

010_tom chi - FINAL

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SPEAKERS

Tom Chi, Julia Winston

J Julia Winston 00:00

Hey everybody, there are a lot of tough things happening out there in the world right now, as we all know, and many people would agree that one of them is the state of the planet. Tomorrow is Earth Day. So today we're going to explore how we can all facilitate a healthier relationship with the planet.

T Tom Chi 00:18

100 years ago, whaling was one of the biggest industries on the planet. And whales are sentient beings. And like we basically took these sentient beings and we turn them into lamp oil and lipstick like that is extremely upsetting, and I'll never shed a tear that the whaling industry has declined.

J Julia Winston 00:38

Allow me to introduce you to Tom Qi. Tom is working to make better choices available to us as consumers by supporting the next generation of businesses that make environmentally regenerative products and services. In today's episode, we'll learn seven easy, approachable and inexpensive actions we can take as individuals to improve our relationship with Planet Earth. Take a look around you'll notice them everywhere. facilitators, people who guide other people create connection and make tough things easier. This is facilitator forum, where we meet a magical mix of people who offer us insights and inspiration through the stories of their work in the world. I'm your host, Julia Winston. Welcome. Our guest today, Tom chi is a brilliant inventor, investor and leader, formerly an executive at Google X, where he played an important role in the development of technologies such as Google Glass, and Google's self driving cars. Tom's unique approach to rapid prototyping has made a massive impact on the world. Now, Tom's main focus is his fund at one ventures, which has a powerful mission to help humanity become a net positive to nature. In a conversation over lunch recently about this mission, Tom casually started talking about this series of experiments he ran in his personal life at home, to try to become a net positive to nature. And I was blown away, he shared so many valuable tips

about tangible actions an individual can take to reduce their planetary footprint in ways that actually upgrade their lives. Rather than making things harder, I left that lunch, feeling less overwhelmed, more empowered and pretty clear about specific things I could go do in my house to facilitate a healthier relationship with the planet. I knew right away after that conversation that I wanted to share these tips with you. And I was so excited when Tom agreed to come on the show. So here we go back to Tom and the whaling industry.

T

Tom Chi 02:49

I'll never shed a tear that the whaling industry has declined and basically smooched out of existence and destroyed.

J

Julia Winston 02:56

God, that's just so real.

T

Tom Chi 02:59

100 years from now, we're going to feel that way about a bunch of these industries. Yeah. Like we're gonna look at like the exons and the whatever's of the world and be like, Oh, my God, that was our whaling industry. Like we were literally sacrificing tons of lives are for what exactly are equivalent of lamp oil and lipstick?

J

Julia Winston 03:18

Why is this important to you? Obviously, climate change is important for all of us. But what's your Why? Why spend your time and energy and pour all of your soul into this topic into this part of life.

T

Tom Chi 03:32

Just because, you know, like most big motivations in life is it's a type of tragedy, like everything just started dying. I had this wonderful place in Hawaii next to just a beautiful coral reef, which I spent a lot of time on for about five years, you like really get to know the reef you like get to know where different organisms live like a healthy reef is like a neighborhood like particular organisms live in particular places you get to know him like neighbors. And in 2011, I watched that reef go from every color of the rainbow and you know life in any direction that you looked in every crevice to gray and brown and no life in less than two months. And what had happened is we experienced a mass bleaching event. And it wasn't just our community, it was 10% of all reefs on the planet that year. And I was like, Oh my gosh, like the scale of dying is enormous. Like I didn't realize it would get here so fast. So we're in kind of a extended slow motion tragedy and nothing like tragedy to go and really create meaning and depth and focus on a person's life.

J Julia Winston 04:42

What does it mean for humanity to become a net positive to nature?

T Tom Chi 04:45

That means that we imagine that there's eventually a point in history where the presence of humanity on the planet, nature is healthier every year that we're here because we're here, as opposed to death. For a degrees of damage, which is effectively, you know what the net output of humanity's relationship to nature is right now.

J Julia Winston 05:08

So you're not you're you're not about us just doing less damage than we've done, you actually want us to regenerate the planet?

T Tom Chi 05:15

Well, really, I just want us to catch up with most of the organisms on the planet, most of the organisms on the planet by existing, they actually make things easier for the rest of life. And we are the species, which is the exception there, and we're real big exception there, think it's important for us to go shoot for something we actually want, you know, something like, let's not go above 1.5 degrees C is like a negative goal, it basically tells you Thou shall not, and thou shall not goals are not particularly motivating. They're pretty, you know, filled with fear, and they typically need to be enforced by fear. And I prefer, you know, the goals that we go after B ones for the sort of planets in relationship to nature that we actually want, as opposed to, you know, the Thou shall not goals.

J Julia Winston 06:02

Yeah, what are some of your personal goals when it comes to your impact on the planet.

T Tom Chi 06:07

So there's a phrase that good choices lead to good decisions, right? If you don't have any good choices, then it's pretty hard to make a good decision. And sometimes when I like walk around, like a modern grocery store, where you have like a million variations of high fructose corn syrup, wrapped in, you know, plastic that doesn't, you know, leave the environment for 800 years or 500 years, like this is a lot of bad choices. I mean, I don't know exactly how I'm going to navigate all these bad choices in order to end up doing, you know, good decisions. So I think part of this as well is Yeah, and what I'm spending a bunch of my time on right now is to go make better choices available, like basically helped to create and support, you know, the kind of the revolutions in industry and the kind of next generation of efforts and companies that are

going to make products that are actually good choices, as opposed to just having a store full of bad choices. So we need to go and change the defaults. And we need to go expand the the choice base so that it includes, you know, actual good choices.

J Julia Winston 07:16

I'm just so relieved that you're doing this, because I don't know about all you guys out there listening. But when I go to the grocery store, I've gotten to a point where I almost feel a wave of panic, just seeing all the garbage, all the packaging. And it really freaks me out. I mean, the more I learn about, I almost feel like I don't want to learn more about climate change, because it makes me feel more terrified all the time looking around, and just seeing how much waste there is everywhere. But I know that what you're working on the companies that you're investing in and helping to build are addressing a lot of the issues that make climate change really scary.

T Tom Chi 07:52

Yeah, so I think being one, I think as a conscientious person, and you know, wanting to do the right stuff for the planet, then you're gonna hear a lot of messages you're gonna hear about, like, you know, how electricity is wasted and water is wasted in this thing is carbon emitting. And this stays in a landfill for a gajillion years or stays in a turtle stomach for good two years, or whatever you anybody who's like awake and conscientious is going to hear literally hundreds of things that are going wrong, that they could do a little better on or the world could do a little bit better on. And there's an extent to which you know that it seems a bit overwhelming, it is a bit overwhelming 100 of anything, you know, to remember, and especially if it requires you to do something different, is kind of a lot for people. But I kind of thought to myself, Well, which one of these things is actually worth doing? And how do I go and say anything about, you know, which things are worth doing without like doing some of the things, if there's 100 things that people are saying we should be doing? Let me just actually try all of them. And then see which ones you know do not like lead to a sacrifice in terms of how life is lived, where you feel like you're suffering in order for the planet to be better. But it's also having the most positive impact. And also, how hard is it to do these things? There's like a little bit more than 100 tasks. I basically did all of them. And I also accounted for, you know, what was the positive impact to the planet?

J Julia Winston 09:20

And over how long of a period of time was this was this series of experiments ran?

T Tom Chi 09:24

did most of them over about four months?

J Julia Winston 09:27

Okay, when you and I talked about this, you mentioned the metric that really was driving your

Okay, when you and I talked about this, you mentioned the metric that really was driving your efforts. Can you tell us a little bit about that?

T Tom Chi 09:36

People kind of have a willpower budget, there's only a certain number of things that they can willfully do in a day, days only so long, and there's so many. There's only so many conscious choices that a person can practically make in a day. If you make people have to make 100 different choices a day, man, they just run out they're exhausted. But if you can focus on that metric of like what is having the most impact per minutes of effort that I'm going to put in, then everybody can pry Alright guys a little bit and be like, You know what I'm willing to put in the 10 minutes, it'll take to do that.

J Julia Winston 10:04

So let's get the drum roll here, because we're now going to talk about the top conscious actions that you came to through all of your experiments that would improve your climate footprint. And that wouldn't have a huge impact on your life and make you you know, suffer in the name of being better.

T Tom Chi 10:22

Actually, it was more intense than that, which is I wanted my life to be better because of though,

J Julia Winston 10:26

this goes back to your your mission, right of like, I want to be net positive.

T Tom Chi 10:30

Yeah. So yeah, so number one is maybe not one that you've thought of. But it's basically turned down the temperature on your hot water heater to match the temperature you like to take showers at. Because most people have the experience of the showers in their household, like, you turn on the hot, if you just turn on the hot, it'd be too hot to take a shower, you would scald yourself, like, you might need to go to the hospital afterwards. It's that kind of temperature. And in practice, when we go and take a shower, it means we're mixing it with cold, which is a super waste of energy, like a thing got hotter than it needs to be. So you could add stuff to make it colder than necessarily using energy at every step, wasting energy every step in order to just have a thing that's called you. And that sounds dumb, right? Like, isn't it a actual improvement to life to know that, you know, when you turn your shower on, you will never scald yourself, I also find it to be an improvement that I can just turn on the hot and get on the shower. I don't need there's no balancing act. You know, like when it's like this mantra and this much pull, or only turn the thing because sometimes it's two knobs sometimes it's one not only turn the knob to like, you know, nine o'clock, if you go past nine o'clock, you're on fire, right?

Like, those things like, you know, sound worse to me. So the idea of that, I can just turn it to hot, and that's the shower temperature. And that saves a huge amount of carbon per year or something like, depending on your setup, you know, 300 to 700 pounds of carbon per year. And why does it save so much carbon? It's because like, even when you're not using your hot water, your hot water heater needs to maintain the temperature difference between the interior tank temperature and the exterior, you know ambient temperature. And the larger that temperature difference, the more energy that is expended and the system becomes less efficient. Like the higher the temperature difference, the less efficient the the process of keeping the that temperature difference, you know, alive. And you're using that energy all the time just to have the hot water ready for when you do turn it on. And

J Julia Winston 12:27

so your water is always working even when you're not taking a shower. If you have not done this regulation.

T Tom Chi 12:33

Well look, your hot water heater is always maintaining a temperature of water period. But if you if you maintain it at a temperature of a scalding to you yeah, you're overdoing it. Like how does that benefit anybody? Right? Like your life is not better because it's being held at a scalding temperature. So like when you go and take it out of that zone into the temperature, you'd like to take showers that it's maintaining at a temperature that is useful to you. The fact that maybe that is 1520 degrees colder than the scalding temperature means that like you are able to go and maintain a temperature difference, which is much less than you would have if you had set it at the higher temperature or you know, or wherever it was. And it means you're saving energy constantly compared to what you were doing before. That is just

J Julia Winston 13:18

mind blowing to me, like we are all like in all of our households were wasting so much energy without even realizing it. And for no purpose at all. It's actually counterproductive to us.

T Tom Chi 13:28

Oh yeah, it's creating a danger in your house like like when people have kids and they're like, oh, no, no, don't just turn on the hot you teach your kids not to burn themselves. So I set it up wrong.

J Julia Winston 13:39

I have a technical question. How do you do that if you're someone like me who like doesn't understand basic things around the house, you are not a handyman or handy woman. How do you do that?

T

Tom Chi 13:50

Well, some of them actually just have a temperature knob on the front. And that's very straightforward, you just turn a knob. But like other ones that are a little bit more complicated if you do have somebody that's handy in your house you can typically like look up the number of the product and there will be an online resource for how you change temperature it's it's a pretty standard thing that you set on a hot water heater right temperature so there is a way to go set it I'm not suggesting something that should be impossible for anybody's hot water heater. And like yeah, you know you look up the manual you get somebody who's a little bit handy to go and follow the instructions and next thing you know you got to you got you know water at the right temperature and for me it was one knob. It was honestly ridiculously easy. It took me like literally less than a minute but I think for the more technical ones it might take you five minutes to adjust it and you might need to tune it once or twice like based on you know going full bore in the shower or whatever but like

J

Julia Winston 14:45

five minutes of troubleshooting for 700 pounds of energy saved

T

Tom Chi 14:49

someone 100 pounds of carbon emissions avoided. Yes.

J

Julia Winston 14:53

Yeah. 700 pounds. See, look, even my terminology could use it handy woman as well. This is great. Okay, so That's number one. Number one is just changing the settings on your hot water heater.

T

Tom Chi 15:05

With that one actually literally doesn't cost anything, either if you got like a screwdriver or wrench or you know can turn a knob, then that's actually goes quite quickly. Yep. So that's why I ended up being number one. And the next one costs a little bit more installing a smart thermostat. And, you know, like a nest thermostat doesn't need to be nest, but you know, things that are of that sort. Because what a smart thermostat does is, once again, it improves your quality of life, like, it makes it so that you're not overheating or cooling your house when you're not around. And it also like will, you know, you can adjust it so that things get a little bit cooler at night, for example, you know, because that's just actually a better sleeping temperature and healthier for you. And like, you know, heating and cooling HVAC is kind of the biggest single, you know, source of energy use in a household. And if you throw in hot water heating, which is the first one that we talked about, like, that tends to be like two thirds of the energy footprint of a house. So you install a smart thermostat. And once again, like a nest is pretty easily installable for somebody who is like, modestly handy, but you know, if you need some help on it, you can go and have somebody install it for you cost 50 bucks, you know, it's,

it's not the sort of thing that will break the bank, you know, on top of the \$150 device or whatever, it's, it cost you something, but you will save that money back within, typically, you know, three, four months.

J Julia Winston 16:25

So just those first two, of having a smart thermostat and tinkering with your water heater will save you it will really significantly reduce your cargo,

T Tom Chi 16:35

you're getting over 1000 pounds at that point, you're kind of in that band, you know, for a typical sized household in terms of avoided emissions,

J Julia Winston 16:43

can you maybe put that in perspective for us for a minute for like 1000 pounds of carbon saved.

T Tom Chi 16:50

So the thing that's tricky is that carbon dioxide is a gas and it's an invisible gas monitor thing. So people have some trouble visualizing what 1000 pounds of that is. But in practice, like, you know, anything that's got atoms in it has got mass, and you know, a pound actually is a pound, it does, in fact, mean what you think it means. So like, you know, carbon obviously can take a lot of different forms, it can take a gaseous form, there's other forms that you know, people are quite familiar with carbon taking. So like pencil lead is graphite, that's mostly carbon, right? Like, if it's helpful, imagine, you know, 1000 pounds of pencil lead, That's literally how much stuff that is coming out of your, your, you know, hot water heater, ah, vac system, emissions wise, it's just coming out in a gaseous form. So actually takes up way more space than 1000 pounds of pencil leftward. But it's the same kind of stuff and the same weight of stuff. So if you could gather up all those molecules, which seem like because they're kind of just bouncing around the atmosphere, if you grabbed them all together, and measured the mass of the thing, it would be like 1000 pounds of pencil lead.

J Julia Winston 17:58

That is so helpful, because these I mean, these terms, if you steep yourself in reading about climate change, global warming carbon emissions, then you probably start to just build this up in your lexicon and in your understanding. But for those of us who are not steeped in this, it's really hard to conceptualize that. And that's a barrier to entry as well. So thank you for taking the time to do that. Let's talk about number three. So what was your third finding.

T Tom Chi 18:24

Tom Chi 18:24

So the third one has to do with lighting, which is actually the next thing after hot water heating, and each back in terms of energy use and most houses, it turns out that an incandescent bulb is eight times more energy using per, you know, amount of light that it provides than an LED bulb. Even if you have like fluorescent or compact fluorescent, which you know, is way more efficient than incandescent, an LED bulb is still two times more efficient than that, right? So like, the idea is like, you go around your house, and you find all the incandescent and you you find all the fluorescent bulbs, and you remove them, and you replace them with LED bulbs. For me, I replaced them with programmable LED bulbs, ergo the life upgrade again. So like I can pop into an app and I can turn my living room into meditation mode, or I can turn it into work mode, or I can turn it into dance party mode or whatever you want, you know, like like evening mood mode. Yeah, so of course, like if you buy a programmable bulb that it's more expensive than an incandescent bulb, but on a per year basis, that is actually way cheaper because these, you know, LED bulbs tend to last a very long time. They're rated for 10 years, a bunch of them lasts more than 10 years. But occasionally you're unlucky and one dies before 10 years. But they last a long time. I've had the same ones in there for eight years already. They're fine. I think I have one guy out of 28 years.

J Julia Winston 19:46

So unbelievable. So you're saving money. You're actually saving money ultimately, and you're having a better experience. It's a better experience overall because you have mood lights.

T Tom Chi 19:56

Yep. And I'm not burning something myself in the shower and the houses that right temperature different times a day is appropriate to what you want. It's like, yeah, these are actual improvements. So that one costs a little bit, I think to replace all the bulbs in a house might cost you 100 bucks kind of thing. Maybe 200 if you got a lot of lights that you want to replace, but it's the sort of thing that pays itself back reasonably quickly with the energy savings, and it can improve the quality of life. It's really quite nice.

J Julia Winston 20:21

Awesome. Okay, great. This is so Oh, man. Okay, so we're going to lower the heat in our showers, we are going to get smart thermostats. And we're going to replace our incandescent lights with LED lights. Okay, so let's get let's talk about number four, what was your fourth action you can take?

T Tom Chi 20:39

Yeah, so number four is, again, one that people probably haven't thought about that much. But if you are familiar with like an AC adapter, the things that you plug in the wall, so that you can power your laptop, or power a bunch of appliances in your kitchen or whatever, like, you know, a lot of these you know, things that we plug in, we've got these little wall works. And basically what those do is they take the AC signal that is the AC power that's in our walls, and turns it

into DC power, which is you know, a little easier to go and power device easy to easier to design a device that uses DC, don't worry too much about the design aspect of it. But what you should know is that in the process of converting that, that stuff, or making it available, you know, to BDC instead of AC, it uses somewhere between like two to 10% of the energy that the device uses when it's like fully operating. Now imagine you have a coffeemaker and you only use it for 15 minutes, 20 minutes a day. But then the rest of the time is plugged in. Well, even though it might only be using 3% of its operating electricity, you know, when it's not in use, that's for everything minus 15 minutes of the day, right. So you actually, you know, oftentimes end up using more power for your appliances just being plugged in when you're not using them than you ever get from using the appliances themselves. And this is true of lots of kitchen appliances, a lot of like Office appliances, printer, Shredder, all these sorts of things, like they all have AC adapters, look around your house, you'll see these little wall warts everywhere. So what I did with that one, which like I said, I feel like also improved my life and is what you do is you find all the things that have got these AC adapters that are of the same family. So like all the paper handling things like printers, Shredder, you know, all these things I just mentioned scanner, these kinds of things, you know, for an office, I put them all onto the same power strip. And most of the time it's off because most of the time I'm not needing to do with paper stuff in a particular day. But it's like, oh, you know, on a Thursday afternoon, there's a bunch of like, you know, administrative chores I need to do that require like some paperwork, then boom, I flip on the power strip, use it for two hours. And you know, the the devices are in use when the thing is on. And I know that when I flip that one switch, everything is ready. Well, that's the aspect of it, which I feel like is a little bit more coherent, it feels like my previous self is organized things so that when I need to do paperwork, it's faster to do because I just flip a single switch, I'm into it, right, or kitchen stuff you wake up in the morning, you walk into the kitchen, you have like a little routine where you're going to use three appliances or something, they're all on the same power strip, flip the thing on, you're ready to do your kitchen stuff, or flip it off on the way out. However you want to get fancier like sometimes like your light switch in your house, you know, some of them are connected to the outlets. So you can also just plug that AC adapter into one of the outlets that is related to your switch. So when like when you walk into the kitchen, in the morning, you flip it on, all your appliances are ready, you leave the kitchen, turn off, the lights look, whole thing goes off,

J Julia Winston 23:37

you take 10 minutes, you set it all up. And then everything is just a little bit more efficient, a little bit more organized and easy to use,

T Tom Chi 23:45

then it's a good occasion. Like if you have a bunch of wires everywhere to kind of tidy up the space to like it. It feels nicer feels way more approachable and you feel kind of more productive, like your previous self is paved the way a bit.

J Julia Winston 23:59

And what are we saving? What kind of energy are we talking about saving here.

T Tom Chi 24:03

So it just really depends on how many devices you have. Because some people have like a gaming console and TVs and just all these things that are kind of in hand depending on what the AC adapter says on the back. You could easily save an additional like 50 250 pounds though, like kind of in that band. Not to be overly nerdy about this. But it also does depend on how you're like generates electricity. So if you're in a part of Colorado that's mostly using coal, then man you save a lot of carbon emissions actually, by reducing the energy use if you're in a part of the Pacific Northwest that uses mostly hydroelectricity less, you know, maybe maybe a bit nominal on that front, but you do have a lower electricity bill so you'll have that at least

J Julia Winston 24:43

amazing. Okay. You when you told me about this the first time you used an expression I'd never heard before it was I think quiescent power. Is that right?

T Tom Chi 24:51

Yes quiescent power. That's basically the power that's used when people when a device is in a quiescent state or you could also kind of swap been the word it's like in a quiet state when it's kind of in its resting mode.

J Julia Winston 25:03

So we allow all of our appliances to rest. Beautiful.

T Tom Chi 25:07

Yes. And really rest because quiescent is like power that you are expending for no reason, actually. And like, you know, your quiescent power usage will be zero, you're not getting any benefit from the device. But our acquiescent power usage in households can be substantial, sometimes, like 30%, of what the actual use uses. So

J Julia Winston 25:28

So we're actually we are decreasing our quiescent power through this one.

T Tom Chi 25:32

Yep, and just reducing your overall power usage, but in a way that changes nothing about how useful everything is in your house. In fact, I think, once you organize it, and it's like, oh, this activity, this activity, this activity, I find that to be a little easier to work with.

J Julia Winston 25:47

Great, so we're now Fortin, we're now reaching number five, the fifth action that you took in your experiments that you found to be most impactful. So what was number five,

T Tom Chi 25:56

so this one I can say, is a little bit of a split decision. And maybe this is me like scooting and six of them instead of five. But like, if you are in like a older, drafty your house and you have just some leaks were like, you know, heat is escaping in the winter, or warm, you know, cool as escaping in the summer, then doing some simple weather stripping, you know, a simple, you know, home repairs related to places where there's like a little draught or a gap or window that doesn't totally close, or what have you, also makes a decent difference. And obviously, you know, has that benefit of improving how you how your life is. And then the other one is related to eating habits, which I found to be relatively straightforward, but depending on who you are, then maybe it's more or less of a problem. But if you search for, like the carbon intensity of proteins, you know, different types of proteins, and click over to the image search, you're gonna go get a, a number of charts, and there'll be charts that go and show which proteins have got the most carbon emissions per pound of consumption. Right. And, like, up at the top are things like beef and lamb and all that sort of thing, which I guess people already know that it's quote, unquote, you know, bad. But it's really substantially more that it's like, you know, three to five times more than pork, like beef, for example. And it is like, you know, seven times more than chicken, for example, ahead of like telling people's like, everybody should be vegetarian or vegan or whatever what you know, I'm not, so I'm not going to go and tell everybody that they need to go do that. But like, what you can do is you can shift things out a little bit. So for example, chicken and fish has got way lower carbon intensity, eggs have got way lower carbon intensity for the same number of grams of protein. And if you can kind of swap out some chicken fish a eggs for, you know, beef and lamb on some meals, then, absolutely, that is a pretty substantial change as well.

J Julia Winston 27:57

This one was really helpful for me when you and I had this conversation, which was back in November 2021. I referred back to this chart that you showed me when we were talking about this. And I've actually significantly reduced my consumption of red meat. Because I saw the percentages, I saw how much of an impact it can have if I actually reduce my consumption of beef and lamb. And so now I actually do swap it out for chicken, or turkey. And I've even started eating less shrimp, because I know shrimp is actually kind of higher up.

T Tom Chi 28:34

Yeah, that's like 18 kilograms of carbon emissions per 100 grams of protein. Beef is like 50. What I

J Julia Winston 28:43

like about this one is that you're not saying you have to become a vegan, you have to become a vegetarian, in order to be a good steward of the earth. What you're saying is be discerning, you're saying understand what the impact is, and understand how much more significantly, the damage is, when you eat beef on the regular compared to eating chicken. All you're doing is asking people to be a little bit more discerning.

T Tom Chi 29:09

Yeah. And to be clear, I still occasionally eat beef and stuff. It's just like, if that's the thing that I'm absolutely craving, and that's absolutely what I want right now. Yeah, like, okay, that's what, that's what I'll eat. But there's a bunch of other times where things are just a little fuzzier than that. It's like I'm hungry. And you, you, you know, are at the grocery store, you look in the fridge, it's like, well, you know, I can make some eggs, I can go do whatever, like, that'd be totally great.

J Julia Winston 29:31

That's how it's affected me at restaurants when I see you know, I see the dishes and I'm like, well, but I could get this one that looks also just as good as that one. And I know that it's actually having less of an impact on the planet.

T Tom Chi 29:43

You know, one can argue about whether this one is a clear improvement to life or not like, I do think there is an element where it's like, actually turns out that some of the more carbon intensive meats are also a little worse for you health wise. So there is kind of a health benefit to kind of shifting up a bit. But I also found, you know, another benefit, which is like, when you challenge yourself to do a little bit, you end up like learning how to make some new dishes and you end up like expanding your palate a bit. So like I've experienced something that is an improvement to my life. You know, your mileage may vary depending on how much you like miss having beef at every dinner or something. Right?

J Julia Winston 30:20

Yeah. So Tom, what I noticed that isn't in this list of top five things that we can do is travel. Where did that factor in, in your experiments or your research?

T Tom Chi 30:30

Yeah, so the reason that I didn't put that in there, and you'll hear that from all the tasks that I have in here, all the tasks I have in here are relatively inexpensive, you know, we're talking about like \$102 100 or \$200, on the on the heavy side, and a bunch of them are free, right? Changing out your power strip, you know, design and adjusting the temperature, what hot water heater is all free like choosing, you know, chicken instead of beef, sometimes like, these are not things that are inherently more expensive. But like something like transportation, it's a

little bit more substantial a change. And like I said, I literally tried everything, I did try biking to work for a while I did try taking the bus to work for a while I for that job, I ended up picking the bus to the work most of the time. But depending on the job, you know, it might actually be a really significant inconvenience for you to not be able to drive. And depending on where you live, it may not be actually practical for you to go do that. So I didn't recommend that for that reason. But I will say that there there is a category of structural changes that are more expensive that you are going to do occasionally, you'll get a chance to make that decision occasionally, where if you can move to you know, having a electric car or hybrid car instead of a gasoline car, when it makes sense. Then when you buy a new car, or when you buy a used car, actually I have an electric car, I bought a used electric car, because I didn't even want to have the carbon impact of all the materials that were used to go make a new car. So I like I bought a used electric car, honestly was way cheaper, you know, than buying it new. And I reduce my carbon emissions per traveled mile by more than 10x By my calculations. So that's pretty good. But like, that's one of the big changes, which obviously you can't do every day for less than, you know, \$100 or you know, on any given day for less than \$100. But when you do like once every six years or 10 years, when you're in the market for a car, like if you do that shift it is material. And then the other shift that is material is if you have the option to and not everybody has the option to like you can investigate like putting solar or a solar hot water heater minimum on your house. So if you live in a climate that could support a solar hot water heater, then yeah, that can save you a lot of energy. If you live in a climate that can support solar and you have access to you know, being able to put something on the roof then that can change things quite substantially like our previous place in Hawaii, we we generated substantially more energy than we use in the house. So not only did we decarbonize our house, like we decarbonize a chunk of our neighborhood, you know, with the stuff that was on the roof, so you can make bigger strides, I didn't put that in this list, because I was trying to make it real approachable stuff that like if you heard the list, you could just do it this week, if you wanted to. And you know, wouldn't be a massive financial burden on on people like it's like three out of the five, were free.

J Julia Winston 33:24

Awesome. I mean, this is just so helpful. Thank you so much for replaying the tape on all of your experiments, thank you for doing the work, and then sharing it back with us.

T Tom Chi 33:33

So one thing that we didn't touch upon yet, which is related to like, the personal activities that people are doing is, you know, nowadays there is a lot of discussion, a lot of focus on, you know, what can people personally do, and I'm not against it like, Heck, this whole segment has been talking about different things that people can personally do, and being a bit more empowered about it by like focusing on the ones that have the most impact per minutes of effort. But you know, one thing that needs to be said is, you know, some of these ideas, like the basic idea of a carbon footprint, or the basic idea of like, requesting that people recycle as the way that we deal with plastic pollution. A number of these campaigns were actually started by the plastic companies by the, by the oil companies, as a way of getting out of them having corporate responsibility for those things. Because they basically, you know, came up at a point where, you know, legislative pressure or regulatory pressure was coming, where it's like, hey, you know, you guys are making all this pollution and rivers and streams, Oh, you guys are

doing all these carbon emissions. Like we need to get a hold of this. And the industry did a concerted lobbying effort to make it so that it was our responsibility, not theirs. And this is not to invalidate anything that we've talked about today. I think there are, you know, better choices that people can make. But I think that to the extent that, you know, we can notice and challenge some of the companies that are not doing their part, because they're kind of pawning it off for the consumer to do everything, and this is kind of what I was alluding to at the beginning around the grocery store, and the idea of, of good choices support good decisions, right, there were choices that happened before our choices in the grocery store, that, you know, particular things were packaged particular ways made particular ways all those decisions happen before we even got there. And like to the extent that we can go and hold companies accountable to whichever way that we're able to do it, like sometimes we might do that, by the way that we vote or the way that we support people politically, sometimes we might do that through just informing people of choices that we found that that are more in line with our values and that sort of thing. But the little things that we can do to make it so that the companies you know, that are kind of creating a lot of the damage are being held accountable to some extent, and the companies that are helping to heal or are being benefited to some extent, then push it up the stack, you know, go and go and challenge to the extent that you have any voice to go challenge these things. It can be like even leaving bad reviews on a thing, right? So it's like whatever is in your scope to actually go challenge more at the company level. Go ahead and go challenge that at the company level. Like we've had a dangerous dynamic of companies basically, pawning off their responsibilities as personal responsibility, and then blaming the public for not making the right choices when they only gave us bad choices to work from.

J Julia Winston 36:28

Yeah, so this is so important. Like you, you gave us a list of five that ended up splitting and become becoming five and a half slash six. And now we're talking about a bonus action, which is for each of us as individuals to hold corporations and large entities accountable for their impact on the planet.

T Tom Chi 36:46

Yeah, cuz a lot of it comes through that, right. And we saw this in a pandemic, like, at the beginning of the pandemic, their travel basically went to almost zero, people were driving much less people were spending more time at home, right, like a lot of people were at home quarantined, that only led to like a couple percent decrease in global carbon emissions. Because most of that's industrial, most of that is some company. So we can go challenge those things, we do buy those companies products downstream, they wouldn't exist if they didn't get used in some form. So we have a consumer voice that we can push. And there's a political voice that we can push to go and have the companies improve what they're doing as well. And I think like Go and attend your own home, go and like do the right things in your own sphere, but also do the right things in the larger public sphere. Like once you kind of have a little footing there.

J Julia Winston 37:35

Thank you. It's a great reminder and a good challenge for all of us. I get uncomfortable thinking

about doing that I get overwhelmed thinking about it. But knowing that we all have that possibility all of us has the power to do that if we all were to take, you know, some small incremental steps towards becoming more powerful. Just I think if each of us embraces the fact that we have power as consumers, and as citizens, we can make a bigger difference. And it's just it's the cumulative effect. If each of us is doing our part in our homes, and if each of us is doing our part to hold corporations and government accountable, then we can we can actually make a difference here over time.

T Tom Chi 38:19

Yep. And like I said, like start with the stuff that is approachable, right? Like, you find out that so and so is using palm oil that is destroying the rainforest, leave a bad review. That's like, Hey, you may not have noticed this, but like when I read the ingredients and looked up how this was made, then here's kind of what this company is doing you. In fact, I love this product, but like, let's ask for them to do better.

J Julia Winston 38:41

You once told me that the formula for disempowerment, why don't you share it? In your words?

T Tom Chi 38:46

Yeah, the formula for disempowerment is to make your problems large, abstract and far away from you. So it's like, there's all these people that control everything that aren't me. And the problems are so big, like, you know, there's 750 million people without access to clean water or whatever it's like, you know, and that will make you feel disempowered instantly, but it means that the formula for empowerment is the exact opposite, which is just to make your problems concrete, near and small, because even the big things that you're going to get done is going to get done in a bunch of small bites. And the more that concrete it is, so like, maybe you can't go change everything about policy tomorrow. But you you know, a thing that is small and concrete is you can make some of your personal choice is a bit different. And another thing that is concrete is you're not a policymaker, but you you have a friend who's like campaigning, or you have somebody who's active in politics that you can chat with and be like, who should I vote for? And like that kind of thing. You know, it's the things that make them you know, small, concrete and near and you do a little bit of that at a time and it does add up. It's, it's the way that the current world was made. The current world was made with a bunch of small concrete near changes.

J Julia Winston 39:59

Well, everything you've outlined today is basically a roadmap for us about seven different things that we can do to make things big things, big problems concrete, near and small. I guess the last question I have for you, now that we've talked about how we can all create a more net positive world, through our actions, what's something that you would want someone to facilitate for you to make your life net positive or easier than it is?

T

Tom Chi 40:30

Well, I run this venture firm called at one ventures and just focus on helping humanity become a net positive nature, I think, like we're always looking for, for three things, which is because we're a venture firm, like, we're always interested in finding companies that are doing really compelling things that might be able to go and change the industrial defaults, like we said earlier, like, making it so that, you know, we have plenty of good choices that help to support our good decisions, as opposed to grocery store today is really a lot of bad choices, like little pockets of good choices in there. And lots of bad choices are available, and especially the ones that really challenge the industries at their core, right, that basically change the unit economics and in a really disruptive way of the industries that are most damaging to nature. We sometimes say like we invest in destroying the industries that will destroy nature, right? So any companies that people come along, like, yeah, on that front, we're always looking to evaluate more things, people that are accredited investors, and you know, or know really high net worth people that want to invest in such funds, happy to connect on that as well, because that's how we do our work. Like we basically invest other people's money to go and improve the planet. And then the third thing is we're going to be hiring this next year. So if you have got deep technical and operating experience, and you got some good solid investment experience and the venture side or Yeah, enough of that, you don't need to have everything. If you have enough of that, then yeah, we're going to be looking at roughly doubling the size of the team in the next 18 months.

J

Julia Winston 42:11

Well, I think probably a lot of people would agree with me and saying that I want to see you succeed, I want to see your firm grow because you're doing incredible work. And I've just really appreciate the way that you're approaching this and the positive outlook that you have and the solutions oriented outlook, your rapid prototyping background is really being put to good use. Thank you so much for everything you do. And thank you for joining us here.

T

Tom Chi 42:35

Awesome, thank you.

J

Julia Winston 42:42

Wow, that was an unbelievable amount of super useful information. So let's review seven approachable and inexpensive actions that will upgrade your life while helping the planet. Number one, turn down the temperature on your hot water heater to match the temperature you like to take showers that your water is always working even when you're not taking a shower. And no one likes a scalding hot shower anyways. Number two, install a smart thermostat to make it easy and automated to adjust the temperature in your house. Number three, replace all your incandescent and fluorescent bulbs with LED bulbs. Not only did they save you money in time, because you only have to swap them out every eight to 10 years. But if you program it with your phone, then you have the benefit of mood lighting, which is kind of awesome. Number four, reduce your power usage by putting your appliances and devices on

the same power strip and turning on the strip when you're using your appliances and turning off the strip when they're not in use versus leaving everything individually plugged in all day. This is more efficient, organized and it significantly reduces the energy you're using in your house. Number five, simple weather stripping will help preserve energy that could otherwise be leaked through cracks in your windows and doors. Plus, it's more comfortable. Number six, check out the carbon footprint of the food supply chain and make any shifts to your diet that will help lower your carbon emissions. For example, if you don't want to cut out meat entirely just default to choosing chicken over beef. Take a look at that chart which we're going to put on the website and learn a little bit about what choices you can make. Number seven, support systemic change by challenging companies and voting for policies that favor planetary health. Get educated, write letters go to the polls take action. I hope you got a ton of value from that conversation. I know I did. Tom is absolutely brilliant. But you might be asking yourself how does all this apply to facilitation? Well, teaching and sharing our forms of facilitation, especially when they're intended to guide groups create connection and make tough things easier. That's exactly what Tom has done for us through this conversation. Jen. And now we get to go out there and be facilitators on behalf of our mother, Mother Earth. So this was a double facilitation whammy. We got facilitated by Tom and now we get to go out there and pay it forward. So whether it's something you learned from this conversation with Tom or something you've been reading, thinking or talking about lately, what is one new action you're going to take to become a net positive to nature. Happy Earth Day, everybody. And if you're hearing this After Earth Day, I have news for you. Every day is Earth Day because we live here y'all. This is our home. Big thanks to Tom CI for coming on the show for caring so proactively about the state of the planet, and for empowering so many people, including all of us. To learn more about Tom CI and at one ventures, and to get any resources or information that came through our episode today, check out our website facilitatorforum.com. I want to thank everyone who helped bring this podcast to life, including Adam Rosendahl for the artwork. Caleb Spalding and Massimo Lusardi of gasoline tequila for the music, Josh Gilbert for his fabulous sound editing. And of course, as always, thank you for being here with me for listening. Until next time,