

Islands Leading the Renewable Revolution Transcript

Samuel Lawrence Foundation

First Fridays

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Bart Ziegler: Welcome to everyone tuning in to join us for this May edition of the Samuel Lawrence Foundation's First Friday series. My name is Bart Ziegler, and I'm the President of the Samuel Lawrence Foundation. The Samuel Lawrence Foundation advances impactful programs at the intersection of science, arts, and education in order to find solutions to our planet's greatest challenges like nuclear waste and climate change. We host our First Friday shows every month to showcase incredible people, ideas, and projects advancing that mission and making a positive difference in the world. For today's edition of First Fridays, we have assembled an incredible panel of experts who are actively taking steps to reduce greenhouse gas emissions and create a more sustainable planet. I'll turn this over to our moderator, CEO of Brooklyn Story Lab, Lance Gould, to introduce.

Lance Gould: Thank you, Bart, and welcome to all who are viewing online. Experts tell us that we need to wean ourselves off of fossil fuels completely, or we face potentially irreversible negative consequences for the planet. But what if we don't have the slightest idea about how to do that? What do we do then? The nonprofit Blue Planet Alliance, which is a partner organization of the Samuel Lawrence Foundation, actually has an answer. The founder of Blue Planet Alliance, Henk Rogers, was instrumental in Hawaii becoming the first US state to legislatively mandated transition to 100% renewable energy by 2045. More than 20 other US states have followed suit with their own versions of the goal, and three years ago, Henk founded Blue Planet Alliance to replicate that success with other countries and territories beyond the US borders. Last October, Blue Planet Alliance launched a fellowship program in which they bring representatives from various islands to Hawaii for a vigorous and collaborative week long seminar where they meet with the key players involved in Hawaii's renewable trajectory and, importantly, where these island representatives develop and nurture their own plans for such a transition. The goal is to get as many as 50 or more islands on the path to 100% renewable energy, and imagine what kind of power that block of islands will have in diplomatic channels to put pressure on the real polluters such as China,

India and the rest of the United States. The second cohort of BPA's fellowship program starts this weekend in Hawaii. So let's meet some of the key players in this process and learn more about what islands are doing to lead the renewable revolution.

Lance Gould: Joining us today, we have Henk Rogers, the aforementioned founder of Blue Planet Alliance, and also the individual co responsible for you knowing about the world's most popular video game, Tetris. We're also lucky and delighted to have three other leading lights on this topic with us today. Racquel Moses is CEO of the Caribbean Climate Smart Accelerator based out of Trinidad and Tobago. Jeff Mikulina is executive director of the Hawaii Climate Coalition, and Ramon Cruz will be one of a few experts representing Puerto Rico at the fellowship program this coming week. Is also the former president of the Sierra Club. Welcome to all. Each of our guests. Today is a vital voice in helping lead a renewable revolution, and each will be playing some role in this coming week's Blue Planet Alliance fellowship program. Today, we'll discuss with each of them their view about how we can move the needle on renewable energy and tackle one of the planet's most pressing challenges, stopping the planet from warming any further.

Lance Gould: So let's get right to it. Henk, you founded Blue Planet Alliance after successfully leading Hawaii to become the first US state to legislatively mandate a transition to 100% renewable energy by 2045. That's a law Hawaii has to go 100%. Tell us about how you got started on this initiative and what some of the measurable, measurable results have been so far.

Henk Rogers: So I had, um, after I sold my company, I had a near death experience, [00:05:00] which helped me to find my missions in life. Uh, my mission number one is to end the use of carbon-based fuel. I read in the newspaper that it was going to kill all the coral in the world by, uh, the end of the century. And so Hawaii, um, spending \$6 billion of on fossil fuel every year and 3 billion of that going to electricity was the perfect place to get started. So we engaged the children and we engaged the adults. And then finally we pushed the politicians and passed the law. It took us a number of years, but at the end we prevailed. And, since then, we've changed the business model of the utility. So they make more money by switching to renewables. And today Hawaii is at 36% renewable energy.

Lance Gould: That's incredible. And so what in the journey for you said it took a number of years. What what mistakes did you learn? What mistakes did you make that you learned from that you're trying to avoid going forward with other islands?

Henk Rogers: Um, well, don't expect the utility to just say, sure, we'll do this. The utility has its own way of thinking, and their job, in their minds, is to provide 24 over seven electricity and do it the way they know how to do it. They need to be taken out of their comfort zone a little bit, and learn how to deal with intermittent energy sources like wind and solar, which they normally don't have to deal with. And so it takes a little bit of like innovation on the part of the utility and their thinking. But, you know, a carrot and a stick approach kind of works. So, um, the stick, if we just use the stick, it won't work. And if we just use the carrot, well, maybe. But carrot and stick is certainly, uh, working.

Lance Gould: Excellent. Well, now, tell us about the fellowship program that we alluded to in the intro here. What is the goal of the program? And tell us, tell us about how it works.

Henk Rogers: The goal of the of the the fellowship is to get the other islands and island countries started doing what we did in Hawaii. So we need to show them, first of all, that it's possible because if they go back to their island, if you if you see the starting point and even Hawaii's starting point, many years ago, people thought it was impossible. We were like, what are you talking about? That was the reaction I got from the the governor at the time. And, uh, what we need to show is that, first of all, it is possible and we are doing it and, uh, basically all really, all really takes us a little bit of willpower on the part of the people. And so, um, that's the key. The key is, is getting to the people. The people need to decide that they want to have a, a fossil fuel free energy future. And by the way, this this gives an island energy independence. Right now, Hawaii and every other island that, uh, that's not energy independent is waiting for the next tanker or the next, um, you know, fuel or fossil fuel supply to arrive. And if the, if the economy in economy in the world changes, those ships may go somewhere else or become more expensive. And so we're always at the how can I say, um, at the whim?.

Lance Gould: At the Pleasure?

Henk Rogers: Yeah. At the whim of things that happen outside. If you have wind and solar and geothermal, basically you're producing your own energy and you never have to think about where the next ship is coming from.

Lance Gould: That's true. And not only that, you're saving lots of money and, uh, \$6 billion a year in Hawaii example, you're also not contributing to the existential threat of your own islands. And also that money stays in the economy of that local island. So it's a it's really a win win win.

Henk Rogers: It's a win win win. And and what happened in the US is after we passed our legislation in Hawaii, 13 other states copied our legislation. So we really want to accomplish is island countries and then islands is uh having our legislation and then it, it propagating like the domino effect to other countries and bigger and bigger countries and eventually the world.

Lance Gould: Well, speaking of other islands, we have an amazing representative from the Caribbean today. Uh, Racquel, you are a leader in the Caribbean energy revolution. Tell us more about the Caribbean Climate Smart Accelerator, for starters.

Racquel Moses: Sure. So one of the big things and thank you so much for having me. One of the big things that we're working on is making sure that islands have the ability to achieve their ambitions. Many of our islands, actually ten of our member islands, have 100% as their goal. The challenge that we're facing is a little bit different in that we're not making progress towards that goal in the time frame that we've outlined. And so it's really important that we have this fellowship and this conversation about how do we get on track for delivering against the goal of 100% and for those islands that aren't quite yet at at 100% in terms [00:10:00] of their goal, how do we get them to increase their ambitions? As Henk said it?

Lance Gould: I apologize, Racquel, I apologize. I think Ramon--Uh, that might be that might be you. If you can go on mute for a second. Raquel, I apologize. Can you can you repeat that last bit we just had some audio interference.

Racquel Moses: No problem. Yeah, and as Henk said, you know, it is about energy independence. We we want to know that we can use the sunlight and the wind and the

natural resources, whether it be geothermal, that we have to generate the electricity that we need. We're in a somewhat lucky position in that the cost of electricity in our region is very, very expensive because we're importing fossil fuels to generate it. So we have all of this infrastructure that we've invested in, and I think that represents the challenge in the transition. How do you move from something that you, you know, is already a sunk cost to something that you have to invest in to generate the independence that you require.

Lance Gould: And the looking at a global picture, Racquel. Small island developing states like the islands in the Caribbean and the Pacific, are the least responsible for, and yet the most vulnerable to, the negative impacts of climate change. Tell us about how island countries can turn things around for the planet and take the lead on renewable energy globally. Kind of what you were just saying, but but, uh, really focusing on a leader like Mia Mottley of Barbados, how she's really getting it done and taking the lead there.

Racquel Moses: Certainly. And I think, you know, Mia is such a wonderful example of the the kind of moral leadership that we want to have. Right? Because it's easy for us to say, well, listen, you know, all of the big emitters need to change their economies and they do. But we are leading by example in the transition, in not only setting very ambitious targets, but also showing that against all odds, we are delivering on the requirement to cut your carbon emissions. And if we can do it, given our fiscal constraints, given our debt to GDP, given how small we are and how few resources that we have, then it removes any excuse from the US, China, India, whoever else about what they can't do because we are working with much less resources to transition our economies away from fossil fuels.

Lance Gould: Such a necessary example and such, and that's so beautifully articulated because we really need every country on board. Let's start and build a block of 50 islands or so. That can put pressure on the big polluters. And that can really, uh, be, as Henk mentioned, a domino effect.

Lance Gould: Let's move over to Jeff. Jeff, in addition to your role as head of the Hawaii Climate Coalition, you also have a long track record as a climate and social impact strategist. And you were formerly the head of, uh, Blue Planet Foundation, a

sister nonprofit of Blue Planet Alliance that did most of the legwork on Hawaii's tremendous achievement. What were the keys to success for Hawaii? To become the first US state to reach this landmark legislation? And what does it mean for the planet?

Jeff Mikulina: Thanks, Lance, and great to be here with everyone talking about this. You know, reflecting back on that was nine years ago that that measure passed in Hawaii. I have to admit, it was a bit of, you know, both pluck and luck. Um, we were at an interesting juncture in Hawaii where the utility was looking at some long term capital investments. Unfortunately, they were looking at liquefied natural gas at the time. And this is, I think, something familiar to a lot of islands, where proposals made to import what's perceived as "low cost," you know, "environmentally friendly" natural gas. We were wrestling with that long term proposal. We also got lucky because there's some transition happening as well with leadership. So Blue Planet Foundation had been discussing this 100% goal for a number of years. It didn't get very far because we just came up against, you know, all of the inertia of the incumbent system and incumbent players. It was funny at the time, the governor actually said that this is all Hogwarts, it's magical thinking. And I think he called me Harry Potter.

Jeff Mikulina: And and that was, you know, really at the time, the thinking that this is going to be impossible or impossibly expensive. So that's what we were up against. But again, very fortunate that, you know, there's some key decisions being made. So we sort of exploited that opportunity. But something else was happening, which I think is really important. A number of a huge number of residents were getting rooftop solar. We were leading the nation in per capita installation of rooftop photovoltaic. And I think psychologically, that really changed a lot of the thinking around what 100% means, because when we heard from naysayers saying that this is going to be impossible [00:15:00] or too expensive, it didn't resonate with those who already had solar on the roof because they saw their bill going down. They saw their lights and their refrigerator staying on. Um, and they realized, hey, this is working. Why couldn't it work state-wide? Of course, that was very simplistic, but it was that, you know, psychological kind of shift that I think enabled us to talk about this and sound somewhat reasonable. We also set a deadline that was a generation out. And so that gave lawmakers a little, you know, kind of let them off the hook a bit because they're making decisions real long term. But that's what we need to do because utilities make long term investment decisions. So again, it

was it was a bit of all of these pieces sort of coming together. And then the important ingredient was just the classic retail lobbying at the legislature.

Jeff Mikulina: We involved a lot of youth in that effort. We had them draw what they want their future to look like. Got about 800 of those drawings, picked our favorites and put them in a coffee table book. And then distributed that to the legislator legislators. And if you ever want to get the attention of a key decision leader, show up with a kid and a camera, and you can get in there. So again, it was a bit of luck. But what was interesting is, you know, we were pushing for 2040 as our goal. We thought that was reasonable: 25 years out from 2015. The utility essentially came around and said, you know, we might be able to do this, but nothing before 2050. Otherwise it'll be too expensive. And we hear this a lot with other jurisdictions to pushing out a date way far in the future. Um, honestly, it came down to the final hours of the legislative session in Hawaii, and like any good negotiation, they split the difference and landed on 2045 as the date for Hawaii's 100%. And I just find it interesting that that that has taken some gravity now. And these other states that are, you know, pursuing 100% goals or have set goals, a lot of them are around the 2045 date. California was the first in 2018. And just interesting that they pegged the same date as Hawaii, even though completely different circumstances in Hawaii.

Lance Gould: That is interesting. And, and I can't say that you're very much like Harry Potter, but you are quite a Quidditch player. You're also a key designer of the BPA Fellowship Program itself, which is putting the curriculum together and helping shape the vision of how these various islands can also learn from each other. Tell us about your thoughts about the fellowship program and what it can mean for planetary action. When all of these islands are together and learning from each other and sharing information in a convening like like the fellowship program.

Jeff Mikulina: The fellowship example, I mean, thanks to Henk here, this is just a genius, genius initiative in my mind where stronger together we have so much more to learn from each other. Um, and, you know, islands are fairly small. Sometimes it doesn't take much to nudge in one way or the other. So to me, the the Kryptonite of the status quo is having well informed, resourced and equipped knowledgeable folks on the islands. That can push back and really say, hey, this is the future we want. And if there's any question, we can point to another island that's already tackled that challenge. So

that's what we're trying to do with with the fellowship program. In my mind, you know, islands are where the future should happen first. Islands, as we all know, are very unique compared to continents. Uh, evolution and innovation can happen a lot further because of the unique selective pressures. You know, mammals have evolved three times faster on islands than on continents. So we really have this opportunity to solve these sticky problems faster on islands because we're going to hit them first. In Hawaii, our sort of shining example is the island of Kauai. That's now over 70% renewable. They pay the lowest rates in the state. They have the highest level of reliability. And they're really demonstrating what it looks like to go fast and go far on renewable energy. And they've hit a lot of technological hurdles on the way. And those are important lessons that we can share with other islands. And that's what we hope to do next week at the fellowship.

Lance Gould: Thank you, Jeff, and some of the images that the viewers, viewers that you're seeing are from the first fellowship that took place last October with, with with another cohort of eight islands. This time there'll be a different cohort of ten islands representing the Caribbean, the Pacific and also the Seychelles from the Indian Ocean. Um, Ramon, uh, you will be one of the representatives, uh, in this, um, cohort next, next week, uh, from your perspective as a global environmental leader and as former president of the Sierra Club, what steps do we need to take as a global community to reduce greenhouse gas emissions and cool the planet?

Ramon Cruz: Well, you know, first of all, thanks a lot for having me here. Great to see you again, Lance. And, uh, and also [00:20:00] everybody that is tuning in, um, you know, in terms of steps, I mean, we have to, um, I guess take many steps, be aggressive and take them fast. Um, you know, I guess if we follow, for example, Hawaii's lead, you know, you take a goal first and then develop a plan to get to it. You know, these days we have already the technology to reduce greenhouse gas emissions. You know, the market has also already turned the page. And we are finding, you know, the find ways to finance and finding the the money to cover for this what we need these days, uh, and we urgently need people to get behind, go out and vote and elect leaders that can have the political will to take us, you know, to take us to those through those steps. And so that is the what I think is right now desperately needed, because we have had major achievements, and we have found that many cities and states are following

Hawaii's lead. But we need we need everybody to be there together, walking that that that path with us.

Lance Gould: That's such an important point about voting and making sure that on a democratic level that we're we're getting the people in place. You know, as Jeff noted, once people are in place, there's there are certain ways to get to them. But we want to make sure that the people that we're putting into those, into those seats of power are amenable to and in favor of, uh, innovative solutions that will that will help the planet as opposed to continuing to take handouts from fossil fuel companies and denying that climate change is even a threat. Ramon, what does it mean to get actual commitments from islands such as Puerto Rico, which you will be representing, as we noted in the fellowship program? Tell us about the process and and how meaningful it will be once they come on board.

Ramon Cruz: Well, first, I mean, it's it's necessary to realize, you know, where are our strengths and our resources, you know, in an island like Puerto Rico, as Henk was saying, similar to Hawaii, you know, it's so vulnerable to all these shifts in the global stage, in terms of supply of when you're so dependent on, on foreign fuel and fossil fuels, uh, then, you know, you're at the mercy of, of many other places while you have so many resources. You know, in Puerto Rico, we have, um, you know, solar and wind all year round. So, you know, why are we not tapping into it? So, you know, in terms of of what we did, uh, in Puerto Rico, similar, you know, following Hawaii's lead, to be honest. And it was to, uh, to set up an aggressive goal. However, I must say that not a Puerto Rico has not followed the lead in terms of implementation. And you have right now a government, for example, that is a developing LNG. Uh, you know, as it was previously, um, uh, mentioned. And so what we need--

Lance Gould: Just for the audience, just, just, uh, LNG -- liquefied natural gas.

Ramon Cruz: Exactly. Yeah. Sorry.

Lance Gould: Making sure the audience can follow along.

Ramon Cruz: And definitely. And, you know, it's ultimately it's a it's a fossil fuel. And so the government says, well, we're, uh, reducing our emissions. Well, of course, if you're

using bunker fuel, that it's the most polluting of the fuels and you turn to, uh, the badly named natural gas, there's nothing natural, uh, really about it. Um, you know, then you're reducing emissions, but you're not where the world, uh, is, is right now. You know, if you would have told me that 30 years ago, then I would say, okay, you're transitioning. But no, these days you can leapfrog into renewable energy. And so right now, we have great goals, uh, in Puerto Rico in law. But we need further implementation. And for that, again, you need leadership that assumes that that takes on that challenge and and then ensure. By the time that we set up in our, um, in the case of Puerto Rico, it's 2050. And so, uh, and so we hope that we can get there in time for that.

Lance Gould: Excellent. We're going to cut now to Jeff. Ramon just mentioned that one of the biggest leaders, one of the biggest obstacles is leadership. But what are some of the other obstacles that most countries on the path, uh, face when transitioning to 100% renewable energy? There may be different from here to there, but what are what are the most common obstacles that these countries [00:25:00] face?

Jeff Mikulina: I don't want to sound trite, but really, deficiency of imagination is a big one. Sometimes it's just hard to imagine what it would be like to power a island on nothing but renewable energy. You know, there's all sorts of mental narratives out there that solar and wind, you know, they're variable. They can't possibly provide, you know, the power we need through a week of rain. So a lot of that's overcoming those old mental narratives of how we power our lives. That's a big challenge. The other challenge is really that power of incumbency. You know, we have some utilities in Hawaii, a utility that's been at it for 120 years. Um, they're fairly comfortable with the business model that they have. And this can be a very disruptive challenge. So how do they continue to meet their goals? We have an investor owned utilities that that comes with some challenges as well. Um, how do you, you know, keep them on this track, enable them to make this transition by design and not by default. Henk mentioned, you know, a measure that we passed to allow the utility to essentially make more money if they speed this transition and decarbonize faster. So tweaks like that are important to make sure that we consider all stakeholders and sort of smooth the path for that, that transition.

Jeff Mikulina: Then the final thing I'll say is, you know, technologically, it's really important to get ahead of this because there's so much lock in and stranded costs as investments are being made. And that's why the pushing back on, on proposals like investing in liquefied natural gas is critical, because as soon as a utility or an investor, you know, puts that capital into that infrastructure, it's going to be hanging out for a long time. We have a power plant in Hawaii that was built in 1963, and it's still chugging along. It's our single largest source of carbon dioxide. And there's it's going to be with us for a while.

Lance Gould: And what, uh, what fuel or what fuels that one? Because I thought Hawaii closed its very last coal plant.

Jeff Mikulina: Yes, closed the last coal plant. And that was also part of the strategy of just kind of hemming in. And just a note on that too. Islands, you know, unlike the continents, um, really have to be thoughtful about those energy sources. Coal does not work on an island. Even if it was, you know, the cheapest energy as we imported Indonesian coal, it was just a large, immovable load. And we really need flexible loads to be able to move with renewable energy. A coal plant is just a campfire. It's going to take eight hours to ramp up or ramp down. And it was honestly a liability on our journey to 100%. So we Blue Planet Foundation led that fight to close that coal plant for good in 2022. But we still have some power plants that burn, you know, that bunker fuel, essentially the bottom of the barrel, um, and that provides baseload power today. But over the next 15, 20 years, those will all be phased out.

Lance Gould: Got it. Uh, Racquel, there are many similarities, of course, between islands around the world in terms of geography, in terms of reliance on imports, like Jeff was just mentioning, uh, uh, imports of Indonesian coal and things of that nature in terms of energy. Can you tell us what most Caribbean islands have at their disposal and what unique challenges they face in that region?

Racquel Moses: Oh, happily. Happily. So most of us and we're we're probably the best location for solar, right. But and I'll tell you some of the things that we have going for us and some of the things working against us, we have massive amounts of solar, but we have restricted land mass. So there's only so much solar that we can implement. We have too much waste per capita because of our tourism industry. But then we also have

waste to energy. But again, at the scales that we do waste to energy, sometimes it's just not producing, uh, enough to to make financial sense outside of using it to get rid of waste. Battery storage is quite expensive. We have private utilities with take or pay arrangements, and we have small economies of scale, but we have massive amounts of geothermal in most of the eastern Caribbean and the the amount of geothermal similar to Hawaii. We produce so much potential geothermal that we could produce much more, up to ten times our internal requirement via geothermal. So what does that mean? We want to look at things like using geothermal to produce the fuels of the future, like green hydrogen. And we really need to seize the opportunities that are present for us to change the entire basis of our economies.

Racquel Moses: We also have things like wind, but wind doesn't make sense unless you're doing it at enough of a scale to generate it at cheap enough rates. So we [00:30:00] have lots of things going for us. We have hydro. I mean, Costa Rica, the only country in our region and one of only seven in the world at 100%, are using mostly hydro for the generation of their renewables. And that's a bit of a mixed bag. One of the other things that we have really going for us as we seek to build out this energy export market, is that we have market access. We are right in the middle of North and South America. We're close to the Panama Canal. We would be a great place to sell energy from what we need. And what we're looking forward to with this fellowship is collaboration around our energy mix and looking at the progress that Hawaii has made, and how can we collaborate with each other to determine how we make progress against those goals? Because we do have a fair amount of challenges alongside all of the energy access that we do have.

Lance Gould: Thank thank you for for that description of the region. It's really helpful. And also in that region, of course, is the nation Dominica, which is going to be represented at the fellowship. And they have a very aggressive stance on renewable. They're trying to be the first 100% resilient, renewable, renewable energy country. Tell us a little bit more about that effort and how they stand out from even even their peers in the Caribbean.

Racquel Moses: Yeah. So Dominica, one of several several islands, one of the ten islands that are looking at a target of 100% renewable energy, but they want to be the world's first climate resilient island. And where did they come up with this? Well, in

Hurricanes Maria and Irma, when they hit Dominica, they lost the equivalent of 226% of their gross domestic product. So their survival depends upon them building their resilience, which is why using their geothermal resources, they have over six geothermal zones using those resources not only to generate energy, but also to generate a new industry is so very important to them. And again, in Hawaii, where there are geothermal resources being realized, they really need to understand where they are and what are some of the milestones, opportunities and drawbacks from where they are to where they'd like to be, where they're using those resources to generate exports?

Lance Gould: And Racquel, I don't mean this to sound like a naive question, because I don't want this to sound like a...I don't know what the limits are in terms of tech, but when a country has geothermal energy and they're relatively situated close to another island, is there potential to pipeline that or to without using battery? I mean, batteries certainly is one instance, but is there are there other ways to get that geothermal to another country?

Racquel Moses: Definitely. So we're looking at undersea cable right now. And when we, you know, we share a net carbon, a net export market for energy from our region and the islands that we're looking at linking in the eastern and the southern Caribbean, the distance between them, that's half the distance of the UK link, the North Sea link that already exists between the UK. So what we're talking about, while it might sound really pie in the sky, it really isn't. It's something that's quite possible, but it requires that we get into the arrangements and we agree with each other and that we as a region, as sovereign nations, develop a plan together as to how we will unfold our renewable energy resources. And as you can imagine, that's really tricky.

Lance Gould: It is. Ramon, transitioning here to another thought. Ramon, among the many distinguished hats that you have I'm getting some audio feedback from you, Ramon. Just so you know. Among the among the many distinguished hats you have worn, including currently as a Visiting Professor at Princeton, is that of a regulator. As Deputy Director and Vice President of the Environmental Quality Board in Puerto Rico, the BPA fellowship convened stakeholders from each island who represent four different sectors the legislative sector, the utility, the community, and the regulatory sector. So from the regulators' perspective, Ramon, wearing that hat for the moment. Why is renewable energy a winning formula and why is it not gaining more traction?

Ramon Cruz: Well, hopefully you can hear me well, now. Sorry for the for the outside and the background noise. But, yeah, I mean, in terms of regulators, you know, in case of electricity, the role of a regulator is to ensure that electricity gets in the most efficient way to most people. Right? And in the case of the environmental regulator, you know, is that it's done so in the least impactful way to the environment and to public health. [00:35:00] In that way, when you look at it, renewable energy, it's a win-win situation. Not only that, it can be very efficient. It's environmentally sound. And also it's good for the wallet, you know, so it's less pollution, less impacts, more energy independence, more resilience. And, uh, so that's why, you know, I think especially for islands, it's an ideal situation. After Hurricane Maria in Puerto Rico, you know, it was very tough to live through that. And so many communities, stayed without power for so long. And it was the failure of both the state and the federal government in that case.

Ramon Cruz: And so we saw many communities, uh, you know, putting resources together to become more resilient and more independent. You had Casa Pueblo, for example, in the mountains that's doing a community solar project, without any government help. And also, you have a coalition of groups, including the Sierra Club, uh, that, uh, you know, pushed for this, uh, proposal called Queremos Sol. We want sun...You know, basically a way to solarize the whole island. You know, we have so many rooftops and people. That's the way that many people live. So, you know, why not solarizing everywhere so that people can easily face, uh, go through, uh, hurricanes and then come back up with energy independence. So some of those representatives from those communities that have been pushing for those examples will be next week in Hawaii as well, sharing their experiences, but also, uh, learning a lot from what Hawaii and other islands are doing.

Lance Gould: Thank you, Ramon. And just for the second part of that question, why do you think it's not gaining more traction in in a place like Puerto Rico?

Ramon Cruz: Well, it's something that I alluded, uh, before, you know, you have I think it's lack of creativity from many government officials and utility officials that cannot see this happening partly because of a status quo bias. No, uh, you know, we all got educated in a system, and then they continue to do it that way. And that's something from the past, you know, in a way, we're living in a with a technology from the, you

know, from the 20th century in the 21st, when we should be, uh, you know, doing much more. And, you know, I think, uh, again, the biggest obstacle is not seeing that bright future already, that the technology is here and the market has turned the page. So there's no excuse, but and I think, unfortunately, what we see in many places, I must say is corruption, together with this lack of initiative. Unfortunately, what we have seen is how fossil fuel companies and big oil have had so many people in their pockets. You know, this week I was in Washington in a joint budget committee, from the House of Representatives and the Senate, looking at the report on the big oil companies and accountability to Big oil. And the reality is that there hasn't been that much accountability to, oil companies that have done whatever they want for so many decades. And again, it's time to stop that because we have the possibilities of doing it. It's not something in the far future.

Lance Gould: And those and those fossil fuel companies that you mentioned have gotten \$7.1 trillion in subsidies, according to the world Bank. And it's just some of that subsidy money was transferred to renewable energy. It would be a complete game changer.

Ramon Cruz: Mhm. Definitely. And I must say also that we have to be very careful with the new technologies that, uh, these companies are now pushing for, you know, with carbon sequestration and hydrogen and, and, and you know, it's uh, it's sometimes a, you know, while researching that it's, it's needed. There's a whole spectrum of colors, you know, that, people are in the bandwagon of. You know, let's foster hydrogen technologies. But right now, the reality is, while we do that research, there's already much cleaner solutions than just something that it might be years from now. And [00:40:00] so we have to be careful because the big oil companies are pushing for those technologies, knowing that it's basically going to provide life support for a dying industry that that already have. You know, it's writing its final chapter, but it's trying to prolong it as long as they can. So just watching out for that.

Lance Gould: Well said. Let's go back to Henk. Henk, looking at the success and the track record that the the fellowship program has already had from just starting in last October, there have already been some tangible successes from the first cohort. That was eight islands in, uh, from from October in last year in Hawaii. The Cayman Islands participated in that one. And as was the case in Hawaii, the island got major pushback

in its effort to transition to 100% renewable energy from the utility. But just this past month, the Cayman government noted that it would indeed pledge to transition to 100% renewable energy, and much of that success can be attributed to Blue Planet Alliance. So tell us about the impact that you and BPA are having around the world, and can also talk about the, um, uh, the track record of Hawaii already reaching. I'll let you give the stats, but it's already at a certain, uh, percentage higher than expected in terms of renewable energy, where, where it needs to be in terms of 2045.

Henk Rogers: Yeah. So, we at Blue Planet Alliance, we've already signed agreements with five jurisdictions, and that's Palau, Tonga, Tuvalu, Guam and Curacao. The agreements say that we are going to work together with those jurisdictions to achieve 100% renewable energy by whatever date we decided.

Lance Gould: And I believe there's a sixth as well. CNMI (Commonwealth of the Northern Mariana Islands).

Henk Rogers: CNMI. Oh right, that's recent. That's right. It's fresh off the... Well, the ink hasn't dried on that one. Uh, um, but, um, yeah. So we, you know, when the, when, for example, the Cayman Islands, when they started moving towards the legislation, and the legislation sounded like it was in jeopardy, because the utility is pushing back and saying, well, we have this LNG solution that we'd like to implement. We went we pulled out our... How can I say? We took out our guns and started shooting. We appeared in the newspaper. We did an op ed in the Cayman Island newspaper explaining how LNG is a dead end strategy and how renewable energy is so much easier to achieve than the utility makes it out to be. And, apparently that had a good effect. And the government decided to go 100% renewable by 2045. Which is amazing. I love, I love those kind of success stories. Um, and we're going to keep on doing it. Going back to an earlier, um, uh, somebody said something about what do we do with energy that's on one island and we need it on another island. And I'm in favor of, uh, having an island that has extra energy. Uh, for example, geothermal, create hydrogen and then ship that hydrogen to other places that don't have hydrogen or that don't have a enough of a local source of renewable energy. Hydrogen is a very is a clean source of energy. As long as we don't use natural gas as or methane to make it, uh, it can easily be made by using electricity.

Henk Rogers: And that if that electricity comes from hydropower or if it comes from wind or solar or better yet, geothermal, which is a limitless supply of energy that's at the core of this planet, we should be able to solve, you know, all of the places that don't have local enough local resources, even here in Hawaii. You know, we we did discuss putting a cable from the Big Island where we have lots of land for wind and solar, and we have geothermal to Oahu, where all the consumption is. 80% of the people live on Oahu. But the cable is so expensive and so difficult. I would venture to say that it's much easier and cheaper to create hydrogen producing facility on the Big Island and then ship that hydrogen to Oahu and then have them use it here in, uh, and not combustion, but, fuel cell. So that is much more efficient way of using hydrogen. I think that's the future. Extra hydrogen can help with ground transportation. Trucks and buses run on hydrogen or should run on hydrogen. Batteries are simply too heavy to be used in trucks and buses. I mean, they are on some level, but you're spending all of your energy moving batteries instead of moving cargo. And hydrogen is a much, much lighter [00:45:00] way of of having an electric vehicle. Um, so I think the future, my future I believe in is, is hydrogen produced by geothermal locations all over the world. We have the Ring of Fire all around the Pacific. These are, um, how can I say, distributed energy sources? And, I think they're limitless.

Lance Gould: Well, speaking of the future, 2045 is the future and the deadline which has really been sort of a mantra of Blue Planet Alliance. Why are deadlines so important in expediting the process?

Henk Rogers: Well, certainly. If You don't have a deadline, nothing happens, nothing gets done. It's like, it's like, go to school, but we don't know when you're going to graduate or build me a building, but we don't care when it's going to get finished. And the answer to that is that if you don't have a deadline, it just doesn't happen. Everything that we do in business, in construction, in education, in government, everything, everything has a deadline. And then everybody that is subject to that deadline needs to get in gear and make that happen. The problem with the world today is that we are not in gear to solve climate change, and we need a deadline. And the deadline that Hawaii picked for us... Actually, we got 2045 by compromising with the with the politicians. 2045 is the 100th anniversary of the United Nations. What better date in history to fix climate change than 2045? We have the money, we have the technology. All we need is

the willpower. And everybody in the world just needs to get around to the thinking process that we totally are capable of doing this. We just have to do it.

Lance Gould: That's so important. Thank you. Henk. Um, I have more questions for our panelists in a minute. But first, let's check and see if there are any questions from the audience. Uh, Grace, is the audience, uh, weighing in with anything at this point?

Grace Chalmers: We have a very engaged audience that actually gave us a three-part question for Racquel. So, Racquel, what are a few of the barriers in bringing the Caribbean islands together in managing this climate issue? That's the main question. But then also, what are some positives you see in getting there? And is there one particular island that's leading the way? Can you tell us a little more about the Caribbean?

Racquel Moses: Sure, I'm happy to. And I was so excited about the whole conversation around hydrogen and, you know, Trinidad and Tobago, where I live and where I'm from is an oil and gas nation. And we already have a market for hydrogen. We're producing ammonia now, but obviously we're using, um, hydrocarbons to produce the ammonia. And we have a huge ammonia export market. What we need to be producing is green ammonia. And so we require that hydrogen. So we have the wonderful position of needing a green market and needing a green supply of hydrogen today to transition. So I think it represents a great incentive for that transition because it doesn't mean that we're we're looking for markets for some of the outputs that we want. We want to transition to the islands that are making the most progress. I mean, Costa Rica is an absolute global example. They're already at 100%. They can run for 300 days on renewable energy, and they're a beacon that you rarely ever hear about in terms of, um, you know, all that they're doing for climate. And so we're so excited to tout that. Listen, against all odds, Costa Rica is leading the way in our region. Some of the main challenges that we face in islands agreeing is just like, you know, Nevis has wonderful geothermal. So does, you know, Grenada and Saint Vincent and Dominica obviously. So it's like who gets to go first and who's closest to being able to realize that goal and everyone will be required to make---

Lance Gould: I think we lost Raquel for a minute. Let's see if she comes back and give her a second. And if she doesn't, I'll ask another question. If she comes back, she can continue.

Grace Chalmers: I actually have a tie-in question from the audience that goes to all panelists, if you'd like.

Lance Gould: Oh, sure. Go ahead, Grace.

Grace Chalmers: Sure. So actually, I've heard you all speak about the questions of scale and questions of creativity and trying to bring everyone together to address these problems, but also recognizing that there are very individualized solutions. So can you tell the audience a little bit about how you balance that question of scale and creativity?

Racquel Moses: Is that for me?

Lance Gould: Racquel, sorry we lost you for a second. Yes, yes.

Lance Gould: This last question was for everybody, so feel free to interrupt that one.

Racquel Moses: Scale and creativity. I think the devil's in the details. Right? We have to. We have to be better collaborators and realize that this transition is not going to be simple, but it's not impossible. And there's so many [00:50:00] resources at our disposal. So I think this Blue Planet Alliance is fellowship is exactly what we need to be doing. We need to be collaborating around what works and talking about, okay, here's where we've had success and here's where we've had failure. Don't repeat the failures. Let's just double down on the successes and learn how to work together to get to even better places, of levels of commitment, of setting timelines, of understanding how we work together and delivering on this promise. What we fail to realize is that this this is an opportunity. New businesses will be formed, new people will be empowered, new islands will be more resilient. This, uh, energy transition is as much of our strategy for climate mitigation. So cutting the carbon from the atmosphere as it is our adaptation when global supply chains are separated, we're the last ones to get access to fossil fuels to continue to run our energy. So how wonderful would it be to be energy

independent? So after a hurricane, you just, you know, sun starts to shine. Everything's back online.

Lance Gould: Do you want to jump in? Yeah. Go ahead.

Jeff Mikulina: Sure, yeah. And I completely agree with what Racquel just shared. You know, Islands again are really unique. And the opportunity to sort of de-risk these solutions for other islands and then for continents is huge. And that's, in part what we're doing in Hawaii. I don't want to say muddling through, but certainly learning through the transition and using resources that we have. So, for example, I mentioned Kauai before as a leader, Kauai was challenged because they have a lot of native birds. So wind wasn't really an option. So they had to look at other resources to move towards renewables. So it's all about place and it really has to be appropriate to place. Um, and each of these islands, I mean, throughout the world have a unique set of resources. So finding the right balance of those resources that work technologically, pencil out economically and that support the community and equity is critical. But it's going to be different for every place. But I think what's really important is islands can de-risk the solutions to scale. We can test them here, a living laboratory and then watch them grow beyond our shores.

Lance Gould: That's such a great point, Jeff. And it's really interesting just to have a suite of options. You know, that you have a tool belt that you can approach each new place and say, this could work, this won't work for you. This will work for you. And then as you develop them in this lab, this living lab of, you know, of the Caribbean and the Pacific, uh, being able to bring them to the mainland. And of course, Costa Rica is mainland, but it's it's in the Caribbean region. So we're kind of counting it as, uh, as part of the island group here. But, um, and they have the unique resources of hydro that, that they have there as well. So, um, but but being able to bring this to, um, uh, areas that, that are, uh, still developing their, their renewable energy plans is such an important part of the, of the process.

Jeff Mikulina: Yeah. And, Lance, if I could just reinforce this one point as well, because I think some folks might look at islands and we hear this all the time in Hawaii as, come on, it's so small, our greenhouse gas emissions, like, why bother with islands? We should focus on India and China and the large, you know, polluters in gross numbers.

But I think islands are key. And it's really that that opportunity to, like you say, being being a living laboratory. You know, I think of the Greek, um, you know, Archimedes, you know, "give me a lever and a place to stand and we can move the world." And I think that's the role that islands can play by showing what's possible and getting being the vanguards for this transition that the rest of the world can follow.

Lance Gould: I completely agree. And if you look at the United Nations as 193 countries, 193 entities, and there's 57, I believe, small island developing states, and which are the SIDs countries, and they'll be hosting a conference all about island needs vis a vis renewable energy and other things later this month in Antigua, which was also hit by a hurricane, um, 50, you're looking at almost a quarter, um, uh, more more than a quarter of all the countries in the world. So so it's really a diplomatic opportunity as well.

Racquel Moses: Certainly. And I love that point that you made, Jeff, about, you know, the living laboratory, because we we see Dominica as that living laboratory for our region. But we also see, you know, when you're decarbonizing at scale, when you get to things like transportation and heavy transportation, as Hank was talking about earlier, you know, figuring out what's the right mix, that's something that everybody's going to have to figure out. And it's easier to figure out at scale on an island and then continue to iterate that process for the big continents. So this is where people should [00:55:00] be investing in our energy transition and in our decarbonization to figure out what does that look like, what happens to the gas stations, what happens to the, you know, long haul, um, transportation routes? How do we get those things done? And whether or not you wish to admit it, this transition is already this. This this car is this train is off the track, right? It's it's left the station. So this is something that is is happening and this quicker we figure out the hard to to transition sectors that are hard to transition things. The better off we are and the more opportunities that will be created for people who want to to be on the winning side of this.

Lance Gould: New businesses, new entrepreneurial opportunities. Absolutely. Ramon, did you want to add to add to this?

Ramon Cruz: Sure. And to that, at that point, in terms of new opportunities and I guess the creativity part of the of the of the question and the innovation, you know, what we have seen in the last 20 years, it's it was unimaginable, uh, you know, with all the focus

that has been on this issue and the threat of climate change, that, you know, it's not I mean, it's it's not in the future. It's already here. And many people have have already unfortunately, suffered many of the consequences. But, um, it, you know, and that creativity to unleash it is necessary uh, to, you know, of course bring carrots but continue also with the sticks, you know, in terms of, uh, you know, there's no longer a moral imperative for the world to be so dependent on fossil fuels. And we're at a moment. It's a conundrum, you know, similar. And this might be a bit harsh, uh, to many. But, you know, where we were at the end of slavery? Uh, you know, where you had economies, uh, you know, built around that institution that became a I mean, that was always a unnecessary, you know, and, uh, but but became immoral and and it was only when you actually banned that institution that unleash all the creativity of what became the industrial revolution. And so we at some point, you needed to say, okay, a different world is necessary, you know, that we're going to switch, you know, our model of, of, uh, of production and the dependence on, on something that is no longer needed. We can turn the page. And so I think we're at a moment that it's similar, you know, the the fossil fuel industry is no longer needed. But if we don't have it there, you can unleash so much creativity and so much innovation like what we have seen in the last 20 years, but imagine things that we cannot even understand right now, uh, can be just around the corner when you when you tap into that.

Lance Gould: And wouldn't it be great to to bring them on, uh, and, and find out what innovation they have, uh, and to tap into, uh, the opportunities that they have there and, and encourage them to, to shift away from, from fossil fuels and let them develop, uh, help them, let them be partners in the future, uh, developing the new ideas that we need.

Ramon Cruz: No. Certainly. Exactly. And that's why we need again. Uh, I think there's a lot of incentives out there, but we need to take those bold steps to, to, you know, pass the page, turn the page from fossil fuels dependence into the the new technologies of the 21st century.

Lance Gould: Henk, you wanted to chime in here?

Henk Rogers: Yes. There was a question earlier about what happens to an island after they go to 100% renewable energy. We need look no further than Iceland. Iceland did

this, my gosh, in the 70s. Um, so that's that's a good 50 years ago. And it caused an economic miracle. Having cheap energy and cheap hot water and cheap heat changed everything in that economy. So I believe that every island that transitions to 100% renewable energy will go undergo a similar transformation to what Iceland did. And because it happened such a long time ago, people seem to have forgotten. And they're they're not noticing or they're not bringing that that model into today's world. But if an island goes 100% renewable energy guarantee, there will be an economic miracle happen in that island. Hawaii is is going to go from spending \$6 billion a year on, uh, fuel, uh, coal and [01:00:00] oil to zero. That is \$6 billion that stays in the economy. That doesn't flow out to other places. And uh a lot of times the the sources for that uh, for that oil that we import aren't, aren't our best friends, by the way, just just saying.

Lance Gould: All right, well, uh, everyone, this has been such a fruitful and wonderful conversation. I have a final question for each of you, one question for all of you to ponder. What do you all see as the next steps here after we continue to build momentum with island countries? Jeff, let's go with you first.

Jeff Mikulina: Sure. I mean, we're stronger together. And I'm excited about next week's fellowship getting ten islands together. We have so much to learn from each other. Um, we're all at different stages struggling with, you know, similar but different challenges. And we're just stronger sharing that together, as I said before, I mean, us being linked and sharing these resources is really Kryptonite to the status quo.

Lance Gould: Ramon, how about you?

Ramon Cruz: Well, I guess I will go back to the first, uh, point that I made, uh, wearing my advocate hat: The importance of voting. We have achieved a lot, but we're not all the way to the finish line. So we need to elect leaders that have a plan that have been consistent in tackling these, uh, you know, the biggest threat that humanity has ever faced that is climate change. So I hope people get active, especially this year. We need you all there. Go out and vote and bring others.

Lance Gould: Henk, how about you?

Henk Rogers: Yeah, we are doing this with islands. And as it was alluded before, it's 25. We have 25%. If all the SIDs country voted as a block, we would have 25% of the votes in the United Nations. This is huge. And we need to use island power to achieve climate, uh, you know, the solutions to climate change. But we're not going to stop at islands. As soon as we have enough islands, we're going to move. We're going to continue on. There are already countries that are asking us, well, why aren't you doing countries that are that are not islands? And the answer is no. There's absolutely no reason why we shouldn't be doing doing that. And we will, we will, we will make sure that every country in the world has a mandate of 100% renewable energy by 2045.

Lance Gould: Wonderful. And, Racquel, I want to give you the last word here.

Racquel Moses: Thank you so much. You know, for I think it's taking personal responsibility. Right. So if it is that you need to become informed, you know, for those of you who are watching, great. This is part of your education journey. For those of you who aren't seeing this, you know, share it with somebody so that they are able to get informed and take action. It's so important that we're all have, you know, great positioning on this. And for us at the accelerator, what we plan to do is to take the learnings coming out of the fellowship and then use that to draft a process for the region. So what's the next domino to fall after? We've now come together and discovered some of the opportunities that are on the table, and that's what we want to do. So take personal responsibility. Make sure you're advocating, make sure you're informed and do something that's wonderful.

Lance Gould: That, and Ramon's reminder that we should all vote. And Henk and Jeff's great contributions. Thank you, all four of you. I'm going to turn things back over to Grace to close us out.

Grace Chalmers: Thank you all so much for this incredible conversation and for sharing your perspectives here today. You're all doing such amazing work with consequences that seem bound to have more of an impact on our future than ever before--and all with Island Power. So that concludes our program today. To rewatch this podcast or see a transcript, go to the Samuel Lawrence Foundation website in the coming days. That's SamuelLawrenceFoundation.org, and thank you so much to Blue Planet Alliance, the Caribbean Climate Smart Accelerator, Princeton University, and all

of our partners for their participation in today's event. To learn more about the critical work of everyone that was involved in this event, please see our newsletter, The Samuel Lawrence Foundation Newsletter, which you can sign up for on our website. And thank you to Lance and our partner, Brooklyn Story Lab. Please visit BrooklynStoryLab.Net to learn more about the Purpose driven work they are doing around the world. And last but not least, make sure to join us for the next Samuel Lawrence Foundation First Friday Series in June. Thank you all and goodbye.