

## #77. The Future of Fueling at Retail

October 10, 2022

Guest John Eichberger, Executive Director, Fuels Institute

Fueling the Future of Transport Intro ([00:01](#)):

You're listening to Fueling the Future of Transport hosted by Tammy Klein, the founder and CEO of Transport Energy Strategies. We'll talk all about the fuels and energy it takes to keep the world moving forward.

Tammy Klein ([00:17](#)):

Hi everyone. Welcome to the show today. I am so pleased and happy to have my friend John Eichberger, the executive director of the Fuels Institute on the show today to talk about the full range of what's going out there in global transport energy. Like me, there's really not a lot of us out there that really are, cross-functional or cross-issue focused. And the Fuels Institute and John in particular had worked just like me on the full range of issues out there. Everything from low carbon fuels to biofuels to electrification, we've worked a lot together on electrification over the last few years, hydrogen, diesel you name it. So we're here to talk about that...all of that today. John, welcome to the program. Great to have you.

John Eichberger ([01:12](#)):

Thank you. Thanks for having me. It's good to be here.

Tammy Klein ([01:14](#)):

Well, it's good to flip the tables. I've been on your podcast, and I thought it was about darn time that you come on mine and talk about what you all are doing at the Fuels Institute. So before we really dive in here, can you talk to us, especially for the listeners who really aren't familiar about the Fuels Institute and what it does and what you're working on these days?

John Eichberger ([01:38](#)):

Yeah, so the Fuels Institute is a nonprofit and most importantly, non-advocacy organization. We pulled together a diverse perspective. Our board is 60 people big right now, and it's growing. You're on our board, fantastic perspective, but you know, you look at the Fuels Institute and a lot of people think fuels means liquid. I get that. But we define fuels as energy. If energy powers surface transportation, then it's something we're looking at. I mean, our board spans from major oil companies to retailers, to Electrify America to Hyzon fuel cell truck manufacturer. You name it, we've got a whole swath of perspectives. And I think it's important. And what we try to do is take a look at what are the key issues facing the transportation energy market right now. To really focus on how are we going to reduce carbon from that market. And then we figure out, okay, let's start doing some research...fact-based objective research...to figure out what are some strategies that decision-makers should be considering to achieve our decarbonization objectives. And it's been fascinating. I mean, there's so much going on right now. It's really a fun time to be part of this.

Tammy Klein ([02:42](#)):

Yeah, it sure is. I mean, it's just the whole...the full range of issues and just the complexities and decarbonization and dealing with climate change and the energy transition. And it's just...it's so unique this time that we're in. I remember when I first met you back in 1999... <laugh>

John Eichberger ([03:04](#)):

I had hair back then. <laugh>

Tammy Klein ([03:07](#)):

I had no grays back then.

John Eichberger ([03:11](#)):

And we met, everybody, when we were in like in junior high when we met. So let's put this in perspective.

Tammy Klein ([03:19](#)):

I was. I was 12

John Eichberger ([03:22](#)):

<laugh> which means was 11 <laugh>.

Tammy Klein ([03:25](#)):

Exactly. But when I first met you in 1998, 1999, we worked on gasoline. We worked on gasoline quality issues and we worked on MTBE and now, who would've thought that here we are, all these years later with this complex ever-changing world with all of these issues that are popping up like popcorn.

John Eichberger ([03:52](#)):

Yeah. You know, back then we thought the world was complicated and we were trying to get rid of MBTE. We were trying to transition to something else. We had the biofuels debates. We had the CAFE standard debates,...all these issues. And we thought, man, this is really complicated. Now we look back and just laugh. <laugh>

Tammy Klein ([04:12](#)):

Yeah. I know. It's like, now is easy! Back then....you ain't seen nothing yet. Yeah. Right. I remember those times so fondly, I actually feel it. I kind of feel like September 11th, it was a turning point, but that's another story. It was like, the world was so great. And we had the Spice Girls and we had sulfur reduction,

John Eichberger ([04:29](#)):

We may differ on our definition of what constitutes as great. <laugh> that's true.

Tammy Klein ([04:36](#)):

Yes. Yeah. I don't know where this Spice Girls thing came up from, but now I'm stuck with that song in my head. So anyway, so you know, the one thing that we've worked on very closely together at the Fuel Institute is an Electric Vehicle Council. I'm chairing that Council, I'm working with you and all the

members of the Council very closely over the last two or three years. We we've worked a lot on EV infrastructure and charging infrastructure. So what is it? What's the biggest takeaway from you that you have working on the space a lot more intensely over the last few years? Like what's working, what's not working how do you see electric vehicle market evolving in the next 10, 15 years?

John Eichberger ([05:30](#)):

So I think there's two ways to look at EVs., Look at the vehicles themselves, and what's going to happen at the expansion of the market. And I think the range of opinion is so broad. I just saw a piece come out...you may have actually sent it to me. Boston Consulting Group is saying 59% of all vehicles sold globally in 2035 will be electric. I have a really hard time believing that me too. The EU we're recording this in June, the EU just passed legislation to ban the sale of combustion engine vehicles in 2035. I have a hard time believing that's going to stick. We've got forecasts of 60% of vehicles in the US will be electric, new cars sold by 2040. I have a hard time believing that. That being said, we are on a much faster evolutionary track than we were a year ago.

John Eichberger ([06:17](#)):

And I think we have an opportunity here to really make a major transition to greater reliance on electrification in the next five to ten years. But there's a lot of headwinds. We've got chip shortages, we've got lithium mining challenges. We have all these production challenges. We've got prices for EVs were raised by many manufacturers this year. So cost parity with ICE vehicles, probably not going to be realized in 2025 as we previously thought, but we're getting more models to market, which gives consumers more options. And the capabilities of the vehicles are awesome that you drive EV is a fantastic ride. Great technology, wonderful vehicles. but I think a lot of the forecast projections, pledges we've seen are really predicated on the assumption of a perfect market. And there's no such thing as a perfect market.

John Eichberger ([07:03](#)):

So I think we're going to be kind of a rollercoaster for a while and that's going to put...my concern is it's going to put your EV passion advocates thinking that they're battling other stakeholders and it's not necessarily a conflict. It's the market is very new and anytime a market's growing, it's going to be rocky and it's going to have ups and downs, stops and starts. You're going to have companies come in and just be gangbusters out of the block and then go bankrupt a year and a half later, that's going to continue to happen. So on the EV space, I think we're going to see growth in Europe much faster, Asia, much faster. US is going to be a laggard. We have a study coming out through the EV Council looking at infrastructure, but within that, has a forecast of maybe 6% of vehicles on the road by 2030 would be electric.

John Eichberger ([07:54](#)):

But again, I still think that's kind of an ambitious target on the infrastructure front. You know, that's where we've been focused much of our time at EVC. So the Electric Vehicle Council we set up was to help answer questions about infrastructure. And from the Fuels Institute perspective, we don't care if you sell electric vehicles tomorrow or not. We don't care if you install chargers tomorrow or not. It's not our place to say what should happen or should not happen. What we're trying to do is provide resource to help people make decisions that if they choose to go that way, that that direction, they can effectively and profitably. The biggest problem we have is profitability. The growth of chargers today are being led by companies that they're looking at the long term, right? They're looking at how are we going to

capitalize on this financially in the future, we're going to take a financial hit now, install it, build up an as infrastructure. And then hopefully we'll be the dominant player in the market going forward. For your individual company that may be interested in putting a charger out. Man, it's tough to make it financially viable. There's money coming from the Feds to help with capital investment. That's great. There's money coming from the states, localities, utilities, all that stuff. But once you start getting to operations and the papers you've put together for us clearly articulate this. The operating cost of a charging station, especially a DC fast charging station is very, very challenging to make it economical. And I really think the root of that is we are now integrating transportation and daily customer transaction-level engagement with a utility regulatory system that was not designed for that.

Tammy Klein ([09:29](#)):

Yes, exactly. And including the regulations that govern the utilities that now the chargers are subject to, and I think that's the, for me, the takeaway is, oh my gosh, we have this monolithic regulatory infrastructure that is not going to...I question whether 50 state PUCs will be able to successfully keep up with the need for the expansion of charging. Like how does that work or does it?

John Eichberger ([10:01](#)):

Yeah, and I don't right now. I don't think it does and I think that's part of the problems. You're seeing a lot of political battles between the convenience fuel retail industry and the utilities. But the bottom line is the structure within which the utilities have to operate is not conducive to an EV charging market retail transaction basis. And so we need to figure out a way to evolve that, to reflect current market conditions in the direction we're going. If it's going to be a viable business investment. Now you could socialize it, make it government structure. I don't think that's the best path forward. But we need to really get serious about evolving the utility regulatory structure to make it work with site hosts and customers. Otherwise it's going to be a very slow trajectory to get that infrastructure built out the way we need it to be.

Tammy Klein ([10:52](#)):

Yeah. And even utilities are beginning to say this. I mean, it's not been apparent in maybe our world, but it's like super apparent in their world.

John Eichberger ([11:05](#)):

And you and I have been in a liquid fuels industry for...we'll say decades.

Tammy Klein ([11:09](#)):

Yes.

John Eichberger ([11:10](#)):

We'll say that loosely, loosely say

Tammy Klein ([11:12](#)):

That, we'll see, we'll say that. And then sigh very heavily.

John Eichberger ([11:16](#)):

Right. Exactly. And then call five o'clock. But you know, that market is transparent. There's understanding the refiners know how to get product to market. They know the relationship, the retailers don't always like the refiner partner, but they understand, and they work with them. We don't have that relationship in the utility world. We don't have ...

Tammy Klein ([11:42](#)):

A transparent yes. Anyway.

John Eichberger ([11:43](#)):

Yeah. And we will get there but we need to evolve to a transparent competitive market right now. Consumers can shop for the best price of gasoline, which right now doesn't exist, but they can shop for the best of gas and then a 45 miles an hour without slowing down. How are they going to make economic decisions for their budget on public charging infrastructure when we have so many different jurisdictions with different rate setting processes.

Tammy Klein ([12:05](#)):

Right,

John Eichberger ([12:05](#)):

Right. We gotta streamline it somehow.

Tammy Klein ([12:07](#)):

Yeah. Yeah. So you talked about, you just mentioned what's been happening in the EU with respect to the de facto ban on internal combustion engine vehicles. You know, we've got California, that's looking at win, lose, or draw following the EU. You have states that are looking at following...probably following California into doing that. what's the future for the ISF here in the US? How do you see the politics evolving?

John Eichberger ([12:43](#)):

So as a recovering lobbyist <laugh> I always say that because that poison never gets out of your system, you get pulled back in too quickly. My concern with ban like this, they're very political. I don't believe they're rooted in sound science and what's feasible. I don't think they're rooted in what's in the best interest of the consumer. And I think we've seen this posturing. We want to protect the climate and that's fine. I'm fully supportive of protecting the environment, protecting the climate, but we have to protect consumers too. And I think we've lost sight of that. We hear so often we need to reduce carbon at all costs. That's the most ridiculous statement I've ever heard, because if you increase cost to consumers to a point where they can't afford it, they will reject your policy and you will fail.

John Eichberger ([13:35](#)):

We have to balance the needs of consumers with the needs of the environment. And quite frankly, I would say, we need to give an edge to the needs of the consumers. People have to come first. And when we get into these all-or-nothing scenarios and all-or-nothing proposals and initiatives, we're not putting the people first, we're putting an ideology first and I really think it's dangerous. So my gut is a lot of posturing, a lot of announcements, a lot of planning that will drive some technology innovation that will drive some acceleration and market development. But ultimately we need to have off ramps. We need

to have relief valves. We need to have protections within these policies to benefit the, the people. And if we're going down a path where by 2035, you're only allowed to buy a zero emission vehicle, no internal combustion engine vehicles., what if they're not available? Or what if the cost is so out of the reach for the everyday consumer, we gotta have some protection for that. And so...

Tammy Klein ([14:39](#)):

What if everybody buys a car in 2034, an internal combustion engine in 2034, and then just holds it for 20 years?

John Eichberger ([14:48](#)):

You're looking at someone who's probably going to do that. <laugh> I mean, I love EVs and I have a plug-in hybrid and I will probably get a full electric vehicle at some point, but it's not going to be my daily driver. My travel needs are different and I don't really believe that the electric vehicle's going to suit all of my needs. And so I want to have other options. And there's a lot of people like that taking consideration. I grew up Southern California, one of the things people like to do is take their ATVs and motorcycles out to the desert. Guess what? They have several cans of fuel in the trailer with them. They're not carrying batteries with them that customers unlikely to aspire to have an EV for that trip. A neighbor of mine just bought a 44 -foot, fifth wheel, motor home, and a 22-foot diesel truck to pull it.

Tammy Klein ([15:40](#)):

Wow.

John Eichberger ([15:41](#)):

You can't pull a 44 -foot fifth wheel with an electric vehicle right now and go to Yellowstone. So I think there's got to be variability. There's got to be flexibility in these programs to accommodate what people need.

Tammy Klein ([15:55](#)):

You know, I think the thing about it too, is that I think we have lived through this before and what jogs my memory...what I'm mentioning to my blog readers this morning in the newsletter is you know, is MTBE and just states banning and the federal government Congress attempting and then discussing. And it just was ....it was really messy and difficult. And there were a lot of issues around that basically added up to was that really the best solution at the end of the day. And then the other experience is digitalization in the EU, which ironically was created by the same policy makers that are now trying to do,

John Eichberger ([16:53](#)):

And then they thought, what step it's like there's stuff coming out of tail pipe. What's that exactly?

John Eichberger ([17:00](#)):

You know, John, I was just getting ready to release a paper, looking at the carbon and biofuels. And as I was writing, reading up some of our write up on that MTBE was raised and I started reflecting after my PTSD kicked in...after I pulled myself out of the fetal position in the corner, I came back. So what did I really learn during that whole process and here's, you mentioned, we've seen the movie before. MTBE was brought in it worked great. It was a fantastic fuel additive. It wasn't supposed to be released to the

environment right below. You're not supposed to release any petroleum in the environment. But the big thing there, it was, it was declared a defective product.

Tammy Klein ([17:38](#)):

Right.

John Eichberger ([17:39](#)):

Which meant anybody who had anything to do with it was jointly severally liable so that the trial attorneys can get to the deep pockets. Asbestos, tobacco, same thing. Right. Yeah. Then you fast forward to biofuels the environmental community was all for biofuels supporting the RFS data of MTBE bring biofuels, renewable fuels, all that stuff. And then they turned once the momentum started to go ...well, but we don't like row crop agriculture. That's bad. So we don't want that as the feedstock, find something else. And they started turning on biofuels. What's going to happen when we have 40% of vehicles on the road, electric driving around batteries with let's be honest, some chemical properties that aren't the best for the environment. They took a lot of energy and a lot of controversy to extract from the earth what's going to happen when somebody sues those manufacturers and those chemicals become defective products.

Tammy Klein ([18:39](#)):

Right.

John Eichberger ([18:40](#)):

We've just seen the...you and I have seen the movie play out so many times and I don't think that these all-or-nothing proposals are contemplating that. And I was thinking about E-15...3000 stations selling it. I think it's a great product. I don't think there's low compatibility issues. Why are some in the petroleum entities so worried. It triggered what if it declared a defective product at some point?

Tammy Klein ([19:03](#)):

Right. Exactly.

John Eichberger ([19:04](#)):

That's what they're worried about. And it goes back tort reform. How are we going to change the litigation process in the United States to allow these new technologies that are actually great for the transportation market? Great for the environment. Let them thrive without this fear of "gotcha" coming down the road. We're so far away from having that discussion because nobody wants to have it but I think there's legitimacy there that we've got to really look at how our legal system is structured to provide comfort that we can embrace new options and run with them without the fear of, at 20 years from now, somebody finds something wrong with what we did and they sue us for 20 years of transgressions.

Tammy Klein ([19:44](#)):

That's the same thing that I think about too, and just, I believe that those MTBE lawsuits that started in the nineties, those product liability lawsuits, I think there at least a few of that are ongoing or were only recently ended. You know, just in the last few years, it's like, who wants to be involved in that?

John Eichberger ([20:09](#)):

Well, the Council I used to work with during those negotiations talked about, it was the class action lawyers, college plan for their children.

Tammy Klein ([20:18](#)):

And there's probably now a...

John Eichberger ([20:19](#)):

Lawsuit let's get the lawsuit that never goes away.

Tammy Klein ([20:23](#)):

Exactly. Exactly. So you mentioned biofuels, you mentioned E-15 and ethanol in general. So given what we're seeing with, with electric vehicles you know, sales, increasing charging infrastructure spreading, what do you see as the role for biofuels in the US renewable diesel E-15, sustainable aviation fuel. I mean, there's some great technologies out there. Right? Great potential.

John Eichberger ([20:51](#)):

We need to tap into it more heavily. We need to figure out a way to bring...look, there are limitations, there are hurdles, there are challenges to bring in it to market broader volumes. And we all, we are both very familiar with what those are. We can overcome them. There's a way to overcome them. We have 270 million plus combustion engine vehicles in the United States today. Even if we were to get to 50% of vehicles sold in 2030 would be electric, that means eight and a half million vehicles sold in 2030 will be combustion engine. We have to reduce carbon from those vehicles. If we're really concerned about carbon emissions and climate, you can't just sit back and wait for the white knight of "zero emission tailpipe vehicles". I'm going to throw a little carrot out there to our friends, zero emission, it's a tailpipe in zero emission. you can't wait for that white knight to come and save the world. We have to address this. And you have a potential. There's a study that we're releasing in June, there's a recognition of a consortium of ethanol plants looking at a sequence carbon capture sequestration program for several different plans that could reduce the carbon intensity of ethanol 25 compared to a hundred for gasoline.

Tammy Klein ([22:07](#)):

Yeah. Yeah.

John Eichberger ([22:08](#)):

That's awesome. But if we're only blending at 10%, the net impact is fairly limited. And so we need to think about how we change that. We need to think about how we get more feedstocks because with sustainable aviation fuel, as you mentioned, that's going to be pulling the same feedstock that feeds biodiesel and renewable diesel.

Tammy Klein ([22:27](#)):

Yes. Yes.

John Eichberger ([22:28](#)):

EPA has the ability to open up feedstock approved pathways. We need to expedite that. We need to figure out a way to allow new feedstocks, new crops, new energy resources, to be fed into the approval

process, to get qualified, renewable fuels and get them to market. We need to look at compatibility issues. We need to look at vehicle compatibility issues and how do we evolve that? And so easy. You know, when I was the lobbyist, it was very easy to use these examples as counterweights to policies we didn't like.

Tammy Klein ([22:59](#)):

Yeah.

John Eichberger ([23:00](#)):

But the reality is they're real. Their challenge is let's not use them to fight. Let's use them to figure out, okay, how do we overcome them?

Tammy Klein ([23:07](#)):

Yeah.

John Eichberger ([23:08](#)):

Just because there's a wall in front of you doesn't mean you can't go around, over or under it and at the last point you run through it. But we need to be much more assertive on that because 270 million vehicles on the road are admitting carbon every single day. And we're not doing anything to address that if we don't pay attention to the fuel.

Tammy Klein ([23:25](#)):

So here's my question to you. I 100 percent agree. And you know, I kind of feel like the industry. All the associated industries want to work on this refining industry. You know, they may not agree on what all these solutions should be and it is a fight for market share at the end of the day. But you know, I think the industries want to work on this, car companies want to work on it, refiners want to work on it, fuel retailers want to work on it, others in the industry, biofuel producers so on and so forth, truckers...everybody wants to work on this issue it seems like except the policy makers. It's like your panel, the panel that you had at the recent Fuels Institute conference, it was so good.

Tammy Klein ([24:15](#)):

It was a panel on the vehicle decarbonization. And it's like I kind of thought we talked about this later. I was like, well the, the panelists had great comments but I don't think anyone in the audience would really seriously disagree, you know? And you had attendees from the full range of the full spectrum. You had everyone from the charging companies there to refiners of all the sizes and the national labs and so everyone's sitting there and every...I think everyone's really agreeing, but it's like the who's the people who aren't there are the policy makers both at the state level, especially at the Federal level. And that's what's like where are these people at? You know, Congress doesn't seem to be terribly active or interesting. I think DOE is kind of trying, but it's...I don't know, what's your thought about this?

John Eichberger ([25:15](#)):

It's challenging because...and I'll take my snarkiness out of it because I can get real snarky about politicians, but you know, I worked on Capitol Hill and it's real challenging, especially in today's polarized political system to deliver a message that has any complexity to it. So they resort to soundbite statements, which result in soundbite-type policies. We need to decarbonize. We need electric vehicles.

That's real easy. Every politician in the world can remember those words when you start talking about, but we also need to reduce the carbon intensity liquid fuels with the 270 million vehicles on the road. And we need to think about the medium, heavy duty sector. That's a whole new animal. And we got regions where the electricity grid is not as clean as we need it to be, to justify electric vehicles. So we can only deploy electric vehicles where it makes that com ...One, you lose your audience.

John Eichberger ([26:11](#)):

And two, the politicians starts talking in tongues because they have no idea what they're talking about. And so we get backed into this policy by simplicity. And my hope is that the people in the backroom working on the legislation or the regulations, respect the complexity. And I know in many circumstances I know OTAP at EPA. I know the DOE guys, they get it, the career people, they really do understand it. And they recognize that, but they're given a tough hand. You need to achieve this objective by here because I said that on my stump speech, we have to achieve that. And it may not be an achievable objective. And that just...it's really challenging. I mean I really got out of politics because I was so tired of sitting down with Members of Congress pitching them what's going on in the market say, "you know what, John you're right. I agree with you. I can't vote for it or vote with you because I'll get hammered in the political world." It's like, then go home.

Tammy Klein ([27:16](#)):

Right.

John Eichberger ([27:16](#)):

Quit representing your people because you're not representing them, you're representing your selfless interest. And so I kind of got disheartened by it and I think since I left, it's gotten worse. Yeah. And that's unfortunate, but we need complex solutions because it's a complex market. And if we're going to negotiate the policy in the media and on social media, we've already lost.

Tammy Klein ([27:39](#)):

Yeah.

John Eichberger ([27:40](#)):

And that's the problem. I think, you know we did have a diverse group at the Fuels Institute meeting. I talked to a couple of the people who said I seem to pick up a sense of bitterness in some of the conversation. I said, well, let's put in perspective. For 125 years, liquid fuels market was the only thing that existed. And the last 10 years they've been put in the backseat, the back row of the classroom and they raised their hands and the teacher ignores them. They're bitter because they have a huge role to play. And I don't think we can really make progress. until we start looking at the lifecycle of carbon intensity because the refiners, some people think, well they produce hydrocarbon. They have no role to play in this. Yeah. They do. If you look at the lifecycle from the time they produce the oil through the transport, to the refining, to the...all of those points, have opportunities to reduce carbon emissions and they're exploring them. They're not thinking about the whole complex, the whole system and where we can make impact. They're only thinking about that last stage because that's what consumers see as consumers understand. But if we can reduce carbon from the petroleum product supply stream, why shouldn't we?

Tammy Klein ([28:52](#)):

Yeah.

John Eichberger ([28:53](#)):

But getting people to think that way is a little challenging.

Tammy Klein ([28:56](#)):

Yeah. And I think developing the incentives to help make that happen on a nationwide basis. But yeah, I, I agree with you in terms of the bitterness, but I do think that is the biggest challenge. It's actually maybe not even the technology or the market issues. It is dealing with the folks on the Hill because you're right. I mean, EPA can either be constrained by law they're implementing or they implement Executive Orders. Sure. But you know, in terms of Congressional action, they implement what Congress tells them to implement. They don't have a terribly lot of wiggle room. And so that makes it very challenging for career people, I would imagine who really are experts who maybe see what needs to be done, but can't take the action. I just feel like we're in this gridlock, other countries are moving forward with national decarbonization plans and visions win, lose or draw, whether we approve of them or not, but I feel it's going to be a state by state fight and it's going to be real piecemeal. And I'm not sure if that benefits anyone.

John Eichberger ([30:13](#)):

And I don't know what the makeup of your audience is. So I'm going to go ahead and say something here that might tick off. Some people...

Tammy Klein ([30:19](#)):

<laugh>, lot of different people.

John Eichberger ([30:20](#)):

Let's take an example about how politicians try to capitalize on things. So Governor Newsom in California announced their plan to get rid of internal combustion engines. He did it under the backdrop of wildfires and said these wildfires are product of climate change. Climate change is precipitated because we're burning hydrocarbons. Therefore I'm going to ban combustion engine vehicle sales to prevent wildfires. Now I heard that I go, wow, that's a long walk for a short drink of water. You have to really want to see that. And there's so much in between where we started and where he finished. That is hard to draw a straight line. There's no causal...there's no...you can't draw a straight line causal effect. And so if we're going to continue down paths like that, where we're going to try to politically capitalize on tragedy in order to push our agenda, that's not helping.

John Eichberger ([31:17](#)):

It's really not benefiting us. It's not facilitating an honest dialogue about what makes sense for the environment in people. And it's putting that agenda first and we've got to get out of this. And even those other countries that have to carbonization, they have an agenda. And I don't know that they're really thinking it all the way through and I'm concerned that they may not be. And you do things like the EU banning combustion engines by 2035. Like did you think about boom, boom, boom, all these different issues. We have a paper we published last spring about what do you need to be thinking about if you're going to re-ban combustion engine sales, it's a six page paper, very small font. And it's a very high level. We didn't get into the weeds. We could have written probably a hundred pages. Gotta think

about this, but that's difficult for politicians to get their arms around. But if they don't, the policies are going to fail.

Tammy Klein ([32:14](#)):

Well, we'll have to stay tuned and see what happens on the EU side. And also what happens in California. So last question, fun question. Maybe fun for me. Maybe not for you.

John Eichberger ([32:28](#)):

Slow swallow... <Laugh>

Tammy Klein ([32:32](#)):

So what excites you the most about this space and why? I mean, you were a lobbyist you decided to go and start this Institute it's going into its 10th year or getting pretty close. What's exciting about it? What keeps you going?

John Eichberger ([32:49](#)):

I think we've changed from affordable fuel, that type of stuff to, how do we reduce carbon? And I tell everybody, I don't care if you think climate change is real or not. It doesn't matter. The path is we're going to reduce carbon. There's too many pressures to say. We can avoid that. What I find most exciting is there's so much opportunity to be innovative and really push the envelope in the new technologies and new strategies and really find new solutions. But at the same time, that's my biggest concern. It seems that the politicians are driving the agenda in one direction and us leaving all these opportunities behind. And what I love about what the Fuels Institute does is we provide a venue and a forum to have conversations about these options. And we don't buy into any solution. We want to explore all these options. I mean, for example, I am still very interested in e-fuels, which is gasoline produced from electrolysis using renewable energy. My good friends in the national labs say, well, yeah, the final product's great. But it's like only 80...it's 84% efficient, John. And it's really expensive. Yeah. I get that. But today a lot of things have been really expensive in the past.

Tammy Klein ([34:06](#)):

Exactly.

John Eichberger ([34:06](#)):

And if you can have a zero carbon liquid fuel, that's drop-in ready, should we not want it?

Tammy Klein ([34:14](#)):

Yeah.

John Eichberger ([34:14](#)):

And should we not invest to figure out how to make it economically viable and scalable? Maybe it's not only for aviation. Maybe it's only for different applications, but there's so...there are a lot of bright people. The panel you mentioned at the conference. I mean, I sometimes think I know some stuff, man. I felt like I'm a moron sitting up there with those guys. <laugh> Those guys are brilliant. I don't know how many PhDs are represented up there. I guarantee you, I don't have one. So I was very

undergunned. But the fact that we have people like that, people like yourself and the people you work with pushing them trying to figure this out is inspiring.

Tammy Klein ([34:54](#)):

Yeah.

John Eichberger ([34:55](#)):

I want the politicians to see that. I want them to see that you've got some brilliant people trying to find sustainable solutions and sustainable, environmentally and sustainable. That's one part of it. But enduring the last thing, things that can take us the next 50 years, they're putting their heart and soul in trying to figure this out, give them an opportunity. But to keep closing the doors to innovation and I think that's the worst thing government can do. And so I'm really excited about all those opportunities and at the same time and trying to figure out how can I run a truck through these walls, keep getting built up so these smart people can bring us their solutions. I'm not going to come up with solutions, but if I go knock down these walls to give them the opportunity to do so, that's, what's really exciting to me.

Tammy Klein ([35:44](#)):

And create space. I think creating the space in the platform for people to engage across these different use cases across the sector. So on and so forth, I think is just so incredibly important. And there aren't a lot of outlets where you can do that these days. So I definitely agree. It is something I really appreciate being involved and also being a Board of Advisor is I think people need objective research. People need clear-eyed solutions. They need actually they need clear-eyed problem identification. I don't even know if we even have that sometimes, and then just like creating the platform to engage and dialogue and stuff like that.

John Eichberger ([36:34](#)):

They need a safe place where they can be honest.

Tammy Klein ([36:37](#)):

Yeah. Yeah.

John Eichberger ([36:38](#)):

And you know, that's the thing, our fuels conferences...the last two we've had have opened my eyes that when people feel safe, they don't feel they're going to be judged or attacked. There's so much more constructive and open about what we're trying to do and what the challenges are we are experiencing and why we need to work together to overcome them. It's fantastic. And if we could get the politicians to just watch that for half hour... put a massive spotlight of shame on their inability to do things. My God...or have those discussions. When I was on the Hill, you could still go out and have dinner or grab a drink with somebody. You do that now, that's campaign fodder or your next primary attack. It's atrocious. But we need to have those open, honest, safe dialogues if we're going to make progress.

Tammy Klein ([37:31](#)):

Yeah. Agreed, John, thank you so much for being on the program. It was great. Sorry to hit you with the Spice Girl reference. I don't even know where that came from, but thanks so much for being on the program.

John Eichberger ([37:42](#)):

I'm going to go back into my fetal position in the corner and try to forget you brought up Spice Girls. So we're good. <laugh>.

Tammy Klein ([37:50](#)):

All right. Great. Thank you.

Fueling the Future of Transport Intro ([37:55](#)):

You've been listening to Fueling the Future of Transport. This show is hosted and edited by Tammy Klein, produced by Carolyn Schnare and engineered by Alexander Nikolic. To hear more great episodes of this show, learn more and sign up for a free biweekly newsletter, visit [transportenergystrategies.com](http://transportenergystrategies.com).