practices, drive slow, brake slow. And you actually can extend that range. So you're never really trapped in your range, your habits, what devices you're running in the car and the vehicle, the accessories can have a big impact on that.

Scott - 00:06:50

Fascinating.

Amy - 00:06:50

I'm

Scott - 00:06:50

sure you were feeling it when you were doing that.

Amy - 00:06:53

I know, I don't have so much anxiety just hearing about it.

Jeff - 00:06:55

No, it actually is not anxiety. It's a comfort knowing that no matter what my range is, as long as I'm in the reach of where I need to go, I can adjust my habit a little bit and still get there just fine.

Amy - 00:07:05

It's like it might take a little getting used to as an easy driver.

Jeff - 00:07:08

It's a little bit of a learning curve there. But it's a valuable one because it's something you become very aware of your energy use in the vehicle. You never really feel constrained by your range in that sense.

Amy - 00:07:19

That's great. So a second ago you mentioned home charging, charging at home, you do it every night. Can you talk about that more? I think research says about 80% of charging is done at home for EV owners, which in my mind means that's really where it's happening. You're leaving with a full charge every day. But what is it like for somebody to get a charger installed at their home? Is it difficult? Is it expensive? Who do you work with? What was that process like for you? I think you do that probably for people. How is that?

Jeff - 00:07:49

We do it for people. It's kind of cheating to do it for myself. But we do do a lot of installations of home chargers. I have a charger at home, and it can very good bit. A lot of folks have an electric panel in their home that's close to the driveway, so it tends to be pretty easy to put a charger. And whether that's an actual electric vehicle charger where you've got a cord on it that you can take and plug into your car, or just an outlet that the charger that comes with the car can be plugged into, 80% of the time it's not a lot of work to actually put that circuit in. It might be the equivalent of an electric dryer circuit. So, if some people think you've got to have this big device attached to the house, but it really is a fairly standard electric circuit. And the effort involved is usually half a day for a couple of electricians to put it in.

Amy - 00:08:39

And so pretty much any electrician could come do this for you.

Jeff - 00:08:41

Yeah, exactly.

Amy - 00:08:42

Is the cost something that people should consider when they're budgeting for an EV, this as well, that they need to budget for this charger installation at their home?

Jeff - 00:08:52

It's good to think about it. It's almost always less than $1,000 to get it put in. If somebody has a very particular interest in it, they want it on a pedestal out in their driveway or something.

Amy - 00:09:02

A specific branded one or something.

Jeff - 00:09:04

A specific brand or a couple. Maybe they're looking for certain features or high amps. You can certainly, just like anything, spend as much money as you want on it. But most drivers are going to pick a fairly cost-effective route. My experience lately with a lot of the new drivers has been that the car companies themselves often provide an allowance for that. So many of the brands will provide a few hundred dollars or a thousand dollars or something towards the charger.

Amy - 00:09:29

Interesting. And there's other rebates.

Scott - 00:09:31

Yeah, and that's great. In Entergy, we offer rebates as well, too. So for Entergy customers who are installing home chargers, the level 2 stuff, they can get $250 back from Entergy through our e-tech program. So it's a great offer to kind of offset some of that cost as well, too. And in your experience, we talked about the home charging, how long does it take for someone to charge an electric vehicle at their house?

Jeff - 00:09:57

My experience being a pretty regular EV user, you're never really empty on the battery when you come to plug in. I mean, every now and then you'll be doing your hypermiling to get home. You know, 80% of your charging is going to be your, maybe your half full, and you want to get back up to 80%. And so plugging that in, it'll take three or four hours to get up to 80%. As you mentioned, you know, you don't necessarily charge it to 100%. The battery health in the vehicles also encourages you to keep it kind of around that 10% to 90% range. So to go from 50% to 90% might be three or four hours. If I was empty, it might be seven or eight hours. It's almost always overnight. You come in, you plug in at the end of the day, you wake up in the morning, you've got a full tank, and off you go.

Scott - 00:10:39

Yeah, I usually use the analogy how long does it take to charge your EV? It takes me 10 seconds. I pull my car in, plug it in, I walk in, and I don't think about it until the morning.

Amy - 00:10:49

Kind of like when you plug your phone in before you go to bed.

Scott - 00:10:50

Yeah, you don't think about it. It doesn't matter how long it takes overnight. It's going to be where I need it to be in the morning. So I have to plug it in and unplug it in the morning. It's as simple as that. And you get comfortable with it over time to make sure you know it's charging because you never know. But it's simple. It's easy to do. My kids do it for me. So they like doing it. And when you look at it on the go, what's it like as far as the charging infrastructure with accessibility, reliability, and the cost of it outside of your house? Can you speak to those terms, accessibility, reliability, and cost?

Jeff - 00:11:26

Good questions. And dividing that up into two classes of chargers, your faster chargers and then your standard chargers that would be at work or at home. The fast chargers, if I'm really on the go, if I'm going to Utah, if I'm going on a long-distance trip, you're going to pay a few bucks to charge every time you stop. And the apps will give you an idea. When you're not in your normal area, like your commute area or near your home, you're going to use the apps to find it, and they'll cost you a few dollars every time you charge up. And it tends to be, I mean, my experience is it's rarely over 15 bucks, 10 or 15 bucks, to fill up the tank, so to speak, in the car. What I find around home or around work is that you learn where the chargers are. Even if I'm not home or if I'm in my area, I know there's a charger, whether it's the ones that the Entergy in the city put in or the public chargers in the New Orleans area, for example, or other

chargers that either are pay chargers or free chargers. I learned where those are, so I'll use those. I'll know where to stop and plug into those. Sometimes they cost a few dollars. Sometimes they're free, but it's always cheaper than what I would have paid for gas for the same amount of driving.

Scott - 00:12:33

What about the reliability of those chargers? Any issues there?

Jeff - 00:12:37

I haven't really seen a lot of reliability. There are some old ones, none of the ones that we put in, but we've been putting in chargers from 10, 12 years ago. But there are some, if it's in a retail facility, sometimes they'll have to, it depends on that facility maintaining them. But as far as your home charger, your workplace charger, and a lot of retail places do a pretty good job at taking care of the charge points because it's a value for them to have people come and use them, right? And so reliability for me has been rarely a problem. Even traveling cross-country, most of the big charge sites have four to eight or even more chargers at the location. So even if you have 10% of the chargers having a technical problem, there's always some spare chargers there. So you never really run out of opportunity to charge.

Scott - 00:13:26

That's good. Any issues with, you know, you kind of mentioned... They're there. They're on the roads. As far as, like, taking those long road trips, have you felt it's been good kind of space in between on the interstates? And obviously, there's some things coming for that. How do you feel like accessing them? Like, is it easy to get to? Like, any range anxiety there?

Jeff - 00:13:47

Yeah, not too much. There's different areas. Louisiana's, I wouldn't say we're the first in the line to build out our charge network, but it's been improving a lot. And you have a few national networks, such as Electrify America and ChargePoint, some ChargePoint networks that are actually a pretty good spacing. And I want to say the most I saw between sites traveling was about 100 miles, 110 miles. That's not bad, yeah.

Scott - 00:14:10

Again, you easily have that range.

Jeff - 00:14:11

When your average range is 250, 300 miles, you know, the Rivian is 310 miles, that's more than enough extra. You can actually skip a whole site if I need to to actually get from A to B. So, and every time I travel the route that I usually take to Utah, there's a few more chargers that are being built out.

Scott - 00:14:28

Popping up all over the place, yeah. And with the federal funding coming out, we're, you know, the National Electric Vehicle Infrastructure Program, we're going to see more and more. So, it's exciting.

Amy - 00:14:35

Well, you make it sound great. So, why do you think this is such a concern for people about finding an EV charger?

Jeff - 00:14:43

You know, we're so spoiled with a very big fossil fuel distribution system, right? I mean, there's thousands of gas stations out there. So to have to plan around it, you know, you tend to assume if I drive to grandma's house a few hundred miles away, I'm not going to have to think about a gas station. You know, we do have to think a little bit about EV charging, even if it's fairly reliable to be able to get from here to there. It takes just a little bit more thought about, you know, let me make sure I know my path, right? I know what route I'm going to take. I at least always have a backup plan. So even if I assume I'm going to charge on these routes, I'm going to keep a second option in the back of my mind if I need to go charge somewhere else. I'll have an option to do that.

Amy - 00:15:21

Yeah, so it's really requiring consumers to shift how they think about fueling up. You talked about home charging. That's where they're going to probably do most of it. They'll leave every day with a full tank. But when it comes to long-term things where people might get more nervous, a backup plan is a good option, just kind of getting used to having to plan in general.

Jeff - 00:15:41

Just think about it. You know, and as you mentioned earlier, the apps are actually doing more and more of that for you. So the more, as long as you tell it, here's where I'm going to go, it'll give you an option A or option B.

Amy - 00:15:52

Oh, really?

Jeff - 00:15:53

Of how to get there.

Amy - 00:15:54

They're doing that for you. I love that. I like not having to think.

Scott - 00:15:57

And kind of speaking of that, too, as someone who's been driving this so long, and you mentioned the apps, you mentioned the chargers, what kind of technology has advanced? What's kind of come and what's coming when it comes to whether the chargers themselves, the way they interact with apps, software, how to use the chargers, how does that advance and where is it going?

Jeff - 00:16:17

Yeah, that's a good question. It is interesting to see how it's changing and definitely what's coming down the pipeline. The charge rate of the chargers, even the standard chargers that you can get at home, and for the workplace, those are getting faster, which is nice, because as the vehicles get a little bigger and as the trucks come out and the batteries get bigger, it's nice to be able to charge those a little faster. So having some higher amp chargers is really nice. That by itself, even though that's not a big technology improvement, it is very nice. But the ability to see the status of the charger, for it to send you a notice if it's having a problem of some kind, to get that so you don't wake up in the morning to find there was a problem, that communication is improving a lot, and that is interesting.

Scott - 00:16:57

It's like a smart charger talking to a network.

Jeff - 00:16:59

It's a smart charger, yeah.

Scott - 00:17:00

And you can have an app for the charger on your phone, basically, right?

Jeff - 00:17:03

And it'll integrate with a smart home. A lot of them are being bridged into smart home solutions. We do a lot of the solar battery systems, and so some of the chargers are actually tying in with backup power systems to where you can run them when the grid is out and still be able to moderate the charging so it doesn't kick the rest of your house offline.

Scott - 00:17:23

Interesting.

Jeff - 00:17:24

Some of the chargers coming out in the next year or so, also are bi-directional. And so if you're, you know, I know that people know the Ford Lightning, for example, has the ability to plug into the back of it like a generator but also has the ability to install a charger that can run part of your home, you know, if there's a storm roll through or something. So that's been very, people have a very big interest in that.

Scott - 00:17:47

Especially in this region, yeah.

Jeff - 00:17:48

Yeah, it's been in this region. And so it's a feature that I think as we get over time, I wouldn't say that necessarily will become the dominant feature of EVs because people don't want to necessarily bring their EV batteries down a whole lot. But the ability to do that as a comfort, I

think it's something that people want to be able to, if they're in a pinch, be able to run their house a little bit.

Amy - 00:18:08

Right. Know it exists.

Jeff - 00:18:08

Just to know it's there.

Amy - 00:18:09

So we'll see more models coming out with that functionality. That's great.

Jeff - 00:18:13

Could be.

Scott - 00:18:13

Yeah, I too, from like a grid readiness perspective right there too, like one thing as a utility is kind of managing when people are plugging in is very important from a grid perspective, right? We don't want to, everyone plugs in when they get home at 6 p.m., right? That could not be good for the grid, right? So managing that charging of when it's coming on and kind of so we don't overload, transformers overload generation that's having to meet with the demand. So it's pretty interesting on what's going to be happening there. So for example, Entergy in New Orleans, we have a, let's call it a carrot of people, incentivizes people to start charging later in the day. It's a great way for us through a rate design to kind of incentivize people to kind of manage their charging habits.

Jeff - 00:19:00

To shift their charging a little later.

Scott - 00:19:01

Exactly.

Jeff - 00:19:02

Yeah. And you're right about that program. I think that's really attractive for people too if they, I think they get a couple bucks for participating in that.

Scott - 00:19:08

They do, yeah. We work with an implementer and they get paid out quarterly for simply just changing their habits. It's best, it's a way to prepare the grid for what's coming and we're piloting Entergy in New Orleans and we're excited and we're very happy with what we're seeing with the results there, so.

Jeff - 00:19:24

If I'm an EV user and charging up at home and I, long as I wake up in the morning and I've got my charge, it doesn't really matter what window of time at night it did the charge.

Scott - 00:19:33

Exactly,

Amy - 00:19:34

Yeah.

Scott - 00:19:34

You're going to have, again, you'll have enough when you wake up in the morning. There's going to be plenty of time. Like you mentioned, with the higher power capacity chargers that are coming, you're going to have enough time to charge your car, so when you go to work in the morning, or bring the kids to school, it's ready to go.

Amy - 00:19:47

Yeah, you're sleeping anyway.

Scott - 00:19:49

Yeah, exactly. So Jeff, as someone who's done a lot of charging installations, both at people's houses, and commercial businesses. How is that decided where chargers go for public use?

Jeff - 00:20:01

For public use? You know, and I guess your classes of it would be the ones that are intended for universal public charging, meaning anybody can plug into it and use it, or ones that are on like a retail establishment, something that is on a private business. In the case of the private business or apartment complex or something. The business owners have an idea of what they want to do, so they're going to have a big impact on that. Public chargers, the networks, a lot of the networks are going to have their own methodology for how they decide to invest in something and who's going to use it and how much they're going to use it. We have found, I mean, I've seen a couple different models. I've seen where there's a deliberate distribution across a geographic area just to make sure they are accessible within so many miles. And then I've seen the model that Louisiana Clean Fuels used with some of the pre-NEVI work where it was used, I think it was the Program of Social
pinpoint, where they led up to the public. It's like, where should we put these? Where do you need charging? Where do you think is a good place to put the charging? And that turned into a set of recommendations about where chargers should go. So it's almost like a crowdfunding, crowdsourced way of picking locations.

Scott - 00:21:07

And I think if a business sees that, they could be like, oh, okay, people want something here. And from whether it's a retail business or it's a restaurant. Putting a charger there is a great way, as a business owner, to attract business.

Jeff - 00:21:21

Oh, absolutely.

Scott - 00:21:22

Like you mentioned, there's going to be apps showing where the chargers are at, so drivers know to go to those locations. They're going to go spend money there. They're going to go spend their time there. So it's like an added value service to get people to come to a business as well, too.

Jeff - 00:21:35

ChargePoint, one of the big manufacturers, had actually put out some really interesting information a few years ago on dwell time and EV charging. I mean, it would be kind of obvious if you're charging, you're going to hang out there and wait for your car to charge. But it actually directly improved the dwell time within the businesses themselves. And for a business, a retail business, the longer you're in that store, the more you're going to spend. It's a direct relationship. So if I'm a business and I want to attract more customers or have them hang out longer, I'm going to put something there that might cost me a dollar per customer or something for them to charge for a couple hours. And in the meantime, I've had them maybe spend another $100 there. So it's very much a good ROI from a business owner.

Scott - 00:22:15

And it's getting more chargers accessible for everyone to use them where people want them and where they go to.

Jeff - 00:22:23

And Entergy has some good programs right now for that, their rebate program. I'm most familiar with the New Orleans one, but I think there's some really attractive incentives for that that businesses have been asking us about.

Scott - 00:22:33

Correct, yeah, the same residential rebates we talked about for people in solid homes. We have something very similar for commercial customers as well, too, within Entergy New Orleans and other Entergy operating companies as well, too.

Amy - 00:22:44

Jeff, you mentioned NEVI, and I didn't stop you in time. Can you explain what NEVI is for people?

Jeff - 00:22:51

I'll make it past that. I don't know. Scott's got as deep as I am on that. National Electric Vehicle Initiative?

Scott - 00:22:56

Infrastructure Program. Infrastructure. National Electric Vehicle Infrastructure Program.

Jeff - 00:22:59

And so it's a federal program to help essentially seed the fast charging networks in the states. And so even though there are a couple of existing networks, Tesla's got its network, Electrify America and some others, we still need more. And I think people, until people have a sense that there's chargers almost as many as there are gas stations, there's always a sense of where do I charge? Even if they actually can charge almost anywhere they need to where they're going, we still need more chargers. And if the federal government's program is to help us kind of solve that chicken and egg problem of people are going to hesitate on a car until they see chargers, the businesses will hesitate on chargers until they see cars. So the NEVI Program is a federal effort to, I believe it's a five-year period. Install quite a few fast chargers along interstate corridors and then within the broader community to basically build out a national fast charge network.

Amy - 00:23:54

I don't know how much you know about it, but do you know how they're choosing those locations? I mean, you know, we talked about that earlier. Mostly it's like a site has decided they want a charger and all of a sudden there's one that exists. Or the network or like Tesla or Electrify America deciding they're going to put them in specific spots. But this is government money. How is this decided?

Jeff - 00:24:14

Well, and fortunately, there is the National Alternative Fuel Corridor Program, which tells lets the states work to designate specific, usually interstates, that are going to be corridors where if I'm driving through this part of this state, I know I've got chargers along the way there. And so those, Louisiana established those for, I believe we have one or two of them for electric vehicles right now. And then the goal of the first couple of years of the NEVI Program is to actually build out that alternate fuel corridors along most of the interstates, the primary interstates in the state. And so for Louisiana and Mississippi, at least, that's the goal. But the first two years are very focused on along interstates, building out those corridors.

Amy - 00:24:54

Right.

Scott - 00:24:54

Yeah, one trend that we've seen there, kind of looking across the nation and states, because the federal funding is flowing to the state governments, the State Department of Transportation, to do request for proposals. They'll say, like Jeff said, there's this interstate, but we know we need something between this exit and this exit, right? So, hey, who wants to put something in? So they do request for proposals, and people make applications, and saying, hey, this site, I want to do it at this site because X, Y, Z and this is going to be my cost. This is what kind of charger I'm going to use. There are certain guidelines on the type of charger, the power of the charger. And the idea is the state will choose who's the best site to meet the end state, like building out a national charging network is what they want.

Amy - 00:25:35

A concerted federal and state effort to make sure that we've got chargers every so many miles along most of our interstate highways and corridors. That's huge.

Scott - 00:25:45

Ensuring good competition with businesses to make sure we get what's best there.

Jeff - 00:25:49

And one interesting aspect of the program is I think in the first couple of years, you will see a lot of them at C-stores, convenience stores, and gas stations. But it's not restricted to that. If you think about an electric vehicle charger, especially if you're a business owner, you're essentially a gas station for electric vehicle drivers. A lot of fast food places will put one in the parking lot or a setup. I think Starbucks is putting some in. A grocery store can put them in. Any business with enough parking space that wants to set a couple of spots aside, it's really just a matter of working with the utility to have an electrical connection there, and they can put in charge stations. So that has opened up a lot of doors for how the rest of the NEVI network can be built out.

Amy - 00:26:27

Thinking more locally, you were involved, we talked about the Entergy New Orleans chargers that were installed throughout the city. How were those sites chosen? It's not a highway and corridor thing here. It's in the city. Do you know how that was mapped out?

Jeff - 00:26:42

I can tell you what I understand about how they were chosen. I think it was a lot of back and forth. There were, you know, New Orleans is divided into several political districts. And so I think one of the goals is just make sure everybody gets a few chargers. They did want to, I'm very aware between the city and other decision-makers, they wanted to make sure that they were available where they knew there were a lot of vehicles, but also where disadvantaged communities might also want to be able to charge one day. So it's pretty well distributed across the city in a lot of public spaces like next to parks or libraries and in areas where they're fairly well traveled, so fairly safe areas and dispersed in a way that can be accessible by most of the population.

Scott - 00:27:24

And you've used those chargers too. What's your thoughts from the driver's perspective on using those chargers?

Jeff - 00:27:28

Oh, while they're still free, I love it.

Amy - 00:27:32

You can't beat that.

Jeff - 00:27:32

Can't beat that. They are really nice. I mean, I have a friend that lives near the zoo, and I often go just pull up and plug into that one. The experience is really easy. There's an app on your phone for the ChargePoint charger, which is the model that was used. You tap it on there. It authorizes it. You plug in. You'll even get notifications from the app or from your car when it's starting to finish charging. And you know you can kind of go and unplug it and make room for the next person.

Scott - 00:27:58

Unplug it, make room for the next person. Good driver etiquette there.

Jeff - 00:28:01

Good driver etiquette.

Scott - 00:28:02

So from that, how long does it take when you pull up, activate on the app, plug in? How long does that whole process take?

Jeff - 00:28:09

20 seconds.

Scott - 00:28:10

20 seconds?

Jeff - 00:28:11

Yeah.

Scott - 00:28:11

Nice.

Jeff - 00:28:11

You know, if you're kind of ready for it, 10 bags of groceries, it's a little different. But I mean, if you're just plug in and go, you're going to pull up, you're going to hop out the car, open your charge port, tap your app to the device. Three seconds later, it clicks, you plug it in.

Scott - 00:28:25

You hear that click. I like that hearing that click. Back to the home charging side of things, you know, since again, a lot of people are charging at home. Can anyone install a home charger? You talked about how the process goes, works. Is there any kind of special things that people need to factor in when kind of evaluating installing a home charger?

Jeff - 00:28:41

There are some considerations. I mean, at least in areas like New Orleans and other parts of the region, the electric service to the home is important. So your car chargers are, as they're getting more powerful, they're using more power from the home. And so a lot of home services are big enough, but older homes or maybe all electric homes that people have been adding to need to be aware, they need to make sure they have the electric capacity in the home to do that charger.

Scott - 00:29:08

It's not just electric cars. Think cars that are electrifying. There's other things in the home that are electrifying as well, too. Ovens. Heating, ovens, hot water heaters. There's a lot of things that can be electrified in the house.

Jeff - 00:29:17

So just, yeah, as you say, fitting that into the bigger, like, let me make sure I've got the right infrastructure and expanding that. One of the interesting aspects of it, because every now and then as we're installing a charger, we'll do a service upgrade or something to go with it because maybe they're looking at EV charging, but they also want to do an electric heat pump. They want to do some, you know, efficiency measures. But some of the chargers can actually use a meter on the main service to the home to make sure they never pull too much energy from the panels. So even though you might have a, maybe it's a little bit smaller service and you don't want to have to spring for the upgrade yet, some of the chargers have the ability to moderate their charge so it doesn't overload the home service.

Scott - 00:29:54

Nice.

Amy - 00:29:56

Technology.

Jeff - 00:29:57

Yep.

Amy - 00:29:58

Switching gears, Jeff, you've got EVs in your fleet. I understand people who work at Solar Alternatives drive EVs. How has their experience with EVs influenced how you think about fleet management and your opinion of using EVs in that space?

Jeff - 00:30:12

We've still been piloting it. The sales team and the marketing folks are the ones that have been using them. That Mitsubishi i was very popular for events. It's the same really as a personal. You just have to make sure you're planning around. I know we've looked at F-150s. We actually have an open reservation for the Ford F-150s. For us, it's really making sure we have good planning internally for what routes that vehicle is going to run. I think as the first couple of years of Neve builds out, we'll be able to get a better sense of what routes are going to be very reliable. But it really just depends on defining the fleet operation. What are they going to do? Where are they going to go? How many hours do they have to drive at one time? So just like if you're driving cross-country, it's a little bit of planning that goes into that.

Amy - 00:31:01

Yeah, probably, I guess, even scaled up because it's a fleet.

Jeff - 00:31:03

Yeah.

Amy - 00:31:04

Interesting. When you're talking about infrastructure build-out that allows you to take more routes, what kind of timeline are you looking at or thinking about? Do you think that will be ready for you?

Jeff - 00:31:14

Honestly, I believe after the first year of NEVI projects goes in, so probably towards middle of next year, that'll be a time we take another serious look at building out a few more of our actual service fleet vehicles. Because the way we're set up, we do service and installation work, and the service fleet is more compact, so we can start there. But we pay so much in maintenance on vehicles, you know, to be able to use the EV, maintenance and fuel, to be able

to go to the EVs where our fuel costs would be a lot less and the maintenance would be, except for changing out tires, hardly anything. Except when the guys bump into things.

Amy - 00:31:52

That's a different problem.

Jeff - 00:31:53

Can't blame the EV for that. But the benefits are very strong, so we want to participate in that, and we want to be able to use the tax credits while they're there. It's a big driver for us. Just like a lot of folks who want to kind of plan out with, as the network builds out, we're going to plan our fleet build out with that.

Amy - 00:32:10

Thanks.

Scott - 00:32:10

So we talked a lot about how the charging experience is improved over time, power, things like that. What's coming next? What are the new technologies? Look at Blue Sky, wireless charging battery swap, whatever it may be. What excites you about new technologies that are coming that's going to really make the charging experience that much better for drivers?

Jeff - 00:32:29

That's an interesting question. It is nice to have faster chargers. A lot of the chargers that were in the networks that are existing are 150 kilowatts. Some of them are 350, but a lot of the newer ones they're proposing are more than that. And the vehicles can charge faster.

Amy - 00:32:46

So for our viewers at home, the higher that number, the higher the kilowatt number, the faster the charge?

Jeff - 00:32:52

The faster you charge. So as those numbers grow, the time that you spend at the chargers is less. So even though right now, even driving cross-country, the time I spend at a charger is barely enough to go inside, get a drink, and do whatever you've got to do, and then come back in the car, and you're pretty close to being charged. It's still nice to be a little bit quicker. So that's improving over time, and that's pretty exciting. And even just the little things like reliability, you see that getting improving over time to where you could tell the whole industry is trying to show this is... We can emulate the gas station experience of driving up 10 minutes, you're in and out. And I think that's where we're heading.

Amy - 00:33:31

Is there, are we headed in a direction where like charging on the road might not even be something we have to worry about? Like could batteries get so big that we don't need to charge on a road trip because we can wait till we get to our destination?

Jeff - 00:33:42

Well, there is this whole, I think the Dutch built a road recently that has charging built into the road itself. So as you're driving, you're charging your car. So-

Amy - 00:33:51

You wouldn't even ever need to stop?

Jeff - 00:33:53

Wouldn't even need to stop. I mean, that'd be pretty neat. I'd love to see somebody.

Scott - 00:33:56

Just like a cell phone has wireless charging.

Jeff - 00:33:58

Right? Just a moving wireless charger.

Scott - 00:34:00

Love that idea. Wild. I can imagine from the grid perspective what goes into that.

Amy - 00:34:06

Okay, we are ready for our rapid-fire myth-busting session of the day. What we're going to do is Scott and I will go back and forth saying a statement that we've read about online, something that people believe about EVs. We want you to let us know if it's true or false and kind of give us a little bit of background about that. We're going to try and do it under two minutes. So are you ready?

Jeff - 00:34:27

Let's do it.

Amy - 00:34:27

Okay.

Scott - 00:34:28

All right. The first one, EVs can't charge in the rain.

Jeff - 00:34:35

Well, you know, maybe it's unfair for me. I've been at it so long. I've definitely charged in the rain hundreds of times. But, you know, the EV chargers have a built-in safety feature that besides the fact that they're sealed up and they're rated for outdoor, they have a safety feature that would never let you get shocked or anything. So, not true.

Amy - 00:34:53

Perfect, perfect. There's nowhere to charge my EV.

Jeff - 00:34:57

Boy, that's a stretch. I'll say true on that. You know, there's a lot of places, you know, one of the funniest places I can imagine to charge is at an RV park. You can actually plug in. And you'll always find a place to charge.

Amy - 00:35:10

Oh.

Jeff - 00:35:10

Yep.

Scott - 00:35:11

When my battery dies, I'm stuck.

Jeff - 00:35:14

You're never really stuck. I mean, besides whether somebody brings you, you know, tows a car to a charge station or you actually have, I've seen in California, portable chargers that will come out and charge your car for you so you can get back on the road. You're never abandoned.

Amy - 00:35:31

I want to ask more, but I'll go to the next one. I need to charge my EV overnight to be able to go 150 miles.

Jeff - 00:35:38

I would say you can imagine that happening, but your car can charge up at a fast charger in about 10 minutes to also get 150 miles. Some not quite true.

Scott - 00:35:53

I'd need to have a garage in order to charge my EV at home.

Jeff - 00:35:58

Not... Are these all going to be not true? So you can do it in your carport. We've actually, in New Orleans, they allow curbside charging at residences. So you can actually, even if you don't

have a driveway or carport or anything, you can put a charger on the curb. It takes a little bit longer to do that, but you can always find a place to put a charger.

Amy - 00:36:18

Great, great. Under two minutes, just barely. Good job.

Jeff - 00:36:21

Good, okay.

Amy - 00:36:22

You made it. So we're wrapping up. We've covered a lot today between the two of you. Y'all are a wealth of knowledge, to be honest with you. So to anyone listening, final words, kind of if they're still skeptical about charging an EV and getting an EV because they can't find charging stations, what would you say to them?

Jeff - 00:36:44

My experience with EVs, I always think about a gentleman that was the top EV salesperson in California for years, and his whole theme was butts in seats. You've got to try it. You've got to get into one, take all your skepticism with you, and that's perfectly fine, but give it a try. And I think the experience of driving them, the fun of the vehicles, really helps wash away a lot of the concerns and makes it clear to people why we're transitioning here.

Amy - 00:37:12

Any suggestions on how somebody could get their butt in a seat with an EV to try it out without buying one?

Jeff - 00:37:20

The dealers are pretty good about it. There's a few good models out there, and usually the dealers have one or two on the lots. A lot of the online communities, the drivers are very happy, even if it's one of the vehicles like the Teslas or Rivian that don't have dealers per se. The drivers are very usually happy to share a ride with somebody.

Scott - 00:37:40

Like showing off those cars.

Jeff - 00:37:42

Yep.

Scott - 00:37:43

So, the last question here, what excites you the most about what's coming next in this field?

Jeff - 00:37:51

Well, because we deal with so many of the aspects of the technology, you know, the EVs, the charging, the generation, the storage and all, and even the efficiency and the load management, they're all starting to sort of talk to each other. So the way those technologies work, and the EVs are fun because they're pretty big batteries in these things. And so the way that battery can work with these other technologies and even interact with the grid, you know, there's some really amazing things happening that. As those technologies each mature and work together, you're able to do a lot more interesting, and have interesting results from them.

Scott - 00:38:29

Absolutely.

Amy - 00:38:29

Great.

Scott - 00:38:31

Well, Jeff, thanks for joining us today. This has been an absolute pleasure as always, talking with someone who's been in this field for a lot and really has put a lot of chargers in the ground. That's what we need more of, and we're excited to have you join us today.

Jeff - 00:38:46

It's been a pleasure. Thank you all.

Amy - 00:38:47

Thanks, Jeff. Your EV power source was powered by Entergy. We hope today's episode has charged your interest in the exciting world of electric vehicles.

Scott - 00:38:59

For more EV insights and resources, visit emobility.entergy.com. On behalf of the team here at Entergy, thanks for listening.