

How Hawaii Did It – Roadmap to a Renewable Future

First Friday Series Webinar

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Grace Chalmers: [00:00:19] Good morning and welcome to everyone tuning in today to join us for the November edition of the Samuel Lawrence Foundation's First Friday webinar, "How Hawaii Did It: Roadmap to a Renewable Future." My name is Grace Chalmers, and I'm the Project Coordinator of the Samuel Lawrence Foundation. Our role here at SLF is to collaborate through science, art, and education to find solutions for our planet's greatest challenges—from nuclear safety all the way through to climate change. We believe that by bringing incredible minds and incredible voices together, we can move from collaboration to action. And today's speakers will address a critically important step in making our planet more sustainable by demonstrating how countries and territories around the world can feasibly switch from dirty energy to clean renewable energy—and save money and the environment in the process. I'm going to turn this over to our moderator, the CEO of Brooklyn Story Lab and former Executive Editor of The Huffington Post, Lance Gould, to moderate today's discussion and introduce our wonderful panel of speakers. Lance, over to you.

Lance Gould: [00:01:20] Thank you, Grace, and welcome to all. We know that we need to end the use of carbon-based fuels almost immediately to slow rising global temperatures. The implications if we don't are potentially irreversible negative consequences of which we're already seeing evidence in the form of floods, wildfires such as the wildfires in Maui that destroyed so much of that beautiful island. Extreme weather and dangerous heat waves that threaten to make the planet unsustainable and parts of it uninhabitable. But how do we do it? Is there a model to which we can look to show others how it is done? In fact, there is. Hawaiian started deliberating over whether and how to transition to 100% renewable energy in 2009, and then in 2015, the state passed the first US law mandating Hawaii to make such a 100% renewable energy transition. It takes a village, and it takes the leaders of the public and private sectors and civil society and the utility to come together and work in concert to iron out differences and get on the path to 100%. Hawaii had such a group effort involving many stakeholders, including Hank Rogers and Blue Planet Alliance, which is playing a significant role in the process, and which is a partner of the Samuel Lawrence

Foundation. Today, we have an amazing panel with representatives from each of those sectors who can help us understand what Hawaii accomplished and how others can follow this important lead. So please join me in welcoming [our panelists]. We have from the public sector, Senator Chris Lee, who when he was first elected, was the youngest state representative in Hawaii Legislature. Chris is also the author of the bill that became that law mandating that Hawaii transition to 100% renewable energy. Well, welcome, Chris.

Senator Chris Lee: [00:02:57] Great to be here. Thanks for having me.

Lance Gould: [00:02:59] Bridging the gap between the public and private sectors is Gwen Yamamoto Lao, executive director of the Hawaii Green Infrastructure Authority. The authority. Hawaii's Green Bank was constituted in 2014 to administer a green infrastructure loan program to make clean energy investments accessible and affordable to Hawaii's underserved ratepayers, stimulate private investments, and leverage innovative tools to mitigate risks and reach new markets. Welcome, Gwen.

Gwen Yamamoto Lau: [00:03:25] Thank you.

Lance Gould: [00:03:27] From the private sector, we have Sierra Jaclovics, who is the UN Energy Policy and Project Manager at Mana Pacific Inc. Mana Pacific is a social impact company and benefit corporation that develops finances and de-risks scalable island resiliency projects in Hawaii and the 22 Pacific Island countries and territories. Welcome, Sierra.

Sierra Jackovics: [00:03:47] Thanks, Lance. It's great to be here.

Lance Gould: [00:03:49] And from civil society is Richard Wallsgrave, Associate Professor at the Richardson School of Law at the University of Hawaii at Manoa, where he serves as Co-Director of the Environmental Law Program. Welcome, Richard.

Richard Wallsgrave: [00:04:02] Thanks, Lance. It's great to be here with such a distinguished panel.

Lance Gould: [00:04:05] I couldn't agree more. We have such a great panel and thank you all for being here. First question, Richard, if you will, can you set the scene for us as to what Hawaii was facing by not going down the 100% renewable energy path? This was in the early, early, early 2010s, when the state was spending \$6 billion a year importing fossil fuels.

Richard Wallsgrave: [00:04:25] Sure. In a word, I think that we could describe the sort of energy policy situation in Hawaii in the early 20 tens as a bit of a mess. Like most places, we had an electric utility that was really good at doing what it had been designed to do, which was to keep the lights on, sell lots of electricity, and give us all access to the luxuries and the benefits that come with that electricity. The flip side of that, though, is that we were we were sort of living with the legacy of an outdated approach to energy, an approach that had been [00:05:00] designed over 100 years ago to achieve the types of goals that I just mentioned, and was full of areas where the institutional inertia seemed almost overwhelming. In other words, trying to imagine change in any direction, let alone change of the sort of magnitude necessary to start to address something like the climate crisis. It almost seemed impossible because of that institutional inertia. As you mentioned, we were spending a lot of money on energy. We still are in some respects, but in particular, our reliance on oil to generate electricity is a problem that was unique almost to Hawaii that very few parts of the world, let alone the United States, rely on oil for electricity. And so the price was high. And moreover, it was volatile. Something like the Fukushima nuclear disaster, which actually caused countries in Asia to start using more oil, caused our electricity prices to spike. So it was—

Lance Gould: [00:05:56] I think you were spending \$5 billion a year on oil and \$1 billion on coal.

Richard Wallsgrave: [00:06:01] Exactly, exactly. And for you know, that might not sound like big numbers in other parts of country, but in Hawaii, those are really big numbers. And then imagine overnight that that number could spike by 35, 45% for reasons completely outside of our control. I just want to quickly just point out, though, that the situation wasn't all bleak and there were some really exciting things happening. I think at the top of the list was the explosive growth of rooftop solar as an energy alternative, and this meant that there was a whole new sector being developed in our economy. There was a time in the early 2000 where fully a third of the construction

industry, construction expenditures in the state were going into rooftop solar, and this created lots of jobs. It meant that everybody knew somebody who worked on, on solar and most of us had neighbors where we could see the solar panels on, on the roof and think that that allowed us to think about energy in a different way, and to think about whether change was more possible than it might have seemed. You know, to the naked eye, I think that sort of sets the stage for where we were.

Lance Gould: [00:06:59] That's wonderful. Thank you for that. And you raised such a good point about there. It isn't all doom and gloom and there are opportunities, economic opportunities to invest in clean energy that that that currently should not be—only, should not be an obstacle, but should be should be a reward for doing so. Chris, what were you hearing from constituents at this point? There was so much money being spent on fossil fuels. And of course, there remain existential threats to the island. But were voters on board with this plan right away?

Senator Chris Lee: [00:07:32] No. You know, I think setting the stage well, we spent a ton of money, as Richard had mentioned. You know, I don't think people tangibly connected the amounts of money we're spending and sending overseas to what it meant for their own pocketbooks. They just knew the cost of energy was high, and the price to import fossil fuels meant we're paying, you know, three times, in some cases four times the national average of what your typical household spends for power. So there's a lot of frustration out there with the utility in general and just with the prices of everything. But it's also a point where we weren't really as a state talking, having a serious conversation about climate change. It was still kind of taboo even as late as like 2012, to talk about sea level rise and what all these impacts are going to have, because it will disturb property owners down by the shoreline and create a whole lot of political turmoil. So there wasn't a whole lot of, I think, connection in the public consciousness between some of these impacts and really what we could do about it. People wanted change, but they didn't really believe there was an easy path or they didn't know how it could actually come about. And so at the start of this real conversation, as we talked about, all right, what can we do? You know, is definitely students and younger generation and folks coming out of the woodwork saying, of course we've got to do something. You know, what? What is that going to be? And to Richard's point, one of the things that really started to change, I think the public mindset was that that just explosive growth of rooftop solar in a way that made it visibly and tangibly real for

people. They could see their neighbor's house. They could talk to them and be like, you're paying—wait, how much less than me for power? And so suddenly it created in the public's mind this association between cheaper energy and cheaper power and renewables. And that really, I think, teed up a discussion that we hadn't really had in Hawaii before and created an opportunity.

Lance Gould: [00:09:29] And let's talk a little bit about politically, you're talking about your constituents. But what about colleagues? Did it take a lot of convincing for colleagues behind closed doors, or was the idea embraced right away?

Senator Chris Lee: [00:09:39] Well, you know. I mean, I think we failed for a number of years working together with all our colleagues, but also a lot of the private sector partners like Blue Planet Foundation, which Richard was a part of at the time, and many others. And there is definitely, if you imagine the disconnect between regular average citizens and [00:10:00] the policy and what to do on this stuff. I mean, the same thing exists with policymakers, but, you know, infinitely more because not only are you trying to come up with a solution, but then have to tell people, here's what it's going to be and you've got to sell it. And I think there was a lack of an understanding or awareness of what this really would mean. And how to do it. So we were told it was technically, financially, politically and impossible thing to move to 100% renewable grid and clean energy. And it really came down, I think, to not only the public campaign pushing for something like this. That was a very coordinated, orchestrated effort to get students and younger folks engaged. But on top of that, it came down to trying to explain to people the future and what that opportunity cost is, how do we mitigate the volatility and the fossil fuel costs that are driving up everybody's electric bills and making everything really frustrating for the public? And ultimately, how do we mitigate that long term risk for stranded assets and things? If we're investing in fossil fuel projects that are going to have a payback of multiple decades into the future, at a time when the price for solar and batteries and everything are just absolutely collapsing.

Senator Chris Lee: [00:11:11] So we needed to, I think, convince people that we had to close off the paths. For everybody coming in, pitching the next fossil fuel project that everybody believed would be the last big end, all, be all project to fix our electric grid. But what that meant was you had dozens of these fossil fuel projects competing and clogging up the whole future pathway for what should be a cheaper, renewable

investment in our utility space. So at the end of the day, it took a lot of compromise between colleagues to figure out, all right, we agree we need to do something here. What year is it going to be. And the Senate had pushed 2050. And in the House we had pushed 2040. And we had, I think, enough support out there so that we could compromise on the most absolute scientific be all, end all, which was 2045, which was really a political compromise. But we knew we had to do it. And so that's sort of the place where the rubber kind of hit the road. And we had to figure out, all right, set a date and use the momentum we have building off of these, these campaigns to to generate support and to mitigate our own financial risk as a state to do something. Open lance is muted, I think.

Lance Gould: [00:12:39] Okay. Sorry about that. Um. Chris, you raised such great points about infrastructure and we have a great Segway there. Now to Sierra who is with Pacific. Sierra, I know Pacific is in Hawaiian Electric, but perhaps you can address this. The utility presented one of the biggest roadblocks to the passage of the bill, and they put up resistance until the bill was passed. It was only after that passage that they realized that they could make more money with renewable energy than with the fossil fuel system. Can you tell us a little bit about that?

Sierra Jackovics: [00:13:08] Yeah, definitely. Thank you. Lance, that's a great question. And I know as you mentioned, monospecific. We are not the utility. We are a private developer. And we were incorporated in 2019, so we weren't intimately involved with this process. However, my understanding is that HECO was making 10% on top of the price of oil, which at the time was about \$0.25 per kilowatt hour.

Lance Gould: [00:13:30] HECO was the Hawaiian Electric Company just for the for the listeners.

Sierra Jackovics: [00:13:32] Yeah, exactly. So you imagine you do that math that's about an extra two and a half cents. And the offer in the bill was actually to allow the utility to charge \$0.03 per every kilowatt hour that was converted to renewable energy. So that's about an extra half a cent that HECO is allowed to make and have an incentive to switch to renewable. And, you know, some people may say, oh, well, that's just going to make renewables more expensive. Well, the fact that solar, wind and batteries at the time were much cheaper than the fuel surcharge cost, which like I said,

was a baseline of \$0.25. The public still saved money, even though HECO was able to make an extra half a cent per every kilowatt hour. And I think the important thing for this, you know, of course, Pacific were not just involved in Hawaii is importing. You know, both Richard and Chris mentioned this earlier, but importing diesel to the islands in the Pacific is incredibly expensive. And it's one of the main reasons why electricity in the Pacific is one of the most expensive in the world. So switching to renewables is not just an economic benefit in the sense of you can save a lot of money, but it also saves. And I know, Chris, you were just talking about this. It saves having to be at the mercy of the market and having all that price volatility.

Sierra Jackovics: [00:14:45] We've seen this with Ukraine, but having your own renewable energy system on island, you're not having to ship diesel across oceans. You are energy independent. And that is another economic benefit that in these PPAs for solar [00:15:00] or wind, you often have prices that are solid for 2030 years, rather than having geopolitical wars, supply chain issues, making oil that much more expensive. So that's one of the main reasons and touching on that as well, something that has made utilities like HECO be able to make some more money off of switching to renewables is they've switched from the old system where utilities charged and made more money according to how much they spent, versus now there's actually performance based rates where if HECO hits certain metrics, certain KPIs like meeting their standard, which is renewable portfolio standard, deploying more renewables, transitioning faster, having less blackouts, basically becoming a better provider, they're able to profit off of hitting those metrics. So that's another way that renewables have actually incentivized and allowed HECO to make a bit more money and save a lot more. And for those on this webinar that maybe have heard this argument or say, oh, the only reason renewables are cheaper is because of all the government subsidies. Yes, there has been an uptick in renewable energy subsidies recently. However, we have subsidized fossil fuels for decades.

Lance Gould: [00:16:15] And to the tune of \$7 trillion.

Sierra Jackovics: [00:16:17] Yeah. Yeah, exactly. That was a 2022 statistic from the IMF. Yet \$7 trillion globally, which is a crazy number. And comparing that in the US. So US taxpayers pay about \$20 billion a year to the fossil fuel industry for fossil fuel subsidies. This is from the Senate budget. And conversely, only in the last couple years

for renewables it's been between \$7 and 15 billion, which is still a lot. But when you look at it, one, it's only in the last couple of years. Before that it was considerably less. And we're still saving anywhere from \$5 to \$13 billion in taxpayer money from switching to renewables. And that doesn't even account for all the costs associated with fossil fuel use because of natural disasters, pollution, health issues, medical systems. So there's I can go more into that, but I'd say that's a pretty good recap over economic reasons to switch to renewable.

Lance Gould: [00:17:12] Those are great points, and I definitely do want to come back to that in a little bit. When we talk about COP 28, which will be taking place in Dubai, which is like in the heart of the fossil fuel reserves of the Gulf. But first, let me turn to Gwen, and both Richard and Chris both mentioned the preponderance of solar rooftop solar in Hawaii and Gwen, among other things your office does. It essentially helps individuals facilitate transitioning to renewable energy, making things like rooftop solar more, more affordable. Can you tell us more granularly what your agency does and what role is it playing in the transition to 100% renewable energy?

Gwen Yamamoto Lau: [00:17:50] Sure, thank you. Lance. So as mentioned, it's no secret that Hawaii was a leader in clean energy with its 100% mandate by 2045. To Sean's questions in the chat when we set that back in 2014. But did you know that Hawaii is also a leader in energy equity? Way before the White House Justice40 initiative elevated the importance of equity. In 2013, policymakers like Senator Lee recognized that early adopters to rooftop solar were affluent ratepayers leaving the underserved ratepayers who could least afford it. Responsible for the higher energy costs required to support the aging grid infrastructure. To level the Playing Field Act 2011 passed to constitute the Hawaii Green Infrastructure Authority. To create and implement non-traditional financing programs to reach ratepayers previously locked out of solar. The utility's roadmap to 100% Clean Energy, published in 2016, consisted of a portfolio of clean energy technology, including 100% of residential rooftop rooftops bearing solar. Due to Hawaii's high cost of living. As all of you know, 40% or almost half of our population are classified as asset limited, income constrained, employed, with over 10% below the poverty level, it was obvious that a significant sector of the population may need help accessing flexible financing at affordable rates and terms, and the 30s goal is to help out our underserved ratepayers adopt solar to lower their energy burden while lowering greenhouse gas emissions, all in alignment with our clean

energy goals. So you might be wondering, how do we provide loans to ratepayers who are not able to get financing from banks and credit unions? Thanks to the foresight of and leadership of our Public Utilities Commission and in partnership with the Hawaiian Electric Companies, the investor-owned utility covering 95% of the ratepayers in the state, we launched our Green Energy Money Saver program, leveraging an on bill repayment mechanism in April of 2018.

Gwen Yamamoto Lau: [00:19:53] Under this program, our loans are repaid on the Ratepayers Electric Utility Bill as a tariff. When [00:20:00] we first launched this program, we were able to eliminate credit reports and instead relied on disconnection notices to determine eligibility regardless of their credit score. If a ratepayer did not have any disconnection notices over the last 12 months, they were eligible for our financing. However, again thanks to the Puc's leadership effective July 1st of this year, instead of using disconnection notices as an eligibility screen, it is now used to determine a minimum savings threshold, allowing all low- and moderate-income households and other underserved ratepayers to participate. Instead of the traditional debt to income ratios, we rely on utility bill savings to repay our loan and estimate a minimum savings threshold after and including our loan repayment. And finally, due to the high cost of real estate in Hawaii, 43% of our households rent and by tying the loan to the utility meter and not the person, allows the obligation to transfer from tenant to tenant. And we are happy to report that to date, even through the Covid 19 pandemic, I'm knocking on wood. We have not had any suffered any loan losses. Thanks.

Lance Gould: [00:21:12] That's amazing. And you mentioned some very specific Hawaii centric data points. Are there lessons that you've learned from operating in Hawaii, which can be transferred to other jurisdictions to make that process smoother, whether there are other US states or other countries, things of that nature?

Gwen Yamamoto Lau: [00:21:28] Absolutely. Lots of lessons learned for jurisdictions looking to implement an on bill financing program, including a group there in San Diego. One of the things they may want to consider is to tie the savings to the value of the energy, or kilowatt, instead of the utility bill by tying the savings to the bill makes underwriting bespoke for every application because it depends on the size of their bill. Tying it to the value of the kilowatt will simplify their underwriting. We also learned that once implemented, there are many applications for this repayment mechanism that not

only mitigates risk but attracts private capital. In addition to direct financing, we've also seen an increase in utilizing IT for energy services programs or solar power purchase agreements. And lastly, for households converting to electric vehicles. Right sizing the solar PV based on historical mileage metrics can also increase household savings.

Thanks.

Lance Gould: [00:22:22] Oh that's great. And speaking of solar, I had to move my seat because the sun was setting and the sun was passing across the New York skyline here, so I'm now in a hopefully a better a better spot sun-wise. If I have to move again, I may move around my table. But a similar line of questioning here for you Sierra. Tell us more granularly what Mana Pacific does and what role it is playing in the transition to 100% renewable energy.

Sierra Jackovics: [00:22:45] Yeah. Thanks, Lance. Also, I relate to you with the sunlight. I'm moving myself around too. Um, yeah. So Mana Pacific. To put it simply, we are a benefit company based in Hawaii, and we develop renewable energy projects across Hawaii and the other three regions in the Pacific. So while we are technology agnostic, we're happy to work across many different technologies. Most of our projects thus far have been in solar and storage, sizing, varying utility scale community solar projects. I would say our sweet spot is really between 5 and 20MW, but we also are working on smaller projects as well. And for those on this that maybe are not sure what a renewable energy developer does or what that looks like, our role in this means taking projects from the very early ideation stages through development, through construction, and all the way until operation, where it will either be taken over by the community, the utility, or whoever is going to own the project. In addition. So our role in how we are different than many other developers in the region is we try to partner with landowners and communities first, because at the end of the day, if you don't have land, you don't have a project. And in many cases we've seen projects face barriers because the community isn't behind them, or they're working too much only with the utility or the government.

Sierra Jackovics: [00:24:04] So we try to really partner with the land, partner with communities first, and then move through the stages of development. So that means financing technology, working out the preliminary engineering, approaching utility for a PPA. And then we'll usually contract out an EPC for the construction phase until it hits

operation. So that's nuts and bolts what Moana Pacific does, and to talk about a project specifically that relates to Hawaii is our first ever project was with our co development partner, Shake Energy Collaborative, and it's a project in Molokai for the Oahu Energy Cooperative there. And it's a pretty big deal in Hawaii because it will be the first ever 100% community owned and designed project in the entire state, and the first community solar project in Molokai. So it will provide about 20% of the island's energy needs. And as I said, the community will completely own the project, so they will be the long-term operators, the long-term owners. [00:25:00] So it really is exciting for us. And we're currently awaiting the PUC to approve that project and are expected to go into construction in early 2024. So we're really excited about that. And that was our first project that we ever got involved with here in Hawaii.

Lance Gould: [00:25:14] And so quickly, if I may just ask, similar as I asked to Gwen, with all the work that you're doing in Hawaii, are there other lessons that you've learned in operating there that can be transferred to other jurisdictions to make that process more smooth?

Sierra Jackovics: [00:25:28] Yeah, definitely. So I believe I was just mentioning over starting early, that's I think the first thing I would say for the developer side, start early, work with, work with communities on the outset, start a year earlier than you think you need to and really, really see where the demands are and where the needs are, because that's the way that the best projects will get through. The process will be a lot more streamlined when you're working very deeply and genuinely in the community is your client. So that's really how we approach a lot of projects, is having the community be our guide, and we are the implementer of what they see being the best for their community.

Lance Gould: [00:26:04] That's great. Um, one of the most fascinating aspects of this whole process, and this question is for all the panelists, no one in particular, but the technology to achieve 100% renewable energy wasn't really there when the bill was signed. If if, Chris, if I'm correct on that and the technology isn't there to get all the way to 100%, even right now we're close. But the stakeholders recognize that they can get most of the way there. And they really took a leap of faith that they would be able to develop solutions to get all the way there down the road. And that seems to be playing out now. Panelists, can you weigh in on that and the role that innovation and deadlines

play in the process? Chris, let's start with you. Just because you played such an intimate role in this process.

Senator Chris Lee: [00:26:46] You know, I think the biggest thing is having a deadline in law forced a conversation for how we were going to get there. Up until that point, I think everybody assumed we'll just piecemeal it. We'll keep doing projects. Maybe some more will be renewable than before and maybe we'll have some benefit. But without a full 100% electric grid planning process, you're never going to have to face the technical and other challenges that need to be overcome in order to get there. And so we had to put in place hard and fast date, which would force the utilities and other stakeholders to do the actual due diligence to figure out how this is going to play out. And you need to switch the conversation from, you know, is this possible, which it had been for the last 100 years to all right, how fast can we do this? And once the law was in place mandating that we achieve this goal by time certain, then that conversation started to begin. All right. What do we do next? How do we achieve this and how quickly can we get there?

Lance Gould: [00:27:43] Richard, do you have anything to add to that?

Richard Wallsgrove: [00:27:47] I do. I agree with everything that that Senator Lee just said, and I think it's important to recognize that this question comes up everywhere that is thinking about big, big, large energy transitions. Uncertainties are just part of the process. I think what's important to remember, particularly if I'm sitting in the role of a legislator, right, and not a power systems engineer who has to get every piece of this transition figured out, but rather is trying to answer the types of questions and foster the conversations that Senator Lee mentioned. What you have to remember is that these targets, 20 or 30 years down the road, they don't just affect decisions that happen down the road. They affect decisions today. And our decisions today are as much about what we choose not to do as what we choose to do. The clearest example in this sort of in the era in which we were thinking about this law, was liquefied natural gas. Everybody in, you know, and their uncle was coming to Hawaii and trying to sell our energy system on the idea that liquefied natural gas could be a cleaner alternative to our oil system and that it could be a transition into something different.

Richard Wallsgrave: [00:28:52] But the reality is, if we had invested the billions of dollars in that technology at that time, we would have been stuck with it for 40 or 50 years. Energy systems last a long time. Our oldest generator here on Oahu was installed in 1946. We're still living with that infrastructure decision today. And so I think the idea of the conversation and the debate that Chris mentioned is all about avoiding bad decisions today and opening up the opportunity to embrace the better decisions down the road. We all know that technology cost curve on renewables is pointing in the right direction. Things are getting cheaper, they're getting better. They're getting, you know, more sustainable. And so if we just believe in that empirical trend is going to continue at some rate into the future, we know there will be other options down the line. And I think that's what a law like this allows us to, to really capture is the opportunity that comes with that uncertainty, as opposed to being paralyzed by the uncertainty.

Lance Gould: [00:29:47] Absolutely. Anybody else want to weigh in on that question before we move on?

Sierra Jackovics: [00:29:53] Just that I agree with everything that's been said and and completely agree with. Without a deadline, it's all vague and it becomes [00:30:00] a oh, we could do this. This is an option of what we could do versus when you have a deadline, we have to do this and we better figure it out ASAP. So I completely agree with what both Chris and Richard said. And from our experience in development, utilities can write RFPs and put out requests for projects pretty quickly. And so the legislation will push out more of those RFPs to happen, more grid upgrades, etcetera. It's a great place for the utility, for the regulators, for everyone to be on the same page.

Lance Gould: [00:30:27] So I think that's a great point. And you've all said this and and having a deadline and having faith in technology when you think that in 1903 we had the Wright brothers flying a plane and 66 years later we were on the moon. Just think of how quickly we can move once there's a deadline. And once technology really kicks in and people are really committed to a particular project. Chris, I'm going to come back to you now. You are a part of and in fact, you're currently the president of a group of US lawmakers concerned about the environment. The group is called the National Caucus of Environmental Legislators, not the best acronym NSL. But we note at the beginning that more than 20 US states and territories had passed laws somewhat similar to the one you authored in Hawaii. What is the appetite for legislation going forward

nationally? You really have your finger on the pulse here. So tell us about what you're what you're what you're getting feedback on nationally.

Senator Chris Lee: [00:31:20] Yeah. You know, we're already on the name change trying to figure out what to do about that. But it's a group of about 1400 Democrats and Republicans from all 50 states, all elected state leaders. And so we're all facing the same challenges. And I think the whole point of getting everybody together is to figure out what best practices from one place could be adapted and work in others. And how do we collectively, across all our 50 states throughout the country, move the needle on national policy? And so, you know, after Hawaii in 2015 passed our our 100%, you know, I was working with California and the Senate president there at the time, who was the sponsor of their bill. So we had a friendly rivalry. Who was going to be able to do it first. And so they followed suit with the exact same template as us 100% by 20, 45 other friends in Washington state that we've been coordinating with state senators there did theirs. And even, you know, advanced the timeline. So we've been working around the country, which has been great. And so far, I think the appetite has been, you know, everybody, everybody wants to get in on this because frankly, it makes sense all around, you know, in Hawaii, in the time since we passed that part of the story that we use to leverage and talk to other places is that, you know, in that period, since we've done this, we've made so much progress, we've been able to basically quadruple the amount of renewable electricity on our grid, creating a huge amount of jobs and savings, which is, you know, just in the last decade or so, we're currently on track to achieve that well before the law says, which is 2045, because everything is going so great. And, you know, we just closed down our last coal plant in the state and often do a show and tell, but this is like one of the last pieces of coal shipped to Hawaii ever.

Senator Chris Lee: [00:33:06] Amazing.

Senator Chris Lee: [00:33:07] So there's a lot of progress. And, you know, if we can do it in Hawaii, where we're four different or really more than four, but four different electric grids across multiple islands with entirely different resource mixes that are all isolated. If we can do that, then anybody, anywhere else in the country absolutely can do it better, faster, cheaper than we ever could. And perhaps the best lesson learned out of our experience in Hawaii that I think other people want to hear is not so much technically. How did we achieve this? How did you finance this and that, but rather. How is it that

politically we were able to get everybody aligned, not just Republicans and Democrats, but also labor and business and all the different stakeholders throughout the economy that are now aligned, all driving toward the same goal. When we passed our RFPs, that was the first time we had something big like this. Three years later, in 2018, we passed a law which mandated a or put in place a carbon negative economy wide throughout the whole state by 2045 goal. And we passed that with Republicans and Democrats together at the bill signing. We had the Chamber of Commerce, we had our labor organizations, we had transportation, all these other industry stakeholders, and everybody was there together. And that's something that is, you know, especially in our divisive climate here in the United States, invaluable to progress in anything.

Senator Chris Lee: [00:34:32] And now at a point where you definitely see Washington DC and Congress divided and probably not going to get a lot done in the next couple of years, at least that's where the states can really pick up and move. And I think what we're hearing from our colleagues really around the country is about this model, right. How do you get everybody on board and. And then just move ahead. And so I think there's definitely been a lot of appetite. You have a lot of state work happening right now in blue, purple and red [00:35:00] states all toward the same thing, messaging things differently, leading with maybe jobs over here or talking about climate over there or whatever works. But the model exists now, and we know how to do it and bridge that partisan divide and that whole divisive industry out there that that now can be a catalyst for change and a catalyst for economic growth and stability and reducing costs over the long run, to say nothing of, of course, all the climate impacts that are going to be great. So we know that I think there's a lot of interest. And we're hearing that not just in the United States, but internationally as well.

Lance Gould: [00:35:35] Well, you covered a lot of ground there. And what what I loved about what you said at the beginning, I had mentioned going from the Wright brothers to to putting a man on the moon. And the way you were talking about the competition among the states is almost like a space race that sort of like a healthy competition to become first is actually pretty beneficial for the for the, for the sector. But but tell us about you told us about some of the positives like what are some of the impediments politically and be feel. Feel free to address what you think are even the obvious ones like what are what are the real impediments in terms of getting hands across the aisle on, on, on this matter in all 50 states?

Senator Chris Lee: [00:36:19] You know, I think.

Senator Chris Lee: [00:36:19] One of the biggest challenges, because everybody wants cheaper costs, they want business, they want innovation, all those things. The biggest thing is, I think still a question of in my area, wherever that is, you know, can we do it? We don't have all the same sun that Hawaii does or we don't have whatever the thermal.

Senator Chris Lee: [00:36:36] Right, right.

Senator Chris Lee: [00:36:38] But the truth is, I mean, I think almost everywhere that's working on this, there is opportunity to build a resource mix and build out an electric grid where these kinds of technologies, whatever it is, can work together to achieve the same goal. Right. You have the advent of storage now, which is opening up all kinds of opportunities, not only on a daily basis, but for for all sorts of purposes. And and you have. A whole bunch of new technologies that are now becoming politically and financially viable, where they weren't just a few years ago due to innovation and due to our changing political climate. So it's clear that even in northeastern states, even in the South, in the West, wherever you are, there are paths forward that are being explored and defined right now. And once I think policymakers realize there's that opportunity, and that means a lot of investment and job growth in their backyard, they're going to go down these paths and seek them out. So this isn't something that is just limited to Hawaii and our exact model of how we're achieving this, but rather is replicable using all the different tools available on the grid today. And that's something that I think is probably the biggest challenge that we have to get people over to realize that they can do it in their own backyard, too.

Lance Gould: [00:37:52] That makes sense. And I'm just a little more than halfway through this, this episode of First Fridays. This is, of course, if you're just joining, this is the Samuel Lawrence Foundation's monthly series. Today, we're talking about how Hawaii did it. We're talking about with an esteemed group of panelists who played a role or who have great knowledge of Hawaii being the first state to legally legislatively mandate a transition to 100% renewable energy. It can be done. And Hawaii is really setting the pace here. Richard, in what ways can individuals and communities get

involved and work to address this issue? More than 20 US states and territories have passed their own versions of this law, but there's still so much that can be done. So talk about like from a civil society perspective, what can communities do? What can we do to help drive change here?

Richard Wallsgrove: [00:38:42] That this is such an important question, but I think very often it gets asked in the wrong way. You know, very often this question of what can I do as an individual or what can we do as a relatively small community gets asked in the context of global climate change being a big problem. And so we get stuck in this pernicious cycle of saying, well, there's nothing that folks have actually written this down on pieces, in articles on paper, and it shocks me. People will say things like, why is such a small place? It can't solve the climate crisis on its own, and therefore, why do we bother? And that just seems to be so responsibility free, right? That's not looking at this from the perspective of how have I caused a problem that is actually, you know, ruining the livelihoods of folks in Bangladesh? That's sort of, I think, a more selfish approach of, well, let's just keep with the status quo because it's easier for us. So I share that perspective on sort of the spirit of the question. And, Lance, I think you've asked the question in the right way as opposed to the wrong way. But I raise that to say that I think that there isn't a huge distinction between what we as individuals and small communities can do and the group of folks that Senator Lee was just talking about.

Richard Wallsgrove: [00:39:50] Right. What can politicians sort of top-down thinkers and decision makers can do? I think that we all need to do the same thing, which is to stop getting stuck in this cycle [00:40:00] of of hopelessness. We need to think about the problems in an entirely new way. And I just want to follow up quickly on something that Senator Lee said about this. You know, is this easier or harder in a small island context? I end up speaking with a lot of engineers, and where I am dictates what position they take. When I'm talking to engineers that work on small islands, they say this problem of transitioning the energy system on small islands is much more difficult, because we can't share energy across jurisdictions, and we have limited land area, and we have limited economic resource bases and those sorts of things. And lo and behold, I go and have the same exact conversation with a group of engineers in a place like California or Texas. And they say, you know, but Hawaii, it's so much easier out there because it's a small place, you don't have as much infrastructure to worry about. And I just think, well, somebody has to be wrong in that, in that setting up that dichotomy.

Richard Wallsgrave: [00:40:53] And probably both both sides are wrong in so far as every place can make its own energy decisions, and they should make energy decisions that work for their own communities. My fear, and this gets back to your question about what can we as individuals do or small communities do. My fear is that we we just think about this in overly simplistic and dour ways. I think that we have to challenge our norms. For a long time we called renewable energy. We called it alternative energy. And I think as small as that might seem, I think it's actually a problem because it sort of sets up in our minds that our fossil fuel system is the normal system, and we should just live with it. And there might be some, some alternative to our normal system, and we can flip it on its head and say, no, we want we want a system that's renewable. And I don't even know if renewable is the best word there. But but it seems to me we're setting up this idea that there are positive attributes. So I think we should ask ourselves what are the attributes we care about as individuals and communities?

Richard Wallsgrave: [00:41:50] Very, very.

Richard Wallsgrave: [00:41:51] Few people care where their electricity comes from, whether it's coal or oil or solar. What they care about mostly is do I have a hot shower? Can I cook my food? Do I have cold drinks in the fridge? And so I think thinking about what we care about matters. And the one thing that unites us, I think politically around the entire world is we care about our kids. And the reality is that a fossil fuel-based system is extraordinarily damaging for our kids. Whether our kids or somebody else's kids, I don't want to mess the world up for future generations, so that I think that's sort of step one, is figuring out what we care about and push our policymakers to make decisions that value the same things in the same ways. We don't we aren't all going to agree on what those values are. But asking the question is important. The second piece.

Lance Gould: [00:42:36] So establishing a baseline of universal values.

Richard Wallsgrave: [00:42:41] Yeah, exactly. Exactly. In the energy system which is which is difficult because energy is technical. And you know, we're talking about business issues that many of us just don't care about in our daily lives. So trying to force ourselves to think about energy in that way, I think there's value to that as individuals.

The second big piece is I really fear that what we're seeing in some parts of the world in Hawaii is not immune to this is we're seeing energy as a political pawn when it's not really about the energy. It's not about our hot showers or preventing catastrophic climate change from harming our kids. Right. It's just this big fight over some other set of issues. And we are seeing a lot of this in the renewable energy development space. There are there are political interests that would like to see fossil fuels win out over renewables. And they're funding local opposition to siting renewables in a given community. And that seems to me, I mean, every community should be afraid of being the pawn of some in some bigger issue. And this isn't an energy issue, but we all have to be cognizant of this. Folks will call this NIMBYism. I think that's just as dangerous, right? This idea that not in my backyard, right? It's not NIMBYism necessarily. When you're making decisions about what we want to see in our own communities. I think that it's all about making those values in our communities stick when it comes to real decisions about what sorts of energy developments we want. That's how I view our sort of individual role, and I think that makes its way up to the decision makers.

Lance Gould: [00:44:07] Excellent. Thank you for that. I'll have more questions for our panelists in a bit, but first, let's check and see if there are any questions from the audience, as well as introduce the president of the Samuel Lawrence Foundation, Bart Ziegler. Spring part on here for a second. I'm going to hit mute because I think there's some feedback on my end.

Bart Ziegler: [00:44:41] Am I there? Hey. Good morning. Thank you very much. What a phenomenal panel you've put together. This is like just tremendous I. Oh can you is anyone going to address the fires in Hawaii? That's going to be of everyone's concern. We're here dealing with [00:45:00] a nuclear waste issue. And you have the fires over there. Can we talk about some of the ways that renewables can prevent this and kind of...

Grace Chalmers: [00:45:12] ...Mitigate the threat? Is that where you're going for here?

Lance Gould: [00:45:16] Yeah. So the question is the fires in Maui really destroyed the infrastructure there. The Samuel Lawrence Foundation is based in San Diego, very near the decommissioned San Onofre Nuclear Power plant, which still poses a lot of dangers. And, Richard, to your point, we're talking about clean versus renewable

energy. I think a lot of times nuclear is covered under clean, but it's not under renewable, although it certainly isn't clean. But are there can someone on the panel just address what is happening in Maui with post fires, and how we can utilize renewable energy to navigate these climate impacted disasters? If I'm reading Bart's question right.

Richard Wallsgrove: [00:46:09] Go for it. Have other things to say? Here's my take on that. It's a little bit difficult to talk about right now because the Lahaina community, the Maui community, is necessarily involved in the sort of disaster recovery mode. I think there's a really important lesson there for these questions. We're talking about the big energy transitions. And that lesson might be a time of crisis isn't always the best time to make decisions going forward. The risk of of climate change, one of the risks of climate change is that we get ourselves stuck in this cycle of crisis after crisis after crisis. And if you're always in crisis recovery, I don't think we're ever taking this kind of step back. Big picture views on what do we value and what do we want out of our energy systems. And so we have a lot of work to do. I think, with respect to figuring out what caused the fire specifically on that day, figuring out what caused the conditions that lead to a wildfire like that, which, you know, could have climate dimensions to it in terms of the the types of grasses that have forced out native grasses, perhaps because of climate change. Those questions are all a bit uncertain. But what's not uncertain is that this type of disaster, right, a wildfire or just any other way in which the fabric of our community is torn apart in an instant. That's exactly what climate change threatens us with. And if we don't start to think about how to avoid that on the front end, like in 2015, trying to come up with a 2045 target, we're really we're really putting ourselves in a place for making bad decisions to, to solve important crises. And I'm not suggesting it's a bad decision to to fix the infrastructure that folks need in Lahaina, but we have to make sure those decisions get made with a long-term view. I think they are in Lahaina. For what it's worth.

Lance Gould: [00:47:52] Let me put this to Gwen, because in Gwen, with your commission making loans to people trying to get people on the path to renewable, what are you seeing in Maui? Post-disaster, post-fire. And let me first add that that that I and everybody here is very, very sending all of our sending of all of our best to the folks impacted by what happened in Maui, such a, such a terrible disaster. But look, looking forward, what is your commission doing to help to help get people right back on the path?

Gwen Yamamoto Lau: [00:48:26] Yeah. As Richard said, it's a little bit too early for a lot of recovery. There's still kind of going through the crisis. We from a lender perspective, though, we did similar to the pandemic, we offered all of our borrowers an optional six months loan deferral, understanding that it's not only the people who maybe lost their homes, but it's impacting the economics of the island with the displaced residents going into hotels. You know, the other thing, we we were funded by a green bond that is ratepayer funded bond. And so there are concerns, Gwen, just.

Lance Gould: [00:49:06] To just to note, I just want to let the audience know that you're a public sector entity. Just as a reminder.

Gwen Yamamoto Lau: [00:49:12] Yes. Public sector. Yes. So just real quickly, you know, there are concerns about the number of lawsuits that's happening and the impact to our utility, similar to PGA with the fires up there. So, you know, lots of going on. Still a lot to digest in order to determine our path forward.

Lance Gould: [00:49:30] Thank you so much. Any questions from the audience? Grace that we want to. If so, we'll take a question from the audience. Otherwise, we'll get back to the to the lineup we have here. Well, while Grace is finding a question from the audience, I'm going to go back to our lineup of questions here. [00:50:00] On a global scale, we need to get other countries and jurisdictions to follow the model that the Hawaii is setting. If we are to have a chance at keeping average global temperatures from rising further, Blue Planet Alliance, which is an organization that that that many of us have worked with, has suggested starting with islands, because they are the least responsible for and yet most vulnerable to the negative impacts of climate change. And to that end, Blue Planet Alliance just recently held its initial Blue Planet Alliance fellowship program in Hawaii. And I'll note that Blue Planet Alliance is a nonprofit in which representatives from eight other islands were brought to Hawaii to meet with all of you. All four of the panelists here were also speakers at that fellowship program, and a number of other experts were there as well, so they could learn firsthand how to bring this idea back to their own islands. What else do we need to do to accelerate this process and get all countries on board for this idea? Sierra, let's start with you.

Sierra Jackovics: [00:50:53] Perfect. Yeah. Thank you. Lance. So yeah, that was a really, really great fellowship. And I think my favorite takeaways from it were discussing all the solutions going forward. Right. I think it's great to talk about all the barriers and at the end of the day saying, okay, what are the action items now that we are going to employ? And I also do want to highlight, right, that there are barriers and issues that other Pacific Island countries and territories face that maybe are not the same that we face here in Hawaii. And in many cases, islands are much farther apart for non US territories or non-territories they're not facing and they're not able to receive the same amount of government subsidies, government funds. So for us it's also really seeing there in my understanding there is the political will. All of Guam already had 100% renewable law. Palau had 100% renewable energy mandate that they want to put into law early this coming year. Everyone left away from that fellowship with the idea of we want to have and we will have the political will to get to 100% renewable. I think in many cases it is a little bit daunting, especially when there's questions like, where is the money coming from? And do we wait for government subsidies? Do we wait for government funding? Vermont Pacific we really try to navigate ways to have private capital injected into projects and accelerate the process that way. So I think smoothing out the communication channels and bringing in the private sector and the public sector together, smoothing out communication between the utilities and the regulators. I think getting everyone more on the same page and really talking about the specific solutions and actions that need to happen in our experience, is what will make this process much more accelerated.

Lance Gould: [00:52:38] Senator, how about you? What's your what's your perspective there?

Senator Chris Lee: [00:52:44] You know, I think I think in the broader context around the world, we're actually seeing a lot of interest, as I mentioned, from different countries, particularly island nations. Of course, I've been to Brazil, Japan, Taiwan, Indonesia, a handful of other countries just in the last however long working on these same issues with them, partnering to try and share some of our lessons learned. Because ultimately, what this means for not only states in the United States, but especially other countries, is if you can generate and rely on your own power, right? You're de-risking your own both economic and energy security. And for you, that means a whole lot of other benefit all around. But globally, that means a whole lot less conflict, a whole lot less

international reliance from one jurisdiction to another which can spark conflict and all kinds of stuff. So everybody is moving in this direction rapidly, not only for costs, but of course, given the state of global politics and who controls the energy supply. Everybody's trying to do their own thing for their own security. And that is probably like the single biggest driver, I think, internationally that we've been able to see.

Senator Chris Lee: [00:54:00] And so the question is how can we help. And because all the interests align. And so we've been really selling these lessons into Richard's point earlier about Hawaii being, you know, this tiny model, but yet a model that, if it works, can be replicated elsewhere, whether it's other places around the US or other countries with your own resource mix. If we can do it here because everybody else is bigger than us and has a much more stable resource mix and electric grid to manage and all those things, you can do it anywhere. And so it's clear that whether it's Hawaii now on track to achieve these goals, or California, which is the fourth largest economy in the world right now, or Texas, where you have an entirely different resource mix of wind and other things, or the northeast where you have offshore wind and a whole bunch of stuff. You know, all these other places can do this far more easily and far more financially beneficially than I think anyone assumed, even just a couple of years [00:55:00] ago.

Lance Gould: [00:55:01] And following up on that, Senator, with your reference to Texas earlier this year, there were very notably there were heat domes in Texas where you had 100-degree temperatures on multiple days in a row. And if it were not for, as I understand it, if it were not for the renewable grid, Texas would have been in great trouble. And yet, politically, it seems that it's still a hot potato there for some reason. Can you? I guess the question is, we seem to have we don't have the technology to get fully to 100%, but we have most of the solutions. Are there a lot of times it comes down to political will. So can you address the idea of political will and what it means to get people on board to rally past what we know that we can do to get there?

Senator Chris Lee: [00:55:53] Yeah, I think I think no matter where you're at in the US or otherwise, everybody wants these end goals, right? They want more jobs, they want cheaper electricity, they want energy security. They want a cleaner environment. It's the politics often that gets in the way and who controls what. And the question over who ought to be in control of these things, these energy supply chains and all of that. And

really what renewable energy has done, just because it's a decentralized technology often, and innovation has made things much more affordable that anybody can afford. Now it's really decentralized and democratized what was previously a very tightly controlled energy sector. So instead of having a handful of corporations now control everybody's power, both not only financially but also politically because of their influence, now any person with really average means can put rooftop solar panels on their house or buy into a system in places where there's mechanisms that allow them to take advantage of those things, even if they don't have their own property. And so now all of a sudden, you have this global democratization of power. And what that means politically as time goes on. And once you get past these initial fights of who controls what? Because ultimately technology will run over everybody with innovation, and that accessibility becomes universal to everyone. It means everybody's going to want to get on that side at the end of the day.

Senator Chris Lee: [00:57:19] So whether you're Democrat or Republican, for whatever reason, we are now seeing state after state after state, county after county start to switch, where even some of our hardcore, you know, climate denying colleagues will say, yeah, but we do want jobs and we know this is going to be cheaper. So we're going to start investing in renewables over here or do some things, but it's just messaged differently. And we have to acknowledge, and I think buy into the idea that people ought to be doing things for whatever reason works for them in whatever political framework works for them. But ultimately we're seeing them go this direction. So how do we help each other translate across those political barriers, so that our message about climate in Hawaii becomes a message about creating jobs and saving money in North Dakota, or wherever else it might be. And that's happening right now. And that's really exciting, because for the first time, we're starting to transcend that barrier of politics. And this is becoming an industry building global universal movement and transition that's driven by innovation and cost savings rather than politics and rhetoric. And that's just so exciting because it's the first time we're here. And I think this is going to be the start and dawn of a, you know, decades of a whole new future.

Lance Gould: [00:58:36] Thank you, Senator, and I'm just going to take a question from the audience here. To what extent do the panelists consider renewable biofuels to be part of the necessary mix? Sierra, why don't we start with you on that?

Sierra Jackovics: [00:58:50] Yeah. Perfect. So monospecific. Pacific. We don't work too much with renewable biofuels. However, I know, Chris, also, you've talked about this previously, but in terms of the aviation industry and transportation being one of the biggest emitters of fossil fuels, renewable biofuels are one of the only solutions that we have right now to address that issue. So to my knowledge and understanding, I think there definitely needs to be that added in the mix. And the more diversity in terms of solutions and resources, the better. So I definitely see a huge role of having sustainable biofuels playing in that.

Lance Gould: [00:59:26] Excellent. Thank you for that. Quick answer on that one. We are coming up to the end of time. We can go a little bit over because I still there's still a couple of questions we want to ask the group. What does it mean to have the UN's annual climate conference, which we referenced earlier in the program, coming up at the end of this month in Dubai, to be hosted by a country so invested in fossil fuels. Richard, why don't you if you have, if you have a thought on that.

Richard Wallsgrove: [00:59:53] I do have a thought on that, in part because we we send a delegation of law students every year to those annual [01:00:00] international meetings so they can learn more about how this really important negotiation plays out. And I have real misgivings about the UAE and Dubai hosting because this could, you know, this could just be evidence that we are now allowing our global climate governance system to be co-opted by fossil fuel interests. That would be the old me speaking about it and the new me, you know, taking my own advice from earlier in our session. The new me might look for opportunities here. And so the opportunity will be to bring to bring along the nations, the states, the communities that have had fossil fuels is an important part of their kind of economic resource base. And to help them figure out how do they move into a future where they don't get to dump, you know, the results or the pollution from that system into our shared atmosphere?

Lance Gould: [01:00:52] I like the old you and the new you.

Richard Wallsgrove: [01:00:55] I see, see hope there. Just in terms of those meetings are about talking and negotiation and making people see things through multiple perspectives. Perhaps that can work. I also see another, perhaps even bigger opportunity. And it gets us out of the sort of technocratic fossil fuels versus renewable

paradigm. And that is as a matter of sort of social transformation. Our energy system is a is a big piece. We all touch the energy system. And I think that we see an opportunity to shed some of the problematic aspects from a justice perspective. In the fossil fuel system. We put all of our dirty emitting fossil fuel plants into poorer neighborhoods, for example. So I see an opportunity for us to think about how we can kind of shed the old paradigm of energy for a new one, the more Democratic one that Senator Lee described.

Lance Gould: [01:01:42] What does the new Richard think of the fact that there are more representatives from the Petro fossil fuel industry than any one single country delegation that usually comes to cop?

Richard Wallsgrove: [01:01:54] Yeah, this doesn't surprise me at all. And I was in Egypt with some students for last year's cop, and it was the same thing. And I talked to a lot of folks from the UAE who were there sort of in advance of this year's Cop in Dubai. We could see that as some sort of new evil, pernicious plot by the fossil fuel industry to take over our climate governance system. Or we can recognize that an industry that has, you know, trillions of dollars worth of assets is going to be an important player in these negotiations, and always has been. The fact that it's now a bit more visible might be a good thing, because we can be conscience conscious of the ways in which that might be, you know, sort of co-opting our decisions. I think it also means we more of us who are climate advocates and want to see solutions that don't ruin the atmosphere for future generations. We know we have to show up, and we have to be the counterbalancing force to the extent there are private and polluting interests involved in those sorts of things.

Lance Gould: [01:02:56] Both those both of those perspectives are so important. We need to we need to keep feet to the fire with the with the old you. But we need to embrace the possibility with the new. I don't want these always these panels to always be just a Q and A. I love them for to be the discussion. To do any of the panels have a question for any of the other panelists? Sierra, thought you might.

Sierra Jackovics: [01:03:20] Yeah, I had a quick question for Gwen. Gwen, I know you presented on this in the BPA fellowship that was mentioned as well, but if a Pacific Island country or territory really wanted to create their own Green Bank. I know you

talked a lot about that in terms of Hawaii, what would be some first steps that one would go about that because I know access to capital is a major issue, and the brain drain and many different barriers that are brought up in this aspect. So it seems unattainable for them compared to Hawaii's resources. However, I would love to hear your thoughts on it.

Gwen Yamamoto Lau: [01:03:51] Thank you, thank you. You know, it's so exciting to see the interest from Guam, Pompeii, the Cayman Islands and the other participants looking at implementing green financing. You know, it's just like the renewable portfolio of technologies. You know, every territory or country needs to take a look at what resources they have in implementing a green bank. You know, first of all, looking at if policy changes are required, identifying their loan capital in Hawaii, we issued a green bond. Guam has access to federal funds. The other islands will need to look at possible capital sources like tax incentives, equity capital or debt capital, and they need to also identify market gaps to fill as green banks. We're not here to compete with the traditional financing, but instead support it, complement it and fill financing gaps. I'm going to use the Cayman Island as examples because I'm just so impressed with them. In the past two weeks, since they returned home from the Blue Planet Alliance fellowship program, realizing that they don't have tax credit benefits and other incentives available in the United States, they have analyzed their existing feed in tariff interconnection [01:05:00] programs and are exploring possible scenarios to implement an on-bill financing program that works for them. I've shared the bill that passed in 2011, enabling on bill financing as an example of possible policy changes for them to consider, and they've already identified sources of capital and are well on their way to helping their ratepayers adopt solar. Thanks for the question.

Sierra Jackovics: [01:05:21] Thanks, Gwen. And yeah, just noting for all the audience members, the Cayman Islands was the one Caribbean representative at the fellowship, so just wanted to specify that.

Lance Gould: [01:05:30] Thank you Sierra. And I think we do have to end at this point. So I want to thank all the panelists, all four of you for that insightful discussion, for bringing your expertise here today. You all are doing such important work with consequences that seem bound to have more impact on our future than ever before. That concludes the program today. To rewatch this webinar or to see a transcript, go to

the Samuel Lawrence Foundation website. Next week it should be up on Monday or Tuesday. The website is [Samuel Lawrence Foundation.org](http://SamuelLawrenceFoundation.org). Thank you so much to Blue Planet Alliance, Beyond Nuclear, Sierra Club Canada and Mana Pacific to learn more about the critical work all the participating parties are doing to advance renewable energy and other sustainable initiatives, and to stay informed about upcoming events and important initiatives. Sign up for the newsletters of the Samuel Lawrence Foundation and Brooklyn Story Lab, which is at [Brooklyn Story Lab. Net](http://BrooklynStoryLab.net) also, make sure you join us for the next Samuel Lawrence Foundation First Friday series on December 1st, which will be live from Dubai. The very conference we were just talking about during the UN's Cop 28 climate conference. Thank you so much and goodbye.