Season 3.7 Karina van Schaardenburg_

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SPEAKERS

Eric Benson, Karina, Narrator

N **Narrator** 00:00

This podcast is a project of the climate designers network.

Eric Benson 00:03

Hey, this is Eric. Welcome to episode seven of Climify. If you are a returning listener, welcome back. And if this is your first time tuning in, thank you so much. What's unique about this program is that at the end, our guest provides a design project infused with climate science, climate justice, sometimes both. So make sure you stick around to see how you can help use your skills to be more involved in climate action. I also wanted to start today by thanking Hari, who left a wonderful review of the show over at Apple podcasts. I truly appreciate that and all feedback I get. So if you have some, please let me know over on Apple podcasts, or on Instagram. A few years ago, I started getting an insert in my bill from my electric provider, with these colorful infographics comparing my energy use to the average neighbor, whenever I use less energy than them, my bar on the graph was shown in green, green is good. But when I was worse, it was orange when I look at them side by side. A lot of time my billing insert showed my home in the orange. And it made me frustrated as I felt I was pretty good with my energy use. I showed this to my partner and we went on a crusade to better insulate our home and do things like install LED light bulbs. That didn't work often enough. But what did work is that we paid better attention to our daily habits based on only a brightly colored bar graph. It became a competition. But imagine if this could go further? What if we could know up to the minute where we were using energy? And how much? What if we knew the best time to do laundry to utilize the renewables in our energy grid? Well, according to my guest today, it's coming. And for many across the country, it's already here. I know that we shouldn't have to be the ones always changing what we do to draw down our climate emissions. As big energy companies still pump out coal power. But that's the hand we have and we need to win it. My guest today has gone all in on this demand side energy design problem working at Opower, a division of Oracle. She's representing the electricity solution from drawdown.org for this season, and has some great insights on how you can use your home as a means to prevent the worst of our climate crisis.

Karina 02:48

I'm Karina van Schaardenburg. And I lead design and research at Opower, which is part of Oracle within the energy and water division. And you can find me online primarily on LinkedIn these days. I'm Karina van Schaardenburg over there

Eric Benson 03:11

Karina, thank you for joining me today. I'm glad that you're here. And I have a lot of questions for you about energy and utilities and design. So hope you're ready. Yeah, I'm

Karina 03:26

excited. Those are three of my favorite topics.

Eric Benson 03:29

It sounds like that's what you do every day. Yes. So first off, you're you're at a division of Oracle called Opower. What led you there? Why why did you end up working? Or how did you end up working at Opower.

Karina 03:46

I went on a professional journey over the past the entire arc of my career to really specialize in UX research and design. So that was one arc that brought me to where I am. And the other arc was the personal passion around climate change and climate action. And until I joined Opower, I didn't see a way for those two things to come together. So my professional, my my personal passion. But I was always on the lookout for a way to basically apply my design and research expertise towards this cause I cared about and then I found this role. And it has been what I hoped it would be unity to really bring those two things together and work on really interesting problems, but also feel good about the impact I'm making in the world.

Eric Benson 04:41

So you're a climate designer.

Karina 04:43

I am very much so.

Eric Benson 04:46

Yeah. So you started off in UX design. And is that what you do at Oh power, or can you talk to us more about what your role is there?

K **Karina** 04:55
Yeah, I currently lead the design and research team, which means I'm up professional meeting attendees and strategists, essentially

Eric Benson 05:04
team teammates a good team. Yeah,

K **Karina** 05:06
yeah. And I love that part of the job is, you know, really understanding people on personal and professional levels. And you know, really understanding what makes us tick as a group. But I really spend a lot of my time thinking about design strategy and like the long term vision of our product suite and the the near term roadmap we need to put together in order to get us there.

Eric Benson 05:29
Yeah, so you didn't have any inexperience and energy before you got there? Is that correct?

K **Karina** 05:35
I didn't other than the personal passion I had that led me to read books and go to events on the side. But no, professionally, I did not have a background in energy before joining.

Eric Benson 05:47
And like all designers, do, they have to learn about the different client side work that who they're working with. And that's what you did there, I'm assuming.

K **Karina** 05:55
Yeah. Utilities are an incredibly complicated space to be working in the grid is one of the most complex systems ever designed by humanity, is it? Yeah, it's there's so much going on. Because not only is it a huge network system with all these, you know, power plants and nodes, which is the users on the other side. But it's a real time system, you have to constantly be matching supply and demand. Because if there's more demand demand than supply, then you obviously get brownouts and blackouts, they're hurt. Also bad, because that's how you blow out transformers. And so there's constant real time management happening across the grid, which

is really sensitive to, you know, what power plants are online? Who's using what, when, and how can we nudge the entire system to be more efficient for you know, the climate as well as finances,

Eric Benson 06:50

a little thing could be a huge ripple effect and the the energy grid a little bit, we want

Karina 06:56

more people to get electric vehicles, for example. But if we get too many electric vehicles behind the transformer without planning for it, they can blow that number. So awareness is a really important part of reading the grid of the future to like, have visibility into what's happening behind the meter, and how we can really help those end customers and utilities. make good choices being aware of each other?

Eric Benson 07:22

Well, I know that you know, electric vehicles are something that here in the US there's I've reading some of the statistics on it, which I don't have at the top of my my head right now. But the amount of EVs is increasing quite considerably. And I'm hoping right, maybe you can click clear this up for me that there is some planning happening behind this for that, or are we going to have a lot of brownouts in the next couple of years.

Karina 07:49

Now, there are a lot of smart people working on this and forecasting. And we want Evie adoption to ramp as quickly as possible. We need to to meet our climate goals. But you're right that there will be shocks to the system if we if we move quickly. Without that visibility and transparency.

Eric Benson 08:08

What do you find most interesting about working in energy?

Karina 08:13

Oh, so much. What's most interesting? Well, one of the things that I love most about talking to you utility customers about how they use energy is that there's so much variation. There's different user needs based on whether people are renters or homeowners based on what people have in the home. Some people have gas and electricity, and other people just have electricity. And some people have huge households, you know, with 10 plus people and other people live alone. And so how much control you have over your energy use and how much help you need from your utility in making better energy choices. And what that looks like, is so

widely varied. And so I just feel like it's really hard to get bored. Because every time you feel like you've got it sorted, right? There's another population you need to think about. All of a sudden, like you have to start thinking about like solar panels, how do those overlap with people who have electric vehicles, there's a lot of nuance to dig into that I find really fun to think about.

Eric Benson 09:19

Do you think like some of the design training you had has been helping you here? Or is it something you just had to learn? While you were at Opower?

Karina 09:28

Yeah, all the design fundamentals are the same here as anywhere else. Great need to focus on the end customer you need to use, you know, all the tools that design thinking toolkit to really tie our solutions back to who we're designing for. Right? That's like the core of what we do and what I've been focused on it every past job as well. But what's novel is just the scale of what we're working on, right our audiences. Everyone potentially who uses utility is right. So we really need to think think broad. And also just how, how fast moving the utility landscape, it's these days, things in utilities historically haven't changed that quickly. But now, with things like the IRA passing, and with climate effects really ramping up, we're seeing an unprecedented moment in the utility landscape where we really need to move a lot faster than we ever have before. And that's a really exciting thing to be working on. And it's really different for me, compared to where it worked in the past. The IRA

Eric Benson 10:34

is the inflation Reduction Act passed by 2022. What have you seen, like where you are in terms of how that's affected? Your job? Has it started to trickle in yet or not yet?

Karina 10:48

Yeah, our regulatory team has really been digging into it and understanding that the impacts on the industry, I think we're all excited about it, and are really hopeful that this can be an accelerant towards some of the measures. We know we need to get him customers to take specifically around weatherization, electrification, some of the larger actions that will really help set us up to have a more climate resilient. building stock in the future. Okay. That's, that's one of the areas where we've been taking a look.

Eric Benson 11:24

So this makes me happy that we this, that has caused a little bit of a shift in the energy industry, because it's so important to be I'm preaching to the choir here, moving towards clean and renewable energy for for our climate. And I'm glad that I'm glad it's happening.

K Karina 11:43

Yeah, we are too. Obviously, for me personally, like I want to move as fast as possible. This is just something that I care about on like, not just a professional level, but also personal level.

Eric Benson 11:55

Yeah, it definitely sounds like it was the the personal side of things. You mentioned, you were very connected or interested in being involved in climate action. Was that something you've been doing since you were in college? Or when did you really get involved in that?

K Karina 12:15

Well, I've always cared about climate change, but for most of my life, it was more intellectual or in the background, I guess. I grew up living in eight different countries. And

Eric Benson 12:28

oh, wow. Which ones? Which?

K Karina 12:32

Number? Yeah, I was born in Uruguay. And I also lived in Ecuador, Saudi Arabia, arriba, Brazil, Hong Kong, and the Netherlands is as well as the US Oh, my God. And since living in the US, I've actually lived in five states. So moved around here to

Eric Benson 12:49

you like to move around? Or is this just what's going on here?

K Karina 12:53

Well, growing up, you know, I didn't have much say in the matter, right? Yeah, yeah, my parents, my parents jobs. But you know, since growing up, I've moved for schooling for work. So never was I just like, my, I just think I'll check that place out, there was always a reason behind it, I guess you'd say I'm more comfortable with it. Maybe a difficult person with being. But I mentioned that just because a lot of the countries that I lived in are very climate vulnerable places. And so it feels more personal to me. I feel like I imagined understand the global effects of climate change, from having personal experiences living in some of those places, like the Amazon, I lived in Brazil, like that is a place I've been and I can, you know, remember being there. And other places I've lived, you know, I lived in New York City, the flooding during Sandy, right, as adults, like very close to home for me, I also lived in places that are, you know, projected to potentially become uninhabitable due to extreme heat in the future

like Riyadh, in Saudi Arabia. So for me, those things added up to really drive me as an adult in my career around 10 years ago to say, like, how can I do more? Like how can I sort of take my career that I've been building and working up through and think about what's going on in the world and do the most good I can with a skill set that I have? Yeah.

Eric Benson 14:23

Well, solutions, right. This their skill set can help there with creating solutions. And that's, that's a huge, if not, the main part of this season of clarify is to get to these practical solutions that we have. They exist and it's just like the willpower, the political willpower to to to implement them. And I'm going to read a stat to you that I got earlier this week. And if you've heard it, and if you if you can, I guess talk more about this statistic too, because it's a good statistic. So the IPCC report recently came out, which wasn't so hopeful and nice. But I read here in a study that was funded by the Department of Energy that the US will reach 80% Clean Power, which I want you to define, for me clean power this decade. And it's a lot of its thanks to the inflation Reduction Act or the IRA. And that puts the US on track for 100%. Clean energy by 2035. Is that something you've encountered in your job? And can you just talk more about what clean energy is and why we can be so hopeful now? about our future?

Karina 15:44

Yeah, I'm curious to dig more into that stat. If you want to send me some materials, I can take a look later, but we'll you'll hear some I guess the major difference in like the climate community and how we define clean energy, right, as do you mean? Do you mean renewables purely? Or do you mean carbon free and the distinction there? Are you consider nuclear right to be clean or not?

Eric Benson 16:08

And it's a good question. Yeah.

Karina 16:10

Not everyone will agree on whether that so that's where

Eric Benson 16:13

I was, when I saw a clean, I didn't see the word renewable. I got excited when I was reading this. It's from the National Renewable Energy Lab.

Karina 16:22

Okay,

Eric Benson 16:23

scratch where it came from?

Karina 16:25

Great. Well, I obviously don't know how they're defining it for the purposes of that that studied, but that is helpful. The work that I do is more on the demand side of the supply side. So I'm not very involved in how utilities make decisions around like, what is in their power mix, right? So what I do is to work with my team to say, how can we make the best use of electricity that's off the grid than gas to? Yeah, to make sure that none of that is being wasted. Like if someone is going to use a therm or kilowatt hour, have, we make sure that it's actually improving their quality of life, it's not enough to like eat or cool an empty house, right? A lot of people don't understand how their actions actually show up, not only on their utility bill, but also, you know, in their overall energy use. So just helping connect people more to their everyday actions and showing them what the end result is, can help people make better choices and make sure that like, we really are maximizing the stuff that's on the grid, and really like then encouraging utilities to move that grid to be the cleanest source as possible.

Eric Benson 17:49

And we're like the listeners here, designers everyday Americans, right, we're on the demand side of the the energy grid, right? We're obviously not unless we have solar panels in our house, we're with the demand side.

Karina 18:01

Yeah, demand side unless you happen to also work at a utility than yesterday.

Eric Benson 18:06

All right, then, then you're both and that's, that happens, right? When when you're at when you're on your job, you're leading the design team. How are you thinking about? That? I would probably say, like many audiences in the US, when you're designing your products, like, what, what kind of process are you going through? Because I'm imagining it's pretty challenging, right to create these tools? I don't know what you what you call them there for us to be to encourage responsibility and, and to see our impact.

Karina 18:42

Mm hmm. Yeah, most of what we design is communications that use behavioral intervention. So are all of our work periods steeped in behavioral science to give people the information that they need to make behavior change to actually like changed? Not just how much energy

they're using, but also when they're using it, for example, if they're with a utility that is worried about peak use like that, we have products that encourage people to use less during those peak hours,

Eric Benson 19:14

products, is it like apps or tell us more about what you mean by products.

Karina 19:20

We have a lot of outbound email campaigns that have depersonalization baked in to reach out to people with information about like their home and their energy use. So there's a lot of outbound work we do. But we also have web experiences that are designed for utilities to embed within their experiences that can help people dig into their energies and to understand like, How does my use compared to last month or a year ago? How does my use compared to other people's How does my bill down like all of these different experiences are things that utilities can buy from us and show to them customers.

Eric Benson 20:01

Yeah, I get one every month. And I think it's coming from, I have a nest, which I think is now owned by Google. And I don't know how I feel about that. But they send me this email that shows you how much I used last month and how much you use this month. And I'm, I feel like I'm the good thing is I think that makes me feel competitive. And like, I want to do less energy use less energy than the month before. And sometimes I do but if it's cold outside, you know, it's, that's tough. Yeah, it's blankets and sitting on the couch. If I don't want to turn up my, my heater?

Karina 20:40

Definitely. Yeah. Yeah, a lot of that is, like you said, a combination of personal choice and seasonal changes, which we're very sensitive to and in the world. Yeah, you want to put together. But yeah, that's, that's exactly the same type of thing that we do, except nest probably is just focused on your age back, whereas higher home, you know, new our meter data. And so we can parse out the age back and show you how that is actually trending. Like we have the ability to disaggregate to specific end users. Oh, but we also can can show how things like laundry or, or looking or

Eric Benson 21:22

you can get that detail. Yeah, oh, my gosh, I need this.

Karina 21:27

We have a very large data science team.

Eric Benson 21:30

Wow. That is it all through? Like I would say like, information graphics? Is this pretty much what you find? People respond to better? Or is it? How do you how do you show it all?

Karina 21:44

Yeah, my team does a lot around information visualization. And chart design, as you can imagine, like everything that I just laid out. It's a data point, right? Pretty charts. Right? Pretty charts. But people don't necessarily change their behavior because of the chart alone. Yeah, probably. It's a combination of the data, right? And then the why behind the data. So letting people know, hey, this is this is what you should care about here. Yeah, for this is good or bad. Like there's a sensemaking component to our design work, where we'll have the chart, and then we'll also have a gauge or a call out next to it saying like, Hey, you should feel good about this or like,

Eric Benson 22:33

hey, oh, so it's positive reinforcement.

Karina 22:36

In the case where you deserve it, right? When you put an edge, right, but I think that it's really important to have those things live alongside each other. Because if it's just the chart alone, we're leaving people up to their own devices to like, understand if they should feel good about it or not. But we actually have the information on what the population is doing at scale to like, basically interpret it for you. So we don't want you to have to do that work. We want

Eric Benson 23:03

to make you feel good. And I don't have time for that.

Karina 23:06

Yeah, as well as give next steps. So that's the third component that's really important in our communications is we never communicate data without a next step you can take so we always have a tip or a recommendation associated with the data

Eric Benson 23:19

are what that's that actually is one of my questions I had ready for you today. And that is what

actions do you really want your energy Energy customers to take? After they see what they did last month.

K Karina 23:35

It's so dependent on the person in the household because different people have different abilities. Like I mentioned before, if you're a renter, you might be more limited in terms of what actions you can't carry, like homeowner who like might be able to like insulate the attic or something like that. But there are certain things that are great for people to think about across the board. One is that the like, sort of like largest drivers of energies for many people is heating, cooling and hot water heating. Right. So thinking about that, and seeing what changes can be made. There is something that we're often suggesting to feed on our communications, as well as thinking about any, like larger structural changes that might make sense for them and their situations. Like not everyone can get an electric vehicle or solar panels, but you know, within your ability, that's the huge thing you can do.

Eric Benson 24:36

Yeah, there I mean, there's, you're living in New York City or living in a big city, and you're renting and you get this email. What or is it? Is it printed? It's you said an email campaign earlier.

K Karina 24:49

I've print reports as well. Okay. Home Energy reports.

Eric Benson 24:53

What would be like your best recommendation for someone renting in terms of what could they could do? Besides, turn off the lights when you leave the room as we hear every day at my university.

K Karina 25:06

Yeah, well, if you're a renter on a time of use rate, where you have different rates for electricity at different times of day, then being really mindful of your use during those peak hours is a big thing that you can do for the health of the grid for the climate and for your wallet. Because those incentives are all aligned in that case. So just being sure to not do the big stuff during peak hours like laundry, washer. Yeah,

Eric Benson 25:35

that's like laundry is that like around? I'm guessing peak hours around dinnertime, when everyone's getting back from work, or when our peak hours,

Karina 25:43

it does depend based on where you are in the US or the world, because it depends on your energy mix. Like for example, if there's a lot of solar on your grid, then you'll start to see more pressure on the grid when the sun goes down, right? Because they're both absolute. So that's something that happens in California, for example, other regions that don't have quite as much solar might have different peak hours where it's more usage dependent, like I mentioned, when people are coming home, and everyone is cooking dinner, and you know, I make sense writing every year, right?

Eric Benson 26:17

It is extremely complicated. And that system, wow. So do you find yourself like do you? Or do you consider yourself like a systems thinker,

Karina 26:27

you have to be to work and utilities and to be and I just feel like I'm scratching the surface myself in terms of my own knowledge. And that's what I really love about my current role is I just feel like there's so much more to learn. And I honestly work with a team of people who know so much more than I do about most of these topics. And I love being surrounded by smart folks where I'm learning new things every day, about the grid, the environment, the market dynamics, the utility landscape.

Eric Benson 26:58

Well, you'll be glad to know that later in this season, we have I have a panel of three systems thinkers coming on the show, to discuss just that, and how they work as designers and systems thinkers and what resources they use. So I'm plug in that show, but you know, definitely something for you too.

Karina 27:20

Yeah, I'm really excited to listen to it, I'm curious to learn a little bit more about where they are and how they're applying systems thinking to solving this problem. Because from where I sit, there's almost two extremely complicated system that are interfacing with each other one is the utility system, right? The Grid, right? And then the other is,

Eric Benson 27:44

people are just people. Yeah, we're not predictable. Sometimes. Yeah,

Karina 27:48

everyone is not operating on their own. They're operating as part of a system where people are talking to each other people are paying attention to their neighbors and what their neighbors are adopting or not adopting. And that affects adoption trends, like, you know, people are much more likely to get solar panels, for example, if their neighbors have solar as well. So there's like these. Yeah, exactly like of the grid, and then society that are, like crossing over and affecting each other.

Eric Benson 28:18

So keeping up with the Joneses, right, they get a new car, and you got to get a new car, but

Karina 28:24

solar panels. And we've basically productize that, because our core insight, and in most of our communications is how much energy your neighbors are using. So we make that visible to people so that people can sort of like, have that internal motivation to keep up with the Joneses. drive them towards better energy behaviors.

Eric Benson 28:46

Yeah, I used to get that we did switch our energy provider to be more into this community solar program, which I'm happy about. But I don't get as many of those, if any, we used to get a like a visual printed chart of how we compare to the neighborhood. And it made me competitive again, I was I was I was sometimes very upset about how much energy we're using compared to our neighbors.

Karina 29:17

Yeah, one of my favorite stories that I like to talk about at work is a research participant I interviewed a few years ago who was talking about how he wished that we'd stop sending him information about how he's doing compared to his neighbors. And I asked him why. And he said, You know, I'm always doing better than my neighbors, but I don't need to hear that. I just want you to tell my neighbor that he's pleased. It's true. In terms of being competitive, he was like, if you could just text all you lose again, like that would be great. So yeah, people really do get very into it. Like he said, he screenshots it and text it to his neighbor seriously, whenever he can see So he's Friends of the neighbor rate, but Oh, okay. Well, they Yeah, they, yeah, but people do sort of like turn this into like a friendly competition, we hear also about people printing out our communications or in the cases where they're getting a print report, sticking it on the fridge. So showing us the household, you know how they're doing. And when we hear stories like that, it just really goes to show how people have sort of turn this into a almost a game for themselves in a way that really does drive good behavior, which is our hope.

Eric Benson 30:36

Yeah, way back in the first season of Climify, we had on a woman named Katie Patrick, who talked about like gamification. And I do feel like she was onto something. And it seems like you're, you're kind of feeling the same way.

Karina 30:51

Yeah, I love her. You're aware of her as Yeah, she has actually a really great podcast that I listened to you as well. I think it's called How to save the world. Yeah.

Eric Benson 31:00

How to save the world.

Karina 31:01

I am a Climify listener, myself and I are you really? I didn't know that. Yeah, I love your podcast. And then I also like, Katie, Patrick's podcast, as well.

Eric Benson 31:10

Oh, perfect. Yeah. One thing that came up to me came up for me a number of years ago was I was talking to this psychology professor who's a whole other interesting character, which is the topic of another podcast, but he told me, and I've always remembered this, that it's easier to change small habit habits than the bigger ones. And I'm wondering if that's something that that in terms of the behavioral science that you're using there to motivate energy actions? Is that something that you've thought about? Or that you do?

Karina 31:46

That's a fascinating concept to dig into. And I hate to say it depends, but

Eric Benson 31:52

it depends, like, everything is right. So nuanced, right.

Karina 31:56

And one of the things that it depends on is a concept that we call internally like moments that matter. So there are certain transitional moments that people have, for example, moving into a new home, or getting a new family member, if you have a baby, or switching to community solar, for example, like in your case. So all of these moments are moments that change people's relationship with energy, and it makes them open to changing other behaviors or

habits around their energy use. And so I would say, whether it's a small habit or a big habit, like how open people might be to changing it is highly dependent on where they are in their overall journey with energy use in their utility, and whether they're in one of those transitional moments that makes them more receptive to larger change, if that makes sense.

Eric Benson 32:50
Yeah, it does. It does.

Eric Benson 32:53
Yeah, wonder what then. So the stat I read to you a little bit earlier was about it was 80%. Clean energy, which debatable what that means, by 2030. What do you see where from your vantage point, you're, you're in the you're in the weeds there, literally with working in energy out in the world? And what do you see coming up for us in the next 510 years? And don't make me cry? Because a big tears of joy is okay.

Karina 33:25
Well, there's a big push in our space around

Karina 33:30
electrification, which I think it's

Karina 33:33
because if we can move and uses towards the electric GE grid, and also at the same time green, the electricity grid, we have an opportunity to really move our energies towards more sustainable long term, carbon free futures, as opposed to natural gas, which has a ceiling in terms of how clean it can be. Right. So that's a major trend. And I think going along with that there's a trend around revisiting the building envelope. So thinking about like, air sealing insulation, thinking about, you know, just how we can ensure that, like I said earlier, like every third or every kilowatt hour is actually going towards improving quality of life and comfort and not going like straight out the window, so to speak. Right. And so the more we can do those two things, as well as really keep a focus on energy efficiency, and getting people to make choices that encourage them to be mindful of how much they're using things together really, will help us get to a better, better energy future.

Eric Benson 34:52
Yeah, I hope so. And I'm hearing your, the work that you're doing there and I'm thinking about AI and Thinking about smart homes. And I'm thinking about UX designers. And I'm wondering what your thoughts are about where you're maybe inside information about, are there products

coming, that like the nest for eggs, for example, or some of the digital thermostats, which are giving you much more like, detailed and important information about your energy use? I'm imagining them in my head because I watched so much science fiction, but I'm wondering if if it is just that science fiction or if it's coming?

Karina 35:37

Well, I think the science fiction technology we need many people in the US already have in their homes, which is their smart meters. So smart meters, or I need that. Yeah, I think you, you may have one already, based on what you've told me about your home. So it's a meter that talks to your utility about the energy use in the home more frequently than once a month. So historically, the meter would keep track of how much energy you're you're using, and then someone would come by your home and read the meter. Right. And then Bill, you forgot to mouth right? Oh, yeah. But there's no information. Beyond that, in terms of when you use that energy. So with this new metering infrastructure called AMI, that that many, many people currently have in the US and more every day, we're able to get down to the hour, or even the 15 minute level in terms of what is happening in terms of energy use the home. Okay. And what that lets us do is that lets us understand, like how much of this energy use is happening during like those peak hours where the grid is really constrained? And can we help people be really targeted in their behavior change to really focus on those times when energy is most important to reduce. And it also lets us do things like I said before, around disaggregating, to different end uses, because our data science team is able to take a look at that data about like what's going on in that home on this more granular level, and say like, Hey, this two year period, there's like, an energy use fingerprint that looks a lot like someone running a washer, and then a dryer, right? We can we can attribute that use to those to those end users. And actually give people more detailed feedback around like, what they're doing when and help understand like, which end uses would most benefit them to rethink or change. And so when you say like sci fi, sci fi future, I'm like, we're getting working nology that's currently in the home, a lot of people just don't realize the benefits there. And, you know, it's really our job to like help people understand the power behind some of the data that we're currently able to collect and report back to customers today.

Eric Benson 38:10

I think there's a lot of opportunity there for designers, even design educators in the classroom to think about projects where it's taking what you're telling us and say what would that interface look like on your wall or on your phone or on your TV or, or something that can motivate behavioral change, I love the ideas of positive reinforcement, because that always gets to me like going back to getting that gold star on my spelling assignment in third grade. So that always motivated me to do this the same next time. So

Karina 38:49

definitely. And I think you're right, that there's so much opportunity around different channels. And one of the things that I think a lot about is like what makes sense for a push channel, and what makes sense for a pull channel. Like what makes sense to provide to people where they can go in and dig in, if they're like noticing something weird on their bill, and really understand

what's going on. And then what makes sense to alert people about where they don't necessarily have to like remember to go dig in themselves. But we'll just let you know if something is weird. really rely on you concept of UX that I've thought about a lot of past jobs as well that is highly relevant here. Because people don't necessarily want to dig into their energies. So then spend their time digging in on Oh, no, when it's competing with like, the new season of Ted last or whatever. Oh, yes. Ted lasso might be more than lucky. Right? So it's, it's also on us as a utility and you know, other other players as well to be more proactive to say Like, hey, even though you haven't been paying attention, there is something going on here that like you might, you might want to look into because it's costing you a lot of money.

Eric Benson 40:10

Yeah, like, you know, washing all your clothes at dinnertime,

Karina 40:14

right? Or like charging your electric vehicle when electricity is most expensive, like that will really get you.

Eric Benson 40:21

Yeah, I can imagine if one day I have one to hold on not to charge it at certain times, because like, I guess like, I'm thinking a little bit here as the cynic. And there's some like individual versus collective actions that are coming into my mind. And so this, the sad fact is that, you know, 100 companies are responsible for like, 70 71% of all of our global emissions. And, you know, do these little individual things matter about plugging in your car, I get, it matters to your pocketbook. But I'm interested in your thoughts about that, because it's something that I hear is kind of a rebuttal from people a lot. Like, that doesn't really matter, because these companies, they're messing it up anyway. So what can you really do?

Karina 41:16

Yeah, I have heard the same thing as you. And I thought about this a lot myself before I took this job, right? Like, I'm in it to make the biggest debt. I can. Yeah, me too. And so in thinking about where to go, you know, should I go work in like, corporate sustainability? Should I go where I am? At no power, there's some other place where I can have the biggest impact. And ultimately,

Karina 41:48

I think, opower is

Karina 41:51

a really exciting place to be for that dichotomy for a couple of reasons. Like, first of all, the individual versus the society is like, not a real dichotomy, right? Because society is made up of individuals. So when you think of like, you know, should we focus on those 100 companies you mentioned? Or should we focus on individual action. At the end of the day, those companies are made up of individuals, and individuals have a lot of influence over how companies operate. And so I think that that split has maybe not served the climate community and by sort of hitting two groups against each other who like meet each other, actually, every person to care and act. And we also need to operate at a societal level. And one of the ways that we get there is to get the individuals to influence each other, which is what our products are really focused around in order to push society of the whole towards a more sustainable place. So I have a statistic actually, that's really exciting around some research that we did with the Brattle group. Thinking about, basically, from the utility point of view, like how much the supply side matters versus how much the demand side matters, because that's the individual versus collective split. In my world, right, that we're we're working within. And same thing, it's a yes. And conversation. It's like, we need to focus on the supply side. And we need the demand side, good

Eric Benson 43:20

old improv. Yes. And that's it. Yeah.

K Karina 43:23

And so the stat that I wanted to share is that the Brattle group showed that if we boost customer actions, and even just like a minor way, by 2040, we could avoid 500 and 30s, or MMT of emissions, which is the same as losing half of all US coal power plants. Oh, wow. That's, you know, just purely by engaging people on an individual level to focus on that's what you do see exactly like using behavioral science and all of the design tools in our design toolkit. And I think that that's so exciting, because that's not going to solve climate change on its own, we still need the supply side involved to strike. But the end customer piece of the puzzle is a big one. And it's one that we have the tool to motivate today, because like I said, using design thinking and all of the tools that we have at our disposal, we already know how to engage on customers. And so we need to not only like, do that, do it well, and keep innovating around that state. But we need to do that in addition to all these other things, like not one or the other.

Eric Benson 44:33

I'm excited about that. Because I do think that with some of the new things coming out with AI, that there there is some even bigger possibilities because the technology is just just really shifting more quickly than I ever thought it could. And I'm looking at from a hopeful, hopeful perspective, like you are so one of the unique things about this show is that we ask The guest you to switch shoes with me the design educator, and help us create a design project or a design class with the knowledge that you have to impact or to increase the climate action of our design students. So if you were to teach a class, or a project doesn't have to be a class, knowing what you know, what would you do?

K Karina 45:30

Well, something that I think would be really interesting for any climate science classroom to dig into, is to just focus on one of these population of energy users and say, like, what might the best engagement solution look like for them? Again, right. And you can define that any way you like, you can define that based on and uses to say, like, let's think about the best energy engagement solution for solar customers. Or you can think about income, or you could think about location, say like, okay, like, let's look at, let's look at people who are in really arid, hot climates and think about like, what information they need, if they have huge seasonal swings in their in their use. You can think about people who have like really leaky homes, or you can think about people who, for example, have huge families with a lot of people who they live with, who are not engaged and don't care. You know, we often hear from people who pay the bills, say like, I wish my teenagers cared. Yeah, they're not one penny, the bill, right? It's so so what, what to people like that need to get from us? How can we provide the right information, the right behavioral nudges, the right next steps to take to get all of these different populations to resonate with the information we're sharing understand what they need to do to act? And then you know, get them over the behavioral hump to to actually make a change, and then see the impact and get that gold star? You're talking about it the idea?

Eric Benson 47:11

I'd love some more gold stars. We all? Well, it's been a pleasure having you on the show, Karina, I think it's been very informational, especially from the energy side, the very practical things that we all can do and the hopefulness of that these individual actions are extremely important. So I thank you for that. Where can we find you online? Again, where can we learn more about the work you do?

K Karina 47:37

Yeah, well,

K Karina 47:38

first, I just want to say thanks so much for having me. This has been a pleasure. It's always fun to see welcome. The day to day have to think about the big picture. You can find me on LinkedIn with the latest Twitter drama, I guess I'm less active there

Eric Benson 47:55

used to be there's a lot of people are saying that to me. Yeah, people are.

K Karina 48:01

I have an unscalable needs. So the best way to find me is probably the look at the show description and just copy and your name

Eric Benson 48:08

will be spelled out. Just copy and paste right into LinkedIn. Right? Well, it's been great having you here and thank you for spending the past almost hour with me.

Karina 48:20

Again, thanks so much for having me again and take care have a good rest of your day.

Eric Benson 48:24

Climify is produced, edited and engineered by me. A huge Special Thanks this season to Ellen Keith Shaw and Christine Piolet for their gorgeous work on hard earned branding, Batul Rashik and Marc O'Brien for their continued design how Bianca Sandiko has our new podcast manager and Brandee Nichols and Michelle Ngyuen for their strategic guidance, and always supporting me and helping to improve the offerings of this podcast. If you enjoy the work we all do here and you have a spare minute or two. We would truly appreciate it if you left a rating and review over at Apple podcasts. The more folks that review our program, the higher the algorithm pushes up clarify in the search results. And in turn, the more likely we all can learn how to become climate designers.