



How Do We Find Clean Energy Solutions? | Chris Patton

[00:00:00] Guest Intro - Chris Patton

Darin: Hey everybody welcomes to show this is Darin Olien. This is the Darin Olien Show. What's going on? Do you realize that in two days, drum roll; Down to Earth, season two is coming out? Zach and I run around Australia all over. I think it was like almost 10,000 kilometers by the end of it. Three and a half months. Wow, what a journey. So proud of this season. We got to dive in deep differently because we weren't in a different country. We had layers to it, had depth in different areas in this season. We are trying to show amazing people situations that they need to overcome in the world that's going on, and ways we can just do things better. Nothing gives me greater pleasure, literally to introduce to you my first, second time guest, Chris Patton, who was on episode two and now we are in the two hundreds. Nothing gives me greater pleasure because he is the most fascinating, amazing friend, innovator, creator, dedicator to this world doing things better. So, if you haven't heard the first kind of coming to Jesus' moment in his life, you got to listen to episode two of my podcast because Blood Diamond movie with Leonard Dicaprio. The inspiration for that movie was Chris's life in Sierra Leone, West Africa. It's dedicated his life now to making things better in the world, clean energy. And when I say that, I am not joking. He's an international entrepreneur. He's worked all over the place working with governments in New Zealand, Australia, Portugal. He created systems that created the five-star Nehi Waktu Eco Resort. He is consulted for the pasture group in Monaco, the African Union. He was specially invited to COP 26. He was then specially invited to the Ocean Summit in Portugal. A small group of very powerful people on that group where he blasted them with stuff they have never heard.

Darin: And you are going to hear some of that stuff today, which is why I am so excited. He's got a background in engineering, mining and hydrogen freaking technologies. Just crazy. Chris is a current co-founder and chief technical officer of Alphacore. Full disclosure, I am involved in that company Alphacore, because I have to, I want to, I need to. Getting out this clean energy tech specializing in advanced motors turbines, zero pollution systems for deployment in energy of course. Aerospace, nautical, agriculture, manufacturing, and transportation. When you start to realize what Chris knows and what he's been developing, you come to realize that these are the type of solutions that we need in the world. We need them now so make sure to like and subscribe to this podcast so that we can advance our movement in helping to create best life ever. So that we write the ship on crazy shit that's going on, that we can do better, that we can create the sovereignty for ourselves, and then the billions of us doing better. We shape the governments, we shape policy, we shape the world. That's what I am focused on and Chris is a dear friend, Scott Robertson's and other co-founder, incredible human, David Bloom, which I did a podcast with him that's coming soon. I am super passionate, kickback, relax, enjoy, and watch the expansion of your consciousness happen by my good friend. And also, it's out in video, that conversation with him and I, we have some tech in the background, so if you want to check out the video, we'll



have the video up on YouTube. So enjoy this conversation with my good friend, Dear friend, Chris Patton.

[00:04:25] Podcast Intro

Darin: You are listening to The Darin Olien Show. I am Darin, and it is my life's mission to find and share healthy and sustainable ways of living. In this podcast, I talk to inspiring people and professionals from around the world to uncover ways that we, as humans can improve our lifestyles, strengthen our mindsets and take better care of this beautiful planet we call home. If you are looking for motivation to take the next steps towards a happier, healthier life then you are in the right place. And I am stoked that you are here. So, let's do this. This is my show, The Darin Olien Show.

[00:05:10] Interview Commences

Darin: Chris, thanks for coming here.

Chris: Thank you for coming here.

Darin: Yeah, we are up in northern California at a friend of ours, the infamous David Blume's farm, where you do a bunch of your-

Chris: Applied agricultural science experiments.

Darin: Yeah. So we have a few of these things, but for the record, you were second on the podcast.

Chris: Oh, that's right.

Darin: And so now, you are the only repeat. So how cool is that?

Chris: Wow. Thanks for the honor, man.

Darin: Of course. Well, I mean, you have opened up the Pandora's box in terms of telling people what you are doing.

Chris: Oh, that's right because the last time you and I spoke, we talked a little bit about how we arrived at why we did what we did with the hardware we were using at the time. And we were still very, very, very underground.

Darin: Underground and we talked about your Africa stories and your survival there and how some of that science started to come in because of that. And so now you have really opened up in terms of speaking so.

Chris: Publicly, yes.

Darin: Yes.

[00:06:20] The cat's out of the bag

Chris: Up until this point, we have been very, very quiet about what we have been working on and why. And we sort of came out in a big way this last year. We were invited to the United Nations at their, it's called COP 26. The COP is where they signed the Paris Accord and they move it from country to country. And we were asked to come and work the solutions Pavilion and talk to the other energy ministers and heads of state and almost sort of represent sustainability at this COP United Nations conference. And to do that, we sort of had to come out of our box to explain what it was we were doing and why. So we would



presented a lot of ocean and island solutions that we were very familiar with it the public wasn't really familiar with. And we got to educate about 180 countries that came through the solutions pavilion at the United Nations program.

Darin: Yeah. So, break those down and then we are going to open up even more. So specifically on that. What were the things, the energy systems, the waste annihilation stuff? What were some of those things you talked about at COP 26?

Chris: Well, we were focusing on island restoration programs. And a lot of it has to do with plastic. We'll start with plastic first because it's the great, it's working its way into the food system over in these countries. And they were under the impression that it was being recycled. And so when we investigated it in the South Pacific, we found that only about 6% of what they were bundling onto these ships was being recycled. A lot of it ends up getting burned or just vanishes. They don't know where it goes to, right? They sell it to other countries and those other countries burn it as fuel. So we thought, well, we will come in with a program to annihilate it on the islands. And if you didn't want to annihilate it, you can convert the P E T bottles, which is polyethylene, and you can convert that into plastic to ethanol. And you could use the ethanol as pharmaceutical grade alcohol, a disinfectant on site. So now you have a much more valuable product than you have with just a P E T bottle. And it's something that all the islands needed and wanted. So that's one aspect waste. And from that, we also have the same gasifier that we are using. And a gasifier is just a really clever way of heating things inside of a keg that has no air inside of it. And when you do that, you can boil almost anything down, but you need a clean source of heat. Now, for years, I sort of specialized in these hydrogen plasmas, originally in my mining operation in West Africa. And then later on I was asked to put together a program for an S B I R, which is a way of civilians getting involved with NASA and the Navy.

Chris: And we volunteered a technology around 2010, 2009 that used this hydrogen technology as a clean source of energy. And it's just a very clever way of creating hydrogen with a very small amount of energy that has a very big energetic reaction when it comes into contact with things. They call them isomer plasmas. And we had introduced this isomer plasma for plastic waste annihilation, but also as a potential energy source. So we would take a solar thermal system, which would be a way of taking heat from the sun and boiling something with it, and then using that to turn a closed cycle turbine. Now you are powering islands with the sun without a solar panel.

Darin: Right, let's unpack that a little bit. People are be like, What? The hydrogen and plasma, they're like, Okay, well what, where's the hydrogen coming from? And all this stuff.

[00:09:30] Beyond solar panels

Darin: So let's talk about solar power first. Let's talk about solar panels. Let's talk about the other use of solar rather than the sun hitting a solar panel.

Chris: Got it.

Darin: Of silica and the inefficiencies.

Chris: So, we have a PVC panel. These are the plastic silica panels that you get from China. They may require tremendous amount of coal to make. And so they're very polluting from the point of origin to just getting to you on a ship or a plane. You have sort of backward yourself in your quest for being sustainable or carbon neutral.



Darin: Yeah, because most of the solar panels are coming out of China.

Chris: Correct.

Darin: And the power source is going to come up a lot. The power source that they're using is coal.

Chris: Coal or coal gas, which is worse than the coal because it's just like burning methane.

Darin: So again, we have several themes that are going to be bopping around here because we are having this society being pushed in a sense of electrifying everything. And in theory, sounds great. There's so many rabbit holes, but, and so the Governor Newsom just initiated by 2050.

Chris: 2030.

Darin: 2030, 2035

Chris: No Internal combustion engines sold in California. That's the big push with no energy solution to that other than the fact that you are going to be buying electric vehicles that are not a source of power, that consume power that are packed with batteries that again, are just buckets that you have to fill up with power. So you have to have an energy program prior to the no internal combustion engines program, if that's your plan. There was no power program introduced prior to the no internal combustion engines program.

Darin: So, you look at electric cars, nothing comes out of an exhaust. So you simplify it by saying, Cool, no emissions. Right?

Chris: Right, from your car.

Darin: From your car

Chris: From the vehicle, not the point of origin. Not how it got to you, not the materials, the thing you are driving. Correct.

Darin: Right, yeah. We could spend a whole hour just on that stuff. Yeah. But we'll do that for the third, fourth, fifth conversation.

Chris: Be back in two years

Darin: Just to put a button or an exclamation point on the electrification and EVs and cars and all of that stuff from a California perspective, many other, most other countries, they don't have power source. Because what, I think it's 80% of the power in California is also from coal, natural gas, all of this stuff. So it's not clean anyway.

Chris: Right.

Darin: And now you'll have all of this extra and excess car plugging into the grid, that the grid can't handle already.

Chris: Correct, I was just, I was with the Department of Energy in Washington DC not more than a week and a half ago when the White House had made their announcement about this. And one of the things that came up is we had a lot of mayors from a lot of cities there and we also had some councilman there. One of them was from Virginia. And this was a very interesting conversation about they wanted to electrify their grid and push for the EV charging stations the same week they were putting a moratorium on putting together any more data centers in the state of Virginia because they had no power for the additional data



centers coming in. And I thought, Okay, wait a second. Okay, so you are going to electrify your cars, but you have no power for your data centers because you are putting a moratorium on it. Because there's no additional energy. You understand these things are fast charging vehicles. Right. And you'd about, in order to get somebody on the street in 15 minutes, about 250 horsepower worth of energy getting pushed down a pipe in 15 minutes, now line a million of those cars up that all want to be charged at seven o'clock in the morning before they go to work. So they don't get stuck on the freeway without an EV charging station. Now you have figured out that your problem is a source of energy is not available, not that you need more EVs on the street.

Darin: Yeah. And several things popping in here. But you brought up that you got invited to the White House.

Chris: A White House Briefing.

Darin: White House briefing.

Chris: Yeah, the Department of Energy. Yeah.

Darin: So, you went through the background check, you showed up, one of the first things you said to me is, oh my God, they have no idea what they're doing in terms of what they're going to take this money and put it towards, and that's why he signed the bill days before that of 307.

Chris: No, that afternoon that I was there. We were there an hour prior to it being signed and they wanted to sort of announce it to us so that because I am kind of an advisor to a lot of these heads of states and different industries. They wanted to make sure I knew what was coming down the pipe on the bill. And so I was more interested, I was less interested in the bill, I was more interested in the solutions that would be presented at the DOE and the other people that were there to celebrate what they had done recently in their states or their districts. The biggest celebration in the back of the room is that somebody from Connecticut had finally got a bill pushed through to change the lights out, the city lights to LEDs. That was the celebration in the back of the room, not to put that down by the way. That's good that he did that, but it's a little late for that. We need to sort of accelerate to much bigger, better ideas

Darin: And lights aren't going to move the needle.

Chris: LEDs don't move the needle no.

Darin: And there's also frequency and fluctuation issues as it relates to human beings or LEDs.

Chris: Those studies are done.

Darin: So yes, it's efficient, but the fatal convenience side of it is it's not good for biology.

Chris: That's right.

Darin: So, you got invited there. It was underwhelming in terms of the aspect of them knowing what to do in this sense and so just that under to of we are celebrating over 300 billion, they use these terms and I fight back against this climate change and all that stuff. But yet there's not a lot of competent people that potentially are going to use that money beyond light bulb changing.



[00:15:20] Disappointment with the current solutions

Chris: Yes, it's concerning because if there are no solutions that are really evidently being pushed to the front of the pack, then they fall back on comfortable solutions, things that won't get them fired and that's just installing more efficient insulation into houses and then

Darin: Electric buses

Chris: Electric bus that's a big one. Again, we are back to the electric bus. As a matter of fact, that was a discussion that I was heavily involved in at the DOE, was the electrification of school buses. Nobody has any money for it, but everybody's asking for their grant and their loan to electrify their school bus fleet. That's about two to 500 kilowatts. That's a lot of power, that's like 500 horsepower worth of batteries that don't exist yet that they have to fabricate and mine and place into school buses. And now you have to have charging stations for these school buses, which is about five Tesla's worth of power to fast charge these things so they can get your children back and forth to school. Not only is it not clean because those batteries aren't coming, some of the batteries are coming from the US because I have got a sense of who's going to be getting the contract for it. But there are better and cleaner ways without having to buy those electric buses at all with just doing a transition to a clean carbon neutral fuel like US based ethanol for example, that you would take from surplus food waste that we have plenty of. So not to jump to the end of the conversation, but that was just something that came up that was an obvious fix for something they didn't have the money for. And now they're going to be asking for money for something that can be fixed right now today, 48 hours from now with an off the shelf system in the United States that modifies the airflow of an engine. That's all you have to do.

Darin: Right, existing stuff.

Chris: Existing stuff. You don't have to wait until tomorrow. Three years from now the fusion reactor, that's 20 billion dollars a year that they can't quite get to run for more than 13 seconds. That's always that by your 2030, 2040. We will have that worked out Well what about today? Right now we have to keep the money in the economy right now and green it up as quickly as we can.

Darin: I want to stay with the true solar power conversation and then will jump back to the dragon fire because we are still got people going. What the hell did he just say about dragon fire and hydrogen? So, we are going to sit on that for a second. But the true solar power. The true conversion of waste to clean ethanol, like let's break that down. Maybe just go into the problems of solar quickly and then how we can best use existing stuff today with the best solar converters and that is plants.

Chris: Correct, really when it gets down to it, you can't get a better solar collector than so, a leaf. And then it turns into starch and that starch could be turned into a sugar and you can take that sugar and distill it. Because this is a process we have had forever, 100,000 years. I think we figured out how to make booze a long time ago. The benefit of making booze is you can use any plant that we have on the planet that creates a starch and there's a lot of them. There's quite a few of them not grass. There was a sudden movement recently for people trying to convert grass into a fuel that's not where you need to go because we have a surplus of industrial agricultural waste, fruits, tomatoes, you name it. There's just so much of it and we generally run over it or we just grind it into the ground. You can convert that. That's your solar collector, right? Is the leaf that turns that sunlight into starch, into sugar. Yeah and now



you have got a carbon neutral fuel because the amount of CO₂ that you are producing is the same amount of CO₂ that the plant just inhaled. So it's a carbon neutral ping pong match. So as long as you keep the cycle going of growing the plants that will take in the sunlight, convert it to starch, turn it to sugar. The good news is your cost for converting over right now to a solar economy is what you currently have in your driveway today. You have already paid for it with a minor modification to the engine and the generators that currently exist, they can all run on ethanol. Now let me tell you the lie that was sold to the public a few years ago on why they didn't really transition over. There were a few special interests that didn't like the idea of everybody being able to switch over to a domestic fuel source. Now we have had this fuel source for over 120 years pre gasoline. It's been around for a long time. I am going to give you the recent history of what happened in the last 20 or 30 years is the lie that was sold was you can't run your car on it; because it will eat things in the car. That was around 1978 when that was true. There were certain rubbers that these ethanol's would eat through that doesn't exist anymore. Then the other lie was, well you don't get the same amount of energy out of it, but what's not told is that it uses more of it when it burns. So, you may be getting 20% less fuel economy but you get a more complete burn of the gas. So the emissions are less and the emissions that you are emitting are essentially co₂, which is what the plant just absorbed out of the air. So it's carbon neutral using the technology that currently exists. How do we know we can do this? Because a little tiny country by the name of Brazil, the size of the United States pulled this off in the year 2000 and they were able to transition with less than 2% of their agriculture using sorghum and sugar; were able to transition their entire fossil fuel economy over to a ethanol sugar economy. So again, the lie that was sold here is that it takes too much energy with the crops that they were proposing, which was corn and they're not wrong. If you used corn, you would be utilizing too much energy to mine it and to process it. But it's a subsidized crop. So it hit the top of everybody's discussion.

Chris: Now when you get into other, other crops like cattails or you get into something like kelp, you can produce so much more, right? You are in the 7,500 gallon to 20,000 gallon of ethanol per acre of kelp. So, my whole purpose for taking this on was to find out how islands this originally started as an eco-resort project about 12 or 15 years ago, finding out how to take solar energy using plants as the solar collector, taking that solar energy and converting it over to starch and to sugar and to run an eco-resort with it. And if we could do that, then we could use it to run all the islands. And you are not stuck with trying to take corn in doing it. You can take things that are available on the islands. So some areas can use kelp. You only get about 250 gallons of ethanol per acre of corn. So it's not great, but you can get up to 20,000 gallons per acre of kelp and it grows about 10 inches a day. So the United States could be completely energy independent if it wanted to be with its own fuel source on the coastlines, as well as taking the agricultural waste that we currently bury inside of landfills and converting that, that's all sunshine converted to sugar. So that's as solar as it gets.

Darin: So, it's sitting there, but we have stopped the cycle.

Chris: Correct.



Darin: We are burying it. So now that CO₂ that was captured by the plant is now emitting because we are not utilizing this fuel source that's just sitting there and another conversation you are talking about the Gulf of Mexico.

Chris: Oh, my goodness the dead zone

Darin: The dead zones.

Chris: Yeah, the dead zone.

[00:22:20] What are Dead Zones?

Darin: So some examples because the numbers are astonishing, right? We can be in energy independent.

Chris: Yeah.

Darin: Right here, very little.

Chris: Right, on that topic, I gave a presentation at the United Nations Ocean Conference summit in Portugal. This was July of this year and my discussion was the dead zones, how to fix them. So the dead zone that I was concentrating on was the one in the Gulf of Mexico and that's primarily caused from all the nitrates and fertilizer that flows off the Mississippi River and creates this oxygen free dead zone that just flows out for hundreds of miles and it just cascades and cascades and cascades. So one of the ideas that we had presented there was taking one of the 9,000 derelict, there's probably more than that, about 9,000 derelict oil platforms and utilizing them as kelp farms because kelp loves that nitrogen, it loves that fertilizer, it loves that surplus garbage coming off the Mississippi grows like crazy and it will absorb it, re oxygenate the water. You can then turn those kelp farms, which are these abandoned oil platforms. It's going to be a lot of people that don't want us to do that. So we may have to come up with brand new ones, but let's just say we have the 9,000 that were available to us. That becomes an economy for the United States. It revitalizes the Gulf, it eats all the nitrates and all the garbage and fertilizers that are coming off those river systems and it revitalizes the United States and provides an income and gets us green within this 2030 corridor that everybody keeps coming up with without the use of additional coal, nuclear reactors or fossil fuel. It's just there, it's surplus and we are just not capturing it. So in nature there is no waste. We consider things waste, but it's just surplus. There's too much nitrogen that was coming out there that was killing everything. So we gave this presentation and there was a standing ovation at the United Nations that we gave this to over at the Ocean Summit on the same line. If you just take the idea of utilizing more kelp farms as your source of not only food, but when you take the starch out of it, as David Bloom is able to do, he's got a very unique alcohol distillation process. He's able to take the starch out of the kelp and what's left over is mass, protein mass that you can feed to animals and people. It's very, very, very vitamin rich and we pull all the alcohol out and that alcohol is carbon neutral and we are able to use that for fishing boats now and tankers. We get rid of the bunker fuel and tankers. So now we have a source of fuel for sea vessels, which are the most polluting next to airplanes, the most polluting thing we have on earth that are in constant transit all the time, polluting up all the airstreams of every dock and every port that they fall into carbon neutral on that within three years. So this is just a way of taking something that's already there and turning it into a viable resource for the United States.



Darin: Yeah, I mean that oil tanker thing, when you said that a few years ago, I was like, oh my god because you don't see it. It's easy to point at the car, the plane and all, but these oil tankers

Chris: It's factory man, they use something called bunker fuel, which is the worst oiliest, nastiest leftover diesel that's available. That's what those things run on. And there's, I can't remember the number between 60 and a hundred thousand. Somebody will have to correct me on that. But there's a lot, there's a lot of these things and the more electric vehicle parts you buy, the more battery components you have shipped in on a tanker, you are taking the entire game backwards. So the idea is you want to regionalize your economy, solarize it with plants and ethanol because you can take the technology that currently exists off the shelf right now and run your house and your generators and your islands with it and your coastlines. It's all available. So we don't have to think of how to do this anymore. It's been done for us. We have to implement.

Darin: Yeah. So I mean just the one example of the algae, but we can use other crops in farming areas for a few percent of the agricultural land. We can take back all of our energy needs and then not to mention just the massive amount of food waste that can be.

Chris: Oh, in the US, oh, it's by the hundreds of tons. So you have food processing waste and then you have the stuff that farmers are paid to not pick because the market's too low and they leave on the vine and they grind it to the ground. Okay, So there is a gross misuse of a natural resource in general for just taking something that's a starch filled product that can be utilized within five miles of where it was picked. So farmers, which really take the brunt of all this, the ones that require the most subsidies, right? The ones that really require their costs covered could be making their own fertilizer. Because as a byproduct of making the alcohol, you can also make organic fertilizer. That's a byproduct of the alcohol. So you take the alcohol to use it to run your farm, run your tractors, cover the cost of heating, heating the greenhouses, there's your alcohol, there's your fruit source. And now you also have this byproduct that's worth about a hundred to \$150 per gallon, which is the fertilizer. Now you have got organic fertilizer, no more night traits flowing out into the creeks and rivers de-oxygenating everything causing red tide, eating up all the oxygen in the river down to the ocean. So it's this chain reaction of things that if you use the proper solar power, solar energy stored in a plant, you can stop most of the climate change issues that we are currently facing.

Darin: Every time I talk to you it's just like the simple stupid solutions that were the stupid because the solutions are already here.

Chris: Yeah, right we kind of just reinvent the same thing a lot. The material science changes and the packaging changes, but we keep crutching back onto almost the same solutions that have been developed since the 1930s; just rebundled a little bit.

[00:28:03] Try Bite Ad

Darin: You know, I am a big fan of habits and I am a big fan of those habits that are leading me towards success, for happier life, clean life. And we all know now more than ever; most products just don't have us in mind. And something that's really helped me to achieve this routines, and that is using bite toothpaste. It's not in a tube. You bite down on it, you get all of the same things. I have been using it for the past two years now. It's clean. It's fresh, no harmful ingredients. So, making the switch to bite was so easy. It's totally integrated into my



life. It's just what I do and I love it. Knowing that I've replaced that tube of plastic toothpaste, replaced all the chemicals that are harmful to my body and the environment. These toothpaste bites, clean, vegan, friendly, and still leave my mouth feeling great because again it has to work, which is why I love them. And now I just use the same glass container that I got two years ago and it just comes in these compostable pouches to refill it in a way we go clean healthy product with mindful clean packaging. But keep in mind Bite also sells a range of sustainable clean hygiene products. I love the deodorant comes in the refillable cool little applicator device. So, if you haven't already tried their products and you are ready to invest and integrate yourself with great quality product as well as sustainable integration into your life, then this is the time Bite is offering you my listeners, 20% off your first order. So go to try bite.com/DARIN20 or just use the promo code Darren 20 at the checkout to claim your discount deal. Man, that's try [bite TRYBITE.com/Darin 20](https://bite.com/Darin20).

[00:30:24] Let's talk about solutions

Darin: Let's talk about solutions

Chris: Well, we can get into my favorite, which is the, my specialty for a very long time now is the conversion of almost every form of heat into useful power. And sometimes that heat exists and you have to bring it in, but most of the time it's there and you can utilize custom motors and turbines and compressors and things like that. You can customize them yourself because these things really aren't off the shelf. So, I have been working very diligently of coming up with affordable versions of these things that will convert any type of gas that will expand when heat comes into contact with it. So, water is one, but water takes a tremendous amount of energy to flash into steam. But it's the common one because that's sort of what most of our internal combustion engines and trains ran on. We are used to it. We got it. And then after the 1950s we started getting into other things that boil at room temperature. One term for these are free on, right? And there are

Darin: Refrigerants.

Chris: Yeah. Ammonia is a refrigerant CO_2 , funny enough, was a refrigerant at one time in the 1930s, 1940s. So, we can take almost any form of heat and let's just take a bakery for example, something that we are working on right now. If there's a chimney in town and it produces more than 450 degrees Fahrenheit, that's a power plant that's just throwing the heat away up a chimney. So, what we are doing is we have got a way to take the heat, exchange that heat into a fluid, boil that fluid at room temperature, turn that into a turbine. And now your bakery is a power plant for itself and its three neighbors.

Darin: Right so it's a simple copper coil.

Chris: Correct.

Darin: That you can wrap around any chimney or?

Chris: Pizza oven.

Darin: Pizza oven, anytime. I mean, think about it, People who are listening, right. Anytime there's heat, I mean we go out here to David's farm and there's a compost pile and what is that temperature you get up to 114.



Chris: If it hits over 110, you start killing all the critters inside the compost pile. And that would be, and science and business terms, low grade heat and anything that's a low-grade heat, they scratch off the list as being useful in any way at all except for maybe heating your shop. So that to us is gold. We want all the low-grade heat things under 200 degrees Fahrenheit that we can boil a refrigerant with and use it to turn a turbine to heat code generate power for everybody. we have been doing that for a really long time. we are just always surprised when other people aren't mandating it because every place, hotel restaurant, dry cleaner bakery, they got smokestacks and that's heat just being thrown away that we can capture and use that to co generate power useful energy and cutter energy requirements down by 20 to 40%.

Darin: Is it the sophistication of the turbines and the motors once you've kind of had the free on expansion? What inhibits other people from doing it?

Chris: It's the financial model. A lot of people, except for some steel mills, don't really have a heat code generation investible model. Right? so you have to build it for them. You do a pilot program, you show it on site, they kind of scratch their head now they want to run it for a year to make sure it's reducing their energy costs. The funny thing is the science goes back a long way. So, we are not inventing this, we are just making it more optimal and a more affordable. So, these always work, but not everyone can allocate money for doing it because it's an unrecognizable thing for most people. They'll buy a solar panel that doesn't work at night, that's less efficient that they've got from China because that's a safe bet. You're not going to get fired for buying something that everybody else is buying. But there's a lot of job insecurity for buying something that, you know, they haven't seen one, they haven't driven past one, they don't own a steel mill. So, they don't know about the heat code generation stuff. So, I think there's just a little bit of mystery we have to overcome in packaging.

Darin: Listen, we are sprinting towards just society craziness, right? we are of course there's a climate issue and for me it's a lack of common sense. You just described something that, why wouldn't you do that? Right? Think of my brother in Minnesota, he's a very smart and he is able to fix a lot of stuff and for him everything's black and white. He's like, as soon as you would hurry here about that, like why would I waste that interview, right?

Chris: Why wouldn't you do that if it worked? I don't know. I don't know, that's one question in 25 years consulting the members of the UN and African Union and companies, they always ask me why. And I am like, ah, okay; there's one question I will never answer. I will give you a mass flow on thermal dynamics and how to build an engine and how to convert night heat into useful power using a cryogenic gas. But I can't answer why people don't do sane things. I really can't even after showing them how to do it, lack of implementation seems to be the next big thing you come up with because you're like, well if it was so good, they would be doing it. That's your argument, if it was so good, they would be doing it. Really? No, I see lack of that daily. If it's so good they just go, well somebody must be doing it. Somebody will be doing it for me eventually.

Darin: Chris, it's like from your direction you see it a million times. And then from my direction, I do all these small fatal conveniences. Relatively small compared to what we are talking about here in terms of changing, I am looking at dangerous carcinogens, phyllites, Teflon's and pfas and baby products and consumer products. If you ask why they knowingly



are doing it, you bet the Teflon's regulatory agencies are knowingly do it. I have no fucking understanding why.

Chris: And they have a legal division that's specifically set up to show them how far they can get away with it before it's so legally cumbersome that they have to switch over or stop

Darin: Now they change it

Chris: Yeah. Right. We'll eat the lawsuits on it because the profits outweigh the lawsuit.

Darin: So, the point is, we have systems that are failed and are failing and we have to get back to this understanding of use our brains and are common sense. And that's where all of this stuff because when you explain stuff, everyone in Washington at the UN is all like, that sounds pretty good.

Chris: We should be doing this.

Darin: We should be doing this. So, let's talk about some of the great clean energy solutions that you have. The ones that you're comfortable talking about. Just go into detail as much as you want. But the plasma, the cryo, any of those that you want to talk a little bit about.

[00:36:47] How about clean energy solutions?

Chris: I will talk about the liquid air system because it's not mine. It's something that I have adapted into the hardware that I have built. So, I was seeking a way to convert air into a source of fuel that could be used to power data centers, which are consuming about two to 4% of the planet's total energy now. And it's only going up. Everybody just thinks there's this infinite source of energy they can pull from. So, when I was touring, I was on a tour of duty a few years ago with guys that were very heavy into cryptocurrencies. This was So, about three or four years ago. And I was on this round the world tour to find out where are they getting their power from to do these things, these mining operations. I was just curious. And they were going after dams, like retired mining dams, like copper mines from 1945, 10 mines from 1930. And they were buying up these dams and attaching their data centers to it. And I thought, okay, there's got to be a better way. Maybe we can find a way to do this thing that I do, which is boiling a fluid at room temperature and turning a turbine with it. And then we'll utilize that as a clean source of inexhaustible energy to power everything. So, after a tremendous search and a little bit of research, I worked with NASA for a very long time and we found a very clever way of converting air with a very small amount of energy. 90% less energy that's ever been used to liquefy gases. You had a brilliant process of utilizing nature, geometry, a little bit of solar heat and the pressure of the gas working against itself. I can't tell you what the process is because that's proprietary. But I can say that you can liquefy air now for about 98 to 99% less energy than has ever been done before. What we would do with something like this is usually twofold. What would you be using that energy for? Well, sometimes it's refrigeration. Well, the good news is this is essentially a giant refrigerator. So now you don't really need the energy you needed for cooling things, because this is what it does naturally.

Darin: So, when you liquefy air, you get nitrogen?

Chris: Nitrogen, which is about 78% of what you're breathing right now. And then you've got oxygen and you've got a little bit of xenon, you've got CO₂, you've got all these gassiest components that are just wildly available. So, if you just let me borrow it for a minute, we can



liquefy it and then what we do is we go like this, we heat it just with the temperature of the room. And that's enough for this stuff to expand out about 700% and drive a Turbine.

Darin: So that liquid nitrogen that basically you peel off the air on demand. Now it's liquified and we all know liquified nitrogen is super cold. So as soon as you bring it back into the ambient room or temperature anywhere on planet earth. It wants to expand.

Chris: Yep, exactly. The temperature of the room we are in now, which is about 78 degrees Fahrenheit, is like a flame thrower to a marshmallow. If you had a cup of liquid nitrogen, as soon as you hit in this room, it wants to expand immediately back to a gas. So, you just have to bring it out, condense it for a second, heat it, and then let it do what it does best. The system is not self-running. You need external energy to kind of prime it and get it going. But after it's going, it's a heat pump and a heat pump essentially something that just takes in heat for a second. And for every unit of energy, you use to pump the heat, one unit can move four units of heat. So, you always have this over efficiency that's kind of magical about heat pumps because it's pumping heat, it's not creating the heat, it's moving it from point A to point B. So, there's this sort of exotic factor that people don't include into the efficiency of a system like this where I am just using one energy of 'F' energy to move four units of heat. So, I always have excess heat power for what I am doing. That's the easiest explanation I could give on a system like that. And what we would utilize it for is energy in remote areas, energy for data centers in some areas, but more importantly, refrigeration and flash freezing food because 40% of food is wasted globally for lack of refrigeration. So, we moved into this territory very early on. This is an agricultural app because it's so cold, like the back of your air conditioner, it's going to be sweating all day because it's so cold. So, we know that we can get the air down to minus three 20 at ambient temperature with a little bit of humidity. This thing is going to sweat between 40 and 400 gallons of clean drinkable water per day. So, it's an air conditioner that is going to be basically dripping water and, in some cases, provide energy, but in all cases provides flash refrigeration and air conditioning.

Darin: Yeah. So, the side benefit of liquefying the air.

Chris: Yeah.

Darin: Is you wrap it through some more coils and we all know it happens with dehumidification. When that ambient humidity hits those cold coils, it just rains water.

Chris: That's right. That's right.

Darin: And then if you take some air and throw that over the super cold coils you get air conditioning.

Chris: That's right. It's unknown science. we have been here before. This is not new stuff. It's just modified with better material science, better control systems and turbines and motors and pumps that can survive the frigid cold of minus 320 degrees Fahrenheit. It's too cold for almost any metal. It shatters it like glass. So, you're down to having to customize your materials to make something like this available and affordable for everybody.

Darin: Right. So, you're moving into some material science because the jewel of that whole type of division shift is because you have power sources, that you don't need similar to the gnarly solar, you have to have power to create it.

Chris: That's right.



Darin: Not to mention mining and all of that other stuff. So, for you to build this division of material science, you are bringing the power to it. Therefore, dropping the price and we will be able to move into virtually anything.

Chris: correct, just as important. It's a carbon neutral or carbon negative form of heat that we are utilizing because we have two or three different types of heat. One of them is hydrogen based, and how we make our hydrogen is a little on the exotic side. And something that we did release to the public. I will kind of get into one hydrogen type technology. We do have one called Project Dragon Fire. And it's very exotic and it's a very clever way of taking the moisture that's in the air and cracking that into a hydrogen torch that we can utilize for waste, annihilation and clean sources of heating and or refining. But I think the one I am kind of more excited about that we presented at the United Nations Ocean Conference was a way of turning sea water for islands and coastlines into a clean source of fuel. You do need to use one of these ceramic engines with it. But essentially what we did is we found that by taking the salt out of the water and separating the sodium from the chlorine and utilizing the sodium as a catalyst to liberate the hydrogen that's in the water and it's hot as well. So, it's like a hot metal that's a catalyst hitting water. I get hydrogen and flash steam that I can use to drive a very primitive piston steam engine. And that's for coastlines. And that could be used for boats and it could be used for anything that basically lives in the Pacific or the Atlantic.

Darin: So, we all know desalination.

Chris: Oh my.

Darin: Is such a huge, huge power problem.

Chris: You bet, yeah.

Darin: Right?

Chris: Yep.

Darin: But you have a way to use clean power to take out the sodium.

Chris: Correct.

Darin: And then you can heat that sodium and that sodium becomes this kind of micro power source.

Chris: Correct.

Darin: Once it hits water again and because of your advanced material science motors and turbines, you are able to capture that again, that exchange of action. From hot salt into water, and therefore that's you've created clean water without barely any power, or at least no cost virtually, you've then created a new power source from the sodium that you just extracted from the ocean.

Chris: Right, all the fuel you ever needed was floating in the ocean already. You just had to separate it for a second, utilizing the energy of the ocean to do that, because you have to start the process somehow. So, we create a little system where we take salt, table salt, we heat it a special way with some of our hydrogen technologies, and that becomes the source of fuel to drive the system. Now the system's going, and one of the byproducts of all these deiseal plants is that they spit this really thick molasses like salt out, which is what creates the dead zones. There's almost 22,000 deiseal plants around the world. I thought there was



like 9, like California, 22,000 and there's more to come because as more island resorts start getting built, people want to travel, they need clean water, they put another one out there, they create another dead zone. And the dead zone is caused from this really thick molasses salt that's been separated and spits back out to the ocean. It just acidifies everything. The good news, bad news, the bad news is they're going to be building more of these things. I don't think I can stop them from that. The good news is I think we can reduce the energy consumption of them and utilize that thick brine waste that they're pumping into the ocean. We can utilize that as a source of fuel and crack it down and make it even less acidic with our process. So, it goes out there and it has more of a pH balance effect. There's a way of doing that if you process it correctly. So, you can actually pH balance the coastlines if you process the brine properly. All that delicious surplus, they're just throwing it right back into the sea. All that fuel to run the entire operation. There was one in the United Arab Emirates that's about a mile long, and they utilize, I can't remember what the amount of power this place takes, but I know it's cost prohibitive to say the least. When you have a desalination plant that's a mile long that's used to basically irrigate and provide water for an entire desert region. Right? and now they're building a new city. They're proposing a new one down there with more desalination plants. They've already wiped out so much life in that area, made it uninhabitable. When I first started on this three years ago, there were 11,000 desalination plants. Now they're 22,000 desalination plants. What they are is they're just giant bribe-makers molasses. They take this salt out of the water. They separate it, it turns to this thick, gooey stuff. Some people mine it, which is what we talked about doing at the United Nations Conference.

Chris: You can pull a lot of magnesium and really valuable sources of metals and minerals, and then utilize that sodium as a source of fuel to drive the desalination plant and then start working in a way to actually pH the water around it. There is a way to make desalination plants work to our benefit and be self-sustaining utilizing the seawater around it. But then I would like to get into tankers, and then I would like to start getting into fishing vessels. And more importantly for me, I want to start getting into fueling the kelp farms needed to re-oxygenate the oceans that will eat all the nitrates and things coming off the coastline. And this would be a source of fuel so you don't have to utilize the alcohol you're making with the kelp. You can actually utilize the seawater as a source of fuel and you can sell that valuable final product that you're making with the kelp. It's a good economy.

Darin: It's great economy and that's, again, you've taught me over the years, it's like, and certainly David too, and certainly the principles of permaculture is there is no waste. It's just a laziness of not understanding the full system.

Chris: Yeah, It's our mindset. We have gotten into a very disposable mindset the last 30 years or so. I don't think that was always true. Now, like just the idea that we have to ban single use plastic bags in grocery stores is an indication of how sideways it went so quickly that we have this toxic petroleum product that we are using once and then taking your organic fruit out of it and organic meat, and then throwing your petroleum product into a landfill that doesn't go to a landfill, just ends up on the street somewhere or packaged and sold to an Asian country where they then burn it as a source of petroleum fuel. We have lost our way. The multi-use things and recycling things is how we always did things until about the 1950s. And then we started getting into, we have so much abundance, we can throw things away.



Darin: It's already clear maybe it isn't for some people that we don't recycle. We do it in our home thinking we are. But the program and the material science of plastics and layering and all of that stuff. We are so far away from being able to deal with that.

Chris: That's right.

Darin: And that's where part of the really, the plastic annihilation program that you're focused on.

Chris: In my heart, this plastic and ventilation program. There are a lot of people that are still pushing for the recycling programs. My viewpoint is we failed. It was a social experiment that we are not very good at. Humans don't recycle Well, especially if the material moves away from them from a city or a state or a country. They don't know where it goes, they don't care. And most people, when it gets there, they don't care either. So, they're utilizing some but if you did your research and you found how many companies around the world were actually like dumpster diving for material resources for plastic? There's like three or four. There's like nobody doing it. There's a company up in Canada and a few others, and they're good at it, but it can't handle the amount that we are producing. Yeah, so my viewpoint is destroyed at point of use. And if you need some products out of it, take it down to a carbon level, not a liquid petroleum level, a carbon level. Let's start turning it into fertilizer, carbon-based fertilizer, graphene's, graphite's, carbon, blacks, things like that. Let's just take it down, put into these little kegs that none of the gas escapes from heat it up and just neutralize this stuff.

Darin: Right. And that's where the power source that you can apply to that under these temperature and pressure tanks. You don't allow for, which is why Malaysia, whoever is taking our plastic and they're burning this stuff, it's just one of the worst things in the world to do. But you can control it and through that heat and pressure, the chemicals can be neutralized and it actually can be a product that is back to its origin on a molecular level and actually uses agriculture and use in other ways that can again, support life.

Chris: Exactly. You can, there are so many chemicals that you can separate and dial in with a process like this. Again, it's just like a keg. You're putting all your garbage into a keg, you're super heating it, and then you have known extraction methods of taking these toxic gases off in combination. They're worse than when they're individual gases. Right. So, you peel them off individually and they're a lot less toxic and they're sellable. They can move into industry and other industries that utilize those things for material science and hard products. My whole thing is getting it out of the air. Get it out of the food chain because it's causing mutations and the game is up as far as us extinguishing ourselves with our own waste stream. It's so high right now that we do have the climate change issues. That is by far the thing that affects all mammals and all life on earth. But we have almost extincted ourselves as a race from our own pollution cycles and from conveniences, as your conveniences shows explained, we are just deliberately doing these toxic exposures constantly. And plastic is one of those things. It's a petroleum product. If it's not plant derived, it just finds its way out there and it's in the fish, it's in the plants. They're finding it in the soil. The microbeads some of them are so small, they can't filter them out of public water. I mean, it's ridiculous.

Darin: Yeah, it's crazy.



Chris: where we are with this stuff now, we have to just stop.

Darin: I read a study on acrylic, which is also based in a lot of chemical craziness and petroleum, and there was a study of every wash, like, call it a fleece, call it a blanket of acrylic. It mimics wool, right?

Chris: Yeah man.

Darin: Every wash, 700,000 micro bits of plastic. One wash, one piece of article of clothes.

Chris: Ah. And that's what out the clothes?

Darin: Yeah. Clothes, socks.

Chris: There you go.

Darin: Blankets and so clearly, we are sprinting towards, and that's where the apathy drives me crazy. Which is why I am fueled to kind of educate and bring this stuff out of the apathetic lexicon. That we just agreed to do this. Thank God there's real studies now showing there's plastic anxiety.

Chris: Yeah, finally, finally. They're worried about what's killing them and they're feeding their kids now.

Darin: And it's neutering. That's the thing of course, it's affecting the planet and the oceans and the animals and the ecology. But it's affecting us. It's neutering us. It's in the science, it's not me making it up.

Chris: They're just estrogen, mimic kin chemicals.

Darin: Exactly.

Chris: It starts flipping biology all over the place.

Darin: Yeah. Chris, you know, I have known you now for a long time, and you are one of the most consistent people I have ever met. You have inspired me in infinite ways. Why don't you let everyone know what fuels you? There is a mission that you are driven by, that kind of transcends all of it. What fuels you?

[00:53:55] What fuels Chris to keep going?

Chris: I think at one point, I would say 25, maybe 27 years ago, I had one of those come to Jesus' revelation, inspirational moments where I had to decide because I was making a career choice between three careers. What drove me to do what I was doing with the careers motion pictures was one of them. Screenwriting was another. I did those as well. Mining, and what was the core of why I wanted to do those things was always to reverse the decline of the planet and save our species from extinction. Even in the motion picture business, I wanted to start creating documentaries. I did 13 documentaries on it. The sciences that I was funding to develop to clean up the mining industry had that as sort of the basis for why I was doing it. Not just animals and the creatures in the area, but I thought, you know, I feel that my fundamental purpose, regardless of what company I am in this week, what I am doing, what I am consulting in, wherever I am at, the core of it always has to be that. Because if I don't have that as the core for my function, then I can get easily distracted by the shiny pretty things that people want for what will clean things today, but really has no function later. So, I think that's what drives me, is reversing the decline of the planet and saving our species from extinction, that's it. If you were to peel everything else away on why I do what I do, that's it. That's why I build what I build. That's why I form the companies the



way I form them. That's why I consult in every consultation I have done for members of the UN and Africa Union for almost 20 years now, I have never charged for once. I get banged on that, I get criticized for that, that I am not a US contractor going out there and setting up programs that'll be deployed. I never felt that was really my function or purpose.

Chris: My purpose was to inspire them enough so that they knew that there was an option that they would never see before and had never heard of, and that they could do it themselves and they didn't have to wait for a contractor to fulfill it. So, I have spent all my money and all my time the last 20 years trying to make these solutions known and affordable for everybody on the planet and make them regional jobs programs. Because if they're not regional jobs programs, then the information in the science gets lost. You're waiting for somebody to solve your problem for you. So that's really it. I wish it was more complicated than that, but that's sort of what drives it all the time.

Darin: Everyone listening here like this is a snippet. A half of a half of a percent of what this guy knows. This has barely been publicly talked about.

Chris: True, I would say up until last September, I have done my best to not seek publicity, not do interviews, not put up a website to show you where you can and can't buy stuff. It really wasn't until the United Nations presentation that I actually decided it's time for everybody to learn everything that I know as quickly as possible, time's up

Darin: And time to get it out, we got to roll, man.

Chris: This is it.

Darin: Thanks brother.

Chris: Thanks for that.

[00:57:00] Podcast Outro

Darin: Thanks for tuning in to this episode of the Darin Olien Show. I hope you took something valuable away from this conversation that will help improve your life in some way. If you would like to learn more about my incredible guest, you can find all of their information in the show notes on my website. If you enjoyed this episode or even you didn't like it, please rate this podcast, the team and I value your feedback so we can continue to give you the most value possible. We want you to get the most out of every podcast. So please rate, subscribe, share - anything you feel called to do. I truly appreciate it and I love and value your support. So, thank you and I will meet you in the next episode.