

Hope & Energy: Empowering Haiti Through Appropriate Technology

<https://mindmatters.ai/podcast/ep267>

Announcer:

Greetings and welcome to Mind Matters news. In the fall of 2022, the country of Haiti was facing a fuel and energy crisis, and in the intervening months, the situation has unfortunately not improved. Much of the country faces rising food insecurity and estimates from the United Nations report that more than 2000 people have been killed by gang violence and criminal groups in the first half of 2023 alone. Longtime listeners of the podcast may remember one of our first ever guests, Professor Brian Thomas. Professor Thomas is an expert in appropriate technology with a history of service work in Haiti. This week we revisit our conversation with Professor Thomas and Kayla Garrett of JustEnergy discussing the situation in Haiti and their efforts to help the Haitian people.

Robert J. Marks:

Greetings. Welcome to Mind Matters News. I'm your appropriate technical host, Robert J. Marks. Not all countries need the latest technologies. Those in Third World countries don't need high power computers or the latest car from Tesla. They have more fundamental concerns like, how do I feed my family tomorrow? Where do I get clean water and where can I get energy? Where can I get power? These needs typically do not involve the latest edge cutting technology. This effort of supplying needed technology is referred to as appropriate technology. It's technology needed by the poor and the marginalized. Appropriate technology is what today's guests do. They are with an organization called JustEnergy. It's a small nonprofit that works in Northern Haiti doing solar energy systems for hospitals and clinics and schools and orphanages. Some really important work. I'm a big fan of JustEnergy. This podcast is associated with the Walter Bradley Center for Natural and Artificial Intelligence.

The Bradley Center has financially supported the work of Brian and Haiti previously, and I tell you this is a hard case to make for me. I'm not a big fan of most charities and rarely make contributions to them because many are actually bloated. An example is salary of some of the CEOs. United Way makes \$1.5 million annually a guy named Brian Gallagher. That's pretty good for United Way. And when you contribute to the United Way, you're contributing to his \$1.5 million salary. I like charities that really are charities and their heart is in it. An example is JustEnergy. Another one is the Salvation Army, by the way, which is a Christian-based organization where their CEO makes a good penny and they make a little over 200,000 a year. But still compared to the order of magnitude salary increase of some of these other larger charities, that's not very much.

I can vouch that no one in JustEnergy is getting rich. They do things out of love and compassion on a shoestring budget. And among other things, they have volunteer engineering students travel to Third World countries like Haiti to assist in the development of appropriate technology and they don't pay for the travel. The students typically raise their own support. I'm an engineer. Those at JustEnergy are engineers. Engineers are said to love things that don't love back. The people at JustEnergy are engineers that do love back through applying appropriate technology to poor countries. Representing JustEnergy today is Kayla Garrett and Brian Thomas. Brian is an electrical engineer and Kayla is an environmental engineer. Kayla, Brian, welcome to the podcast.

Brian Thomas:

Thank you very much.

Kayla Garrett:

Glad to be here. Thank you.

Robert J. Marks:

Great. Your work as focused primarily on Haiti, in the United States we hear about the Ukraine, we hear about Russia, we hear about China. We don't hear much about Haiti. Tell us more about Haiti and some of the work that you do there.

Kayla Garrett:

Haiti, in the areas that we work around Cap-Haitien, it's really only an hour long flight from Florida, so it's shocking that we don't hear more about the ongoings in this country. Our nonprofit, as you said, is we're fairly small, but we work in northern regions of Haiti doing solar energy installations at civil work societies like hospitals, clinics, schools, orphanages. And this is done in a place where people on average are living on less than a dollar a day in many cases. And Haiti is the poorest country in the Western hemisphere, so this work is crucial to the livelihood and flourishing of many people. Our team in the US as you said, we're all volunteers. We all have our own day jobs and gigs that we're doing, but we also partner with a team of Haitians in country on the ground that are part-time employees that do a large part of the heavy lifting in these operations. And together with that team is where we're designing, installing and maintaining these solar energy systems, with our main mission being to create jobs and increase energy access.

Robert J. Marks:

That's great. Brian, you turned me on to a documentary about how many charities hurt the countries that they're trying to help. Do you remember the name of that?

Brian Thomas:

I think that was Poverty Inc.

Robert J. Marks:

Poverty Inc. And it was astonishing. A lot of organizations go into these Third World countries and they hope to help, but they actually end up hurting the countries. I found that documentary very astonishing.

Brian Thomas:

We find it very sobering.

Robert J. Marks:

Very sobering, it's very sad.

Brian Thomas:

We don't want to end up in somebody else's documentary about how to do it wrong.

Robert J. Marks:

You want to stay out of the documentaries. I can see that. But one of the things that you do is you work together with the Haitians. You don't go in with this air of superiority. You work with them and some of the businesses that you start and some of the enterprises that you start, you turn over to the nationals. One of the things that I remember talking to you about is work you did in Haiti. Now, this was a while back where you went around to individuals and set up solar panels so that people could come and recharge their cell phones and you turned that over to the nationals.

Brian Thomas:

That's right. We wanted to create little family businesses, and so yes, those are indeed... Those little cell phone charging businesses based on a single solar panel. And you're right, we want to work ourselves out of a job. We don't want to be in the business of making sure things stay up and running or replacing parts when they need to be replaced. One of the things we've done more recently with larger systems is we do recognize that they're going to need maintenance. And so what we've done is establish a team of Haitians to provide that maintenance and they get jobs out of that. Again, we are trying to get ourselves out of the work by enabling and empowering the Haitians to take care of each other.

Robert J. Marks:

That's wonderful. You talked about energy. Where do the Haitians currently get their energies, like electricity for example?

Kayla Garrett:

Typically, most of this electricity is from privately owned gasoline or diesel generators, which is distributed across private poles and wires. And typically even under normal conditions, which are not happening right now, but under normal conditions, only about 20 to 40% of the population of Haiti has access to a major electricity grid. But of that group that has access, nobody has access 24/7. And so mostly it's privately owned household or business owned generators. But that's problematic in a lot of ways in that Haiti does not have any petroleum reserves of its own. That all has to be imported.

Robert J. Marks:

Let me get this right, they're individually owned and they are generating electricity. And do they make it available to their neighbors? Is that what you mean by a microgrid?

Brian Thomas:

Well, sometimes they do. It depends on the owner. There's, let's say a bank or a business, that'll run their own generator, they're not going to share. But if it's maybe an orphanage or a school, they'll have their own generator. And when they fire it up, maybe they have some outlets that are made available for public use. And so people can hear the generator roaring and so they come walking over to the orphanage or school or hospital and they plug in their cell phone to recharge it or they plug in a rechargeable light that they can then take back home.

Robert J. Marks:

I see. You mentioned most of these are generators which are run by petroleum products. You shared with me the history of fuel shortages that occurred in Haiti. Could you walk through that? I found this very sobering.

Brian Thomas:

There's a history of fuel shortages in Haiti. I've been there a few times when there's a fuel shortage. Let me tell you what it looks like to buy gasoline or diesel in Haiti. There are gas stations just like we have gas stations, but they're subsidized. And so the price of gasoline is locked, and it turns out, at least in today's conversion rates, it's about \$2 and 15 cents a gallon, which sounds like a pretty good deal and the government subsidizes that price for the poor people to be able to afford it. But the lines get pretty long and sometimes they run out altogether. When there's long lines, sometimes people will have to wait all day long in order to fill up their car or their taxi or even just a couple of plastic jugs that they use for storing gasoline. In fact, a lot of individuals, they buy cooking oil in these one gallon jugs and after the cooking oil has been used, they use that plastic jug to store gasoline in their homes, which is a bit of a fire hazard and I can tell you stories about that.

But there's even violence. The closer you get to the pumps in these long lines, the more people want to cut in line and push ahead and people, they get in fights and it's ugly. But really even more pressing than that is they run out. These subsidized gas stations run out of fuel, and then the gasoline has to be sold on the black market by what we call street sellers, what they call street sellers. It is definitely illegal and there are definitely people profiting off of it. Some individuals are buying large quantities of gasoline either from the subsidized gas stations or they're going over into the Dominican Republic and getting it, or it's being captured by gangs. And then the fuel is then resold like at a gallon time by these street sellers. And the street sellers, you'll see them on the corner.

You can ride your motorcycle up there and you don't even have to get off the motorcycle. They'll just pour it right in the tank for you and you pay them in cash. Now, the police will chase them off if they see them, but they'll always come back because the retail gas stations, the retail filling stations, they run out. And so what are we going to do? We don't have any. Sometimes during these shortages, the price gets really high. The longer the retail gas stations have been out, the higher the price gets. Recently we saw prices as high as \$25 a gallon.

Robert J. Marks:

25... Wow, that's worse than United States.

Brian Thomas:

If you think about that too, and the fact that these people make a lot less money...

Robert J. Marks:

You have to work a month at a dollar a day. You have to work a month for a gallon of gas, roughly.

Brian Thomas:

Yeah. It's-

Kayla Garrett:

On top of trying to supply every other basic needs of your family.

Robert J. Marks:

Oh my goodness. That's rough. Okay.

Brian Thomas:

One of the results of this or thing that the businesses shut down, the banks shut down because they don't have any electricity. And even scarier, the hospitals shut down. In fact, this happened last fall, fall of 2021, and there was a shortage, much like... There's another one going on in fall of 2022, and there's a good friend of ours, in fact, he's the general manager of our operations there. His wife was expecting a baby and she had a bit of a rough pregnancy, and they had decided that she needed to have a C-section and they had the C-section scheduled. But what they didn't schedule was the fuel shortage and the fuel shortage came and the hospital ran out of gasoline, ran out of diesel, and they had no electricity. When they went for their checkup, maybe about a month before the C-section, they were told that they were going to need to bring their own gasoline to run the generators in the operating room.

Robert J. Marks:

You're kidding. Not only do you have to rush your wife to the hospital, you got to bring your own gasoline.

Brian Thomas:

That's right. Bring your own gasoline if you can get it.

Kayla Garrett:

And store it in your house with your pregnant wife.

Robert J. Marks:

That's terrible.

Brian Thomas:

Exactly. Okay, so let's stop and think. What does that do? If gasoline is \$25 a gallon and even if it's not, it's \$10 a gallon and you make very little money or you don't have a job at all, then gasoline is... What is that? It's like cash. You can sell that. You can turn around and sell that, so gasoline is like money.

Robert J. Marks:

Got you.

Brian Thomas:

What happened in December 2021 is that a tanker truck was coming in to fill up some of the gas stations there. This is after the gas shortage that I mentioned in the fall. It had ended by that time. But this gas truck, the gasoline tanker truck overturned and it was laying on its side and it was leaking gasoline, and people were so desperate that they ran out with every little container they could find. This was in a neighborhood, by the way, not an industrial area. And they started scooping up all the gasoline they could. It was spilling into the ditches. People were scooping it up, because it's free money.

Robert J. Marks:

Well, they had to have a lot of mud and dirt in the gasoline they scooped up, probably. It wouldn't be very high quality, would it?

Brian Thomas:

No, I'm sure it wasn't very high quality. But more importantly, after a while, the puddle of gasoline spread to a trash fire that had been smoldering off on the edges.

Robert J. Marks:

Oh, boy.

Brian Thomas:

And then the whole thing blew up and over 90 people were killed, burned to death. And it was really quite horrific. I was there at the time, we were working at a hospital on a solar project, and I heard the news. And in fact, a lot of the burn victims were taken to the hospital where we were working, and they were bringing people out in body bags as we were there. It was traumatic. There's a saying in Haitian Creole, it's a greeting, and it goes like this. One person says, "Sak Pase." And the other person says, "N'ap boule."

Robert J. Marks:

N'ap boule.

Brian Thomas:

N'ap boule. And the question is what's happening? Like que pasa in Spanish, what's happening? And the answer is, n'ap boule means we're burning or we're blazing or we're burning up. And there's an ironic sarcasm in that. It means in one hand, "Hey, I'm all right. I'm doing okay."

Kayla Garrett:

I'm making it.

Brian Thomas:

"I'm making it. I'm making it by. I'm getting by." On the other hand, there's also a recognition of how hard life is in Haiti, and it's saying, "Well, basically we're on fire, but we're doing what we..." Anyway, so that day it was literal and it really affected me. It really broke my heart.

Robert J. Marks:

One of the things that you are doing as you're installing solar panels, we'll talk more about this in a little bit, but are you making a little glitch in the use of fossil fuels to power these generators?

Brian Thomas:

I think we are, and we're reducing the usage. And we're sometimes making electricity available when it otherwise would not be when there otherwise would be no electricity, zero. Just because at \$25 a gallon, you just can't afford to turn on the generator.

Kayla Garrett:

And the state owned grid is not accessible or operational.

Brian Thomas:

That's a good point, Kayla. In the United States, we think about we get our power from the grid, and it comes from some magical place off on the horizon, but there is no functional grid in Haiti. What Kayla mentioned earlier, maybe 20% of the people, and that's largely in the capital city of Port-au-Prince, have access to power. Nobody gets it 24/7 and places like the suburbs of Cap-Haitien, there is no grid. There is no grid.

Robert J. Marks:

Wow. Okay. The fall of 2021 is when you had to take your own gasoline to the hospital in order to deliver a baby. There was also a fuel shortage in the fall of 2022. Just recently. What was going on there?

Brian Thomas:

That's right. In fact, that's going on right now. And what's going on is that there are some heavily armed gangs, and there's one particular gang led by a fellow who goes with a nickname Barbecue. And he has taken control of the two ports where fuel is imported into Port-au-Prince, the capital city.

Robert J. Marks:

Crime is... Wow. That means there's lots of crime there.

Brian Thomas:

He's essentially kidnapped the fuel. He's holding it hostage. He's not allowing it to flow out into the rest of the country.

Robert J. Marks:

Doesn't the government push back on this at all?

Kayla Garrett:

There would probably be if there was much of a government standing at the moment. Last summer, the President of Haiti was assassinated, and currently the previous Prime Minister is the acting President, and there's very little political stability in an already tumultuous situation.

Robert J. Marks:

Wow.

Brian Thomas:

In fact, just yesterday, Bob, the Prime Minister asked the international community for armed intervention, armed help. He invited them in.

Robert J. Marks:

Who did they ask? Did they ask the United States or somebody else?

Brian Thomas:

I believe it was... I'm not sure. The newspaper story I read just said it invited the international community. I think it was maybe a global announcement, but presumably it would be the United

Nations or the Organization of American States, perhaps United States. I don't know. I can't see that happening, but-

Robert J. Marks:

Well, we certainly send a lot of money to Ukraine for military reasons. It seems that we could help out in Haiti also. Unfortunately, anytime the United States gives money, it arrives in leaky buckets and it doesn't get to where it's supposed to go many times.

Brian Thomas:

There's not an infrastructure to receive it properly either. It's scary because then it just goes to empower the people who are causing the trouble. Another complicator too is cholera. They have in the last week had outbreaks of cholera.

Kayla Garrett:

Which hasn't happened in years.

Brian Thomas:

It hasn't because they've had clean water, but because of the lack of fuel, they can't operate water purification facilities and cholera is a waterborne disease. And so it's starting to spread and now you add that to the fact that the hospitals don't have electricity to treat those people. And we're looking at an impending humanitarian crisis, in my opinion.

Robert J. Marks:

Oh my goodness. What are the hospitals doing? Are they still trying to operate without power? Are they closing down? What are they doing?

Brian Thomas:

Some of them are. Some of them are trying to operate. Some of them are operating on limited hours. Some of them have solar energy systems that we've put in, and they're actually able-

Robert J. Marks:

That you've put in.

Brian Thomas:

... to do it. They're actually operational. Just this week we received a message from one of the clinics that we had worked on last year and got this new solar system put in for them. This is from, I'd say a medium-sized clinic. And this is outside the town of Cap-Haitien or the city of Cap-Haitien, in a little town outside of it. And the doctor says, in his note, he says, "This is to tell you how the solar system really helped at this difficult time. While the other medical centers are obliged to close or work limited hours, we are able to function as we used to saving people with asthma and those in need of oxygen by using electric oxygen concentrators. Our clinic performed 41 C-sections last month." Partly because no one could get to Cap-Haitien. There's no fuel for transportation, so they couldn't get into the cities. He says, "None of this would be possible without the solar system."

Robert J. Marks:

Boy, that's wonderful. That must give you a warm feeling that you were a part of supplying that.

Brian Thomas:

It's rewarding to be part of that.

Robert J. Marks:

Congratulations. That's really a blessing that you've given them. Let's ask right now, where are you at? What do you need? JustEnergy is a nonprofit organization, but most of your people, as Kayla said, are volunteers, and you need money to hit the ground and to do things. Tell me, what are your needs right now?

Kayla Garrett:

Right now, I'd say that our biggest need is donations, money for propane generators to send in an instance of relief for just providing electricity right now in a form that can be used.

Robert J. Marks:

Just to give an example, how much would a propane generator cost? I'm sure they change depending on how big it is, but a ballpark.

Brian Thomas:

Surely. We're looking at a smaller one. We think about a \$3,000 cost buys the generator, converts it from running on gasoline to be able to run on propane, and then helps with the transportation costs of getting it there. We're partnering with another NGO called Archangel Airborne, which is private planes going to be taking in some things for us and for some other groups.

Robert J. Marks:

Now, tell us how to financially contribute to JustEnergy. And if you can't contribute specifically besides prayers, what can you do?

Kayla Garrett:

We do have a website, justiceandmercy.energy. And that's where you can find more information about the work that we're doing as well as make a secure donation through PayPal. Those donations can go towards paying for these propane generators, or in many instances, it pays the paychecks of our guys in Haiti doing maintenance and installations of all these projects. And keeping the systems up and running that we can give them equitable pay for the service that they're doing, so justiceandmercy.energy is a great place to do that.

Robert J. Marks:

Justice and Mercy and all three words are spelled out without spaces, justiceandmercy.energy. Not .com, but .energy.

Kayla Garrett:

Yep.

Robert J. Marks:

That's cool. And is there a way that if somebody wants to mail you a check. I'm not a big user of PayPal, I'm a Venmo guy, or I like to send checks through my bank. Is there a way that you can send, an address where you can send checks?

Brian Thomas:

A good address would be 1 Bear Place, number 1 Bear Place like the animal, and then that's PO Box 60003.

Robert J. Marks:

Okay. And that sounds like Waco, right?

Brian Thomas:

Yes. That's Waco, Texas 76798.

Robert J. Marks:

Let me repeat it. Number 1 Bear Place post office box 60003 in Waco, Texas, 767... What was the last two digits?

Brian Thomas:

Nine, eight.

Robert J. Marks:

Nine, eight. If you didn't get that and you're listening and you're interested, we'll put this in the podcast notes. That is really great. Guys, what you're doing is incredible, and you're doing it on a shoestring. You're doing it out of love. And I don't know, you're astonishing, so God bless you for doing what you doing.

Brian Thomas:

Thank you. Hey, Bob. We do have a Venmo too.

Robert J. Marks:

You do have a Venmo. Okay.

Brian Thomas:

I'm trying to remember what the address is. It's the Creole word for JustEnergy.

Robert J. Marks:

It's the what word for JustEnergy?

Brian Thomas:

It's the Haitian Creole spelling of JustEnergy. It's JizEneji, J-I-Z-E-N-E-J-I.

Robert J. Marks:

Okay. We'll put that in the podcast notes also.

One of the things that you're concentrated on as engineers is to increase the energy access to Haitians. What's the technology that you use to increase the energy access?

Brian Thomas:

Haiti doesn't have any petroleum, any oil, gasoline, diesel. Doesn't have any resources like that of its own or even coal. And so they have to import all that, and that's part of the problem. But one resource that they do have in abundance is solar energy. All you have to do is go for a visit to be convinced that the sun is a little brighter down there.

Robert J. Marks:

Oh, it's pretty close to the equator, isn't it?

Brian Thomas:

Well, it's closer than we are. It's at about 19 degrees latitude.

Robert J. Marks:

Okay, good.

Brian Thomas:

But trust me, it's hot and that sun is intense. Well, that's great. It's great for generating electricity with solar photovoltaics. There's different kinds of solar energy. There's solar thermal, that we use the sun's heat to make something hot and then generate steam and turn a turbine, but that's not what we're talking about. We're talking about direct conversion to electricity with your standard solar panels.

Robert J. Marks:

Okay.

Brian Thomas:

With that, during the day, we can generate electricity for users. We make more than we use during the day, so we can store it in a battery bank. And so the systems we're putting in are off grid. There is no grid connection, so they need some kind of way to store energy for the evening. And traditionally this has been done with lead acid batteries. Lead acid batteries are an old technology. It's a kind of battery similar to an automotive battery. They require a lot of maintenance. They don't last very long. And there are some better technologies out there. And what we have started using, and this is a little bit unusual in the international development world, I think, is the use of lithium ferro phosphate batteries, which are abbreviated LFP.

And this is a type of lithium battery chemistry that is very durable. It can be abused. You can leave the batteries in a mostly discharged state without damaging them, which is not true of lead acid batteries. You can mix old and new batteries together because they have built-in electronic battery management systems. That's also not true of older lead acid chemistry batteries. If you mix old ones and new ones, then they'll charge and discharge at different rates and it causes all kinds of problems. That's the energy capture and the energy storage. And then we use inverters to convert that DC electricity into an AC electricity that can be used by most appliances.

Kayla Garrett:

As Brian said, the conditions in Haiti can be pretty intense with heat, but also with storms, just general ruggedness. And we find that these LFP batteries are robust enough to handle the less than test conditions that are in the country.

Robert J. Marks:

Okay.

Brian Thomas:

That's a rugged place, and it's a pretty rugged battery chemistry.

Robert J. Marks:

As an electrical engineer, I want to know what are maybe one of the biggest solar systems that you have installed?

Brian Thomas:

Our biggest project was for a hospital, a large public hospital called Justinien University Hospital, specifically for the pediatric wing of that hospital. It's a large public hospital in downtown Cap-Haitien. And we put a system together there that was sponsored by USAID, and that was actually... It was through a cooperative agreement with another NGO called Konbit Sante.

Robert J. Marks:

NGO stands for non-government organization?

Brian Thomas:

Yes, NGO stands for non-government organizations, like a-

Kayla Garrett:

Synonymous with nonprofit, but in a more international sense.

Robert J. Marks:

I see. Okay.

Brian Thomas:

And with this other NGO, we partnered with them. We were a bit of a subcontractor for them to work with USAID to do this project it was... I think our budget was around \$150,000. And so that's a 34 kilowatt solar array. It's about 150 solar panels that... They had been put in on an earlier project and we rewired them to be a battery operating system and inverter system that is capable of producing three-phase output power at about 21 kilowatts. And the system's working well, and we can even monitor it with... The inverters we use have this SCADA capability. SCADA stands for supervisory control and data acquisition. In other words, the electronics are connected to the internet, and we can monitor them from here. We get up and have a cup of coffee and check the solar panels down in Haiti and see if they're producing the energy that we expect them to. Well, that is when the internet works. Sometimes-

Robert J. Marks:

When the internet works. Okay. I'm a consumer in Haiti. Is the solar power cheaper from the solar or is it cheaper from the grid?

Kayla Garrett:

Well, there's not really a grid in Haiti, so it's kind of a no-sum question, but there's virtually no operational grid in Haiti. The state controlled electricity company is called EDH. And we've had people refer to the way this group operates as, "EDH is selling blackouts."

Robert J. Marks:

What? They're selling blackouts.

Kayla Garrett:

Yep. Even under normal conditions... Right now, there's a fuel shortage, political unrest. This is not considered standard conditions, but even under standard conditions, only about 30% of the entire country has physical connection or access to the electricity grid that is from that state controlled electricity company. Only 30% can even access it. But of that 30%, no single person has access 24/7. There is not electricity at any given point 24/7.

Robert J. Marks:

That's incredible. You did mention that Haiti is the poorest country in the western hemisphere. And it sounds like they are really, really poor and in need of just fundamental infrastructure. My goodness. In installing these, I'm sure you probably concentrate on places like orphanages and hospitals and other places of humanitarian help. How are the hospitals doing where your group has installed the solar power?

Kayla Garrett:

They're operational, which is a massive blessing. We have received some messages from the doctors there about their systems working. Even in this time of a little bit more crisis, one of the medium-sized clinics that's in a town outside of Cap-Haitien, which is the larger urban area, sent us a message not long ago to let us know that the system is really helping during this time. And that currently most medical centers are having to close or work really limited hours, but they are still able to function just as they used to. And they're treating people with asthma, those in need of oxygen from electric oxygen concentrators and converters. And he even said that their clinic was able to perform 41 C-sections last month where most people were not able to travel to Cap-Haitien to receive that medical care in this time. And this would not have been possible without the solar system. And he says, quote that, "It is a clear example of how a strategic decision can make a big difference and help many."

Robert J. Marks:

That's wonderful. In installing these solar systems, I think you've done it yourself, but do you also employ the local nationals to do that? How difficult is it to install a solar array?

Brian Thomas:

Well, we've developed a really good team down there. It's a small team, maybe five guys, and we have a general manager. We have an electrician, a welder, and a general purpose guy or two. And depending on the size, they can do it in a week, maybe two weeks. The large system I mentioned that was

sponsored by USAID, I thought, "This is going to take us a long time," but our electrician is well-respected in the community. And he reached out to his colleagues and hired five or six other guys that came and showed up and worked under his direction. It really doesn't take that long. It's much more difficult to get all the supplies to the location where the installation's going to happen. That part may take months.

Robert J. Marks:

Interesting.

Brian Thomas:

And the installation itself, it does go faster.

Robert J. Marks:

It's interesting. Most engineers at the undergraduate and the graduate level are interested in going out and making their mark in life. They're interested in going to Silicon Valley, coming up with an invention, going public with their IPOs, et cetera. That's not the typical engineering path that you guys have followed. Not doing that, how is it that you two have learned how to do relief and development? Where did you learn how to do this and what's your motivation?

Brian Thomas:

Well, I think we said earlier, or maybe we said in the prior podcast that we volunteer our time. I think Kayla used the word, we have other gigs that pay the bills. I play the congas in a jazz band.

Robert J. Marks:

Do you? No, that was a joke?

Brian Thomas:

Yeah.

Robert J. Marks:

Okay. Okay. Daggone it. I thought you were like Richard.

Brian Thomas:

It's kind of a dream job of mine. I have this list of other careers I would've liked to have had. Astronomer, conga player.

Kayla Garrett:

Conga player?

Brian Thomas:

Those are my top two.

Robert J. Marks:

The other thing is that you guys have been presenting papers at conferences too, haven't you?

Brian Thomas:

We have. Just recently, the two of us presented a paper at the IEEE Global Humanitarian Technology Conference, which was in Santa Clara this year. But together we've got about 20 years of experience working in international projects on a quasi part-time basis. I say quasi part-time because it's hard. We don't work 40 hours a week on this, but we do work a lot on it.

Kayla Garrett:

And the motivation, I think is very well interwoven into the jobs and careers that we have. There's a lot of alignment in those things.

Robert J. Marks:

I know you also have to take time out to go to Haiti. It sounds like from what you described previously that Haiti's a pretty dangerous place to go right now. It's probably not a good idea to travel there now. Is that true?

Brian Thomas:

US State Department has them listed at level four, do not go.

Robert J. Marks:

What are the levels? I'm not aware of that. Is that the highest level?

Brian Thomas:

Yeah, it's the highest level.

Robert J. Marks:

Oh my gosh. Okay.

Brian Thomas:

It's up there with Iran, Syria.

Robert J. Marks:

Really?

Brian Thomas:

Yeah. And there's been a lot of kidnappings in the last year, even though that's not their biggest problem right now. Kidnapping for ransom, both of international people and also locals, including pastors and children. People off the street. We know a guy. We know a guy, David, I won't use his last name, but he's been stopped by gangs three times, driving down to Port-au-Prince and held up and robbed. One time, he said that there were some other people there that the gang members shot dead right in front of him.

Robert J. Marks:

Oh my gosh.

Brian Thomas:

It's a dangerous place, but we try to stay away from Port-au-Prince. In fact, I've only flown through Port-au-Prince. I've never been on the ground there. And we stay up in the northern area, Cap-Haitien, which has historically been much safer. Much safer. And we talk to people. That's part of the answer of how we have learned how to do what we've learned to do. We're still not experts, but what we have learned, we've learned by talking to people. We've learned by building relationships with people on the ground, Haitian men and women, and trying to be a good listener. What are the problems they need... We don't want to solve problems that we perceive, we want to solve the problems that they perceive. And we were told that job creation and energy access are two very big and pressing needs.

Robert J. Marks:

We talked about different charitable organizations and how many of them are bloated in terms of salaries of those that lead them? An exception was the Salvation Army, which is a Christian-based organization. They talk about salvation. What do they mean salvation? They mean salvation through Jesus Christ. They're a Christian organization. Would you characterize JustEnergy as a Christian organization?

Kayla Garrett:

The work that we do is motivated by our faith. We hold that people are made in the image of God and therefore have inherent worth and dignity. If these energy systems can help people to pursue education, improve their health, their general jobs and livelihood, increase their standard of living. And being able to do that is a way that we can help bring the Kingdom of God that Jesus talked about into this world. And so largely, our work is motivated by our faith and the value that we see in every human and the right to access of electricity, high standards of living is one of those human rights.

Robert J. Marks:

Wow. Well, God bless you both. We've been talking to Brian Thomas and Kayla Garrett from JustEnergy about their current work and appropriate technology in Haiti. If you are interested in supporting Justice and Mercy, there's a bunch of ways you can contribute. One is to go to justiceandmercy.energy and spell out justice and mercy without any spaces, justiceandmercy.energy. And there you can pay through PayPal. They also have a Venmo account, which is a word I can't pronounce. How do you pronounce it, Brian?

Brian Thomas:

It is JizEneji.

Robert J. Marks:

Okay, I'll spell it out now. J-I-Z-E-N-E-J-I.

Brian Thomas:

That's right.

Robert J. Marks:

J-I-Z-E-N-E-J-I. And it's not case-sensitive, so if you're a Venmo person, that's a good way to contribute. Or if you want to do it the old way and write them a check, their place is Justice and Mercy, number 1

Bear Place post office box 60003. And that's in Waco, Texas 76798. And I think I got all that right, didn't I?

Brian Thomas:

Yeah, that sounded right.

Robert J. Marks:

Okay. Well, great. Well, again, Brian and Kayla, what a wonderful time chatting with you and finding out what you're doing in Haiti. And boy, we're very appreciative. This is Mind Matters news. Until next time, be of good cheer.

Announcer:

This has been Mind Matters news with your host Robert J. Marks. Explore more at mindmatters.ai. That's mindmatters.ai. Mind Matters news is directed and edited by Austin Egbert. The opinions expressed on this program are solely those of the speakers. Mind Matters news is produced and copyrighted by the Walter Bradley Center for Natural and Artificial Intelligence at Discovery Institute.