



CHADD GARCIA ON BUSINESS BREAKDOWNS PODCAST

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Introduction: This is Business Breakdowns. Business breakdowns is a series of conversations with investors and operators diving deep into a single business. For each business, we explore its history, its business model, its competitive advantages, and what makes it tick. We believe every business has lessons and secrets that investors and operators can learn from, and we are here to bring them to you. To find more episodes of breakdowns. Check out joincolossus.com. All opinions expressed by hosts and podcast guests are solely their own opinions. Hosts, podcast guests, their employers or affiliates may maintain positions in the securities discussed in this podcast. This podcast is for informational purposes only and should not be relied upon as a basis for investment decisions.

Zack Fuss: This is Zack Fuss, an investor at Irenic Capital. And today we're breaking down Archaea Energy. Archaea is one of the largest and fastest growing providers of renewable natural gas in the US. The company uses methane produced by landfills as its feedstock to create renewable electricity and natural gas to break down Archaea. I'm joined by Chadd Garcia. Chadd is lead portfolio manager of the Ave Maria Focused Fund and co portfolio manager of the Ave Maria Growth Fund. You may have seen Archaea in the news this week as on Monday, BP announced a deal to buy Archaea for \$4.1 billion. We recorded this on Friday before this news broke. The bulk of our discussion, therefore, does not touch on BP. It serves as an explanation for what BP has bought and why they found it to be an attractive asset. At the end of our conversation. We asked Chadd for his quick reaction to the news. Please enjoy this business breakdown of our energy. So, Chadd, thank you for joining us to break down Archaea. I'm very excited about this one. It's a fascinating business in that it's an innovative way to attack a problem in the legacy industry. So, I think a good place to kick things off would be to explain what landfill gas is and how it's been dealt with historically and what new companies are doing with it today.

Chadd Garcia: For municipal solid waste. So, the waste that households and businesses throw away is collected and put into a landfill. That waste contains organic matter. And when organic matter breaks down, landfill gas, often referred to as biogas, is produced and released into the atmosphere. The composition of landfill gas is roughly 50% methane, 35% carbon dioxide, 15% oxygen, and then a handful of other volatile organic compounds. Landfill gas presents two problems for operators of landfills. First, methane is a greenhouse gas. It's the second most abundant greenhouse gas. However, it is 25 times more potent than carbon dioxide, the leading greenhouse gas in retaining heat within the atmosphere. So, methane release raw has a very negative effect on global warming. The second issue that it presents for landfill operators is that methane has a foul odor. So, if you ever have driven by a landfill and smell the foul odor, it's the methane that you're smelling. Landfills have dealt with this historically by either capturing the methane or flaring it for which they receive no economic value. But when they flare it, it turns the methane into carbon dioxide and water, which eliminates the odor issue and transfers it from a potent greenhouse gas to a less potent greenhouse gas. Or they have captured the landfill gas and turn it into electricity by burning it in generators on site. And that electricity they historically either used onsite for whatever minor needs they have or sold it into a local grid. Companies that are coming along now are taking the landfill gas and filtering it to isolate the methane in such a degree of purity that the methane can be sold into natural gas pipelines. If you look at the problems that Archaea solves, first, it eliminates the foul odor associated with landfills. It generates a less harmful greenhouse gas. It's released into the atmosphere. It generates substantial economic value for Archaea, as well as the landfill operators. If they're able to process the landfill gas and turn it into methane.

Zack Fuss: Before we get into the details, can you give us just a snapshot of what Archaea is business is today. What does their economic profile look like and maybe some sense of scale through maybe their production volumes, etc.?

Chadd Garcia: The business is growing rapidly. Last year they generated on a GAAP basis \$195 million of revenue. And with that revenue they generated \$76 million of EBITDA. They should in 2022 with \$370 million of revenue and \$143ish of EBITDA. The maintenance Capex is fairly de, so about 5% of EBITDA. So, EBITDA is very close to being an unlevered free cash flow number. And then as that relates to the breakouts of their business, about 87% of their revenue is generated within energy or gas electricity

production with. A handful amounts of other revenue and fees coming in on our volume. So doing 10 to 11000000 million BTUs in 2020 to the supply of all RNG at the end of 21 was around 75,000,000 million BTUs. And then if you look at the ten announced projects where organizations are voluntarily increasing their R&D demand, that number is around 2.4 times the 2021 production. So, to give you some perspective on how big a player market is and then how rapidly the demand for landfill gas is growing.

Zack Fuss: That's a super helpful summation. Maybe if we zoom out a little bit, because I'm not sure that everybody fully appreciates the waste hauling value chain. So effectively, if I'm a business or a private citizen, I pay for someone to come pick up my trash. That trash goes to a landfill, and most people don't know what happens with it. Can you start from a residence or a commercial building? I'm paying a collection company. They're putting the trash in a landfill. Who owns the landfill? How do they get paid? How does everyone make money? And where does the value capture sit within this ecosystem?

Chadd Garcia: Let's just be clear that the type of waste that we're dealing with here is municipal waste. And so, waste from businesses and restaurants and homes and apartments and condos as opposed to industrial waste. And while it's important to analyze in Archaea is that industrial waste is not going to have as much or any organic matter. And it's the organic matter and the organic matter breaking down that creates the landfill gas opportunity. Looking at municipal waste in the US, or at least in North America, the way that it works is that typically a municipality, a city or a county will enter into a contract with a waste hauler. These contracts can be 3 to 5 years. They'll have a fixed price component with some variability for CPI. So, there's inflation kickers in there for the waste haulers, and either the municipality will pay the waste company directly and charge residents a tax or they would just set up the contract. The resident would call the waste hauler and sign up for service and be billed directly. Businesses such as a restaurant would call up the waste hauler in their area and sign up. These contracts can be more on a month-to-month basis, and they would be charged based on how many pickups there would be in a given time period, such as a week. Those contracts are much shorter duration.

Chadd Garcia: The one little different model would be in rural communities on the West Coast in the US, think these communities had in going back decades, 50 years or so, they had a hard time attracting landfill operators and waste haulers of scale. And so, in order to

attract large companies to come in and service their smaller communities, they had to establish franchises or government mandated monopolistic contracts. And for whatever reason, those contracts and franchises are still enforced today. So, if you look into the Western US, there's these great businesses where you have a government mandated monopoly. And so, the waste industry is set up in North America. The landfills are typically owned by either the waste hauling company that has the contract for municipal area to collect and dispose of the waste, or it's owned by a municipality. And the waste haulers then contract with the municipality to dump the garbage and the municipalities landfill. They pay what's called tipping fees. Either option can be beneficial for the waste hauling industry. If you own the landfill, that gives you a bit of an economic mode. You have the low-cost business in the area given that you're in the landfill. But if a municipality owns it, that can be beneficial to you because you have less capital deployed. So, it can be a high return business, just the collection disposal part of it.

Zack Fuss: Now that we have a better appreciation for how the trash gets to the landfill, I think the next natural question is how are you taking something that's perceived to be worthless and making money off of it?

Chadd Garcia: There are a couple of ways that the demand for landfill gas was generated. Let's first start with the Renewable Fuel Standards Program, which was created under the Energy Policy Act of two. Five. The EPA mandated that a certain amount of transportation fuel needs to be generated with renewable fuels. And the way that they track that is by renewable identification numbers in an industry that is called RINs. There are different types of RINs. The three runs are the highest level and that's the RIN that landfill gas is eligible to receive when a gallon of renewable fuels created. It also creates a RIN with it that can either be sold attached to the fuel or separated from the fuel and sold on its own. The transportation fuel providers ensure compliance with the Renewable Fuel Standards program by buying fuel that has a rent attached to it, or just by buying a RIN on the open market that creates value within the transportation fuel space. If you look at what producers that might use natural gas as a feedstock, several states or Canadian provinces may have state mandates that mandate a certain percentage of electricity consumption within their state or province be generated with renewable fuels like you see in the transportation space. You also have that mandated demand happening within the electricity generation space. Both of these are examples of where either a federal law or

state or federal law mandates the use of renewable natural fuels. Aside from that, you have a quasi-regulatory situation happening within the ESG space. There are organizations, companies or quasi-governmental organizations such as the University of California Systems that either for ideological reasons or ESG compliance reasons, have goals to reduce their scope one, emissions or reduce their carbon footprint. And these organizations, if they have their own electricity producing assets, will buy renewable natural fuels to fuel them, or they will just buy the environmental attributes that are created when a renewable fuel is created in order to reduce their carbon footprints and be in compliance with their self-imposed ESG goals.

Chadd Garcia: If you want to look at some examples of this, I was at a data center conference with a lot of the senior leaders and CEOs of the data center companies. I follow that space. Mark Yancey, whom I believe you had on the podcast from Digital Bridge, talked about being carbon neutral in their data center business by 2030. Well, how are they going to get to a carbon neutral status? They're going to do it by buying renewable fuels if they have their own electricity generating capacity or by just buying the attributes that are created when these renewable fuels are made. I am also reading Rubinstein's book, *How to Invest In*, and it covers an interview that he had in July of 21 with Jonathan Gray from Blackstone, and he's talking about their real estate business. And he said that every asset they have going forward, they're going to try to reduce the carbon footprint by 15%. There are certainly ways if you buy a building, that you can reduce the carbon footprint by getting more efficient windows or by doing some work with the air conditioning system. But a lot of the ESG compliance that you're going to see is going to come from buying environmental attributes that are created when renewable fuels are made. While these programs are voluntary, they're kind of not. If the company comes out and says, here are our ESG goals that we're going to hold ourselves to and they report them, I think the SEC is going to crack down on setting ESG standards and not living up to them.

Zack Fuss: So, there are multiple ways and revenue streams to monetize the ability to capture the methane gas and convert it. For a company like IKEA, how is the company organized to capture and capitalize on such a rich opportunity set?

Chadd Garcia: Their main business is R&D, so renewable natural gas. Their second business is they have some legacy assets that are gas to electricity assets. I view those as if use oil and gas parlance in that industry. If you have an oil reserve and you find it and you drill it, you're not ready to fully exploit it. You might put a pump on there to pump out a small amount, and you do that to secure the lease and it's called held by production. Archaea bought a business that was focused on gas, electricity. And what I see happening there is that over time they'll convert those sites into RNG sites. But that doesn't mean that gas electricity will go away. I think what they'll do is they'll capture the landfill gas, turn it into renewable natural gas, increase the value of that gas by creating the environmental attributes. And then what they'll do is they'll probably buy natural gas. The natural gas pipeline system, keep the electrical assets running on standard ground gas and use those assets to hedge one of their largest expenses, which is electricity. From an energy standpoint, they're going to get revenue from their R&D projects and then they're going to get revenue from any of the electrical assets. The third way that they make money is by building these projects on a landfill site and managing them. A lot of the way that they deal with landfill operator would be to form a joint venture. And in the joint venture, Archaea and the landfill operator both contribute capital to the projects. The JV would buy equipment from Archaea, for which they'll make a margin here, will manage the project on a go forward basis for which they will earn a fee. The landfill operator will receive earnings from their ownership stake in the JV, as well as an overriding royalty on every bit of landfill gas that's produced.

Zack Fuss: Got it. How much visibility do they have into their business? I think of energy is something that's relatively volatile. I know that RINs move around carbon credits. Who knows? Can you tell me a bit about how they contracted and how they think about the ability to monetize some of these systems?

Chadd Garcia: Yeah, this is an interesting area for which they stand apart from the rest of the industry. One of their competitors has around 20% of their volume contracted out, which is pretty low. That's probably the highest amongst their competitors. Archaea currently contracts around 50% of their volume in long term contracts. Think 10 to 20 years with creditworthy blue-chip parties. That makes their revenue stream highly possible over the next decade or two. The rest of the volume they sell on a highest and best use basis on the spot market. So right now, a lot of the R&D that they produce is going into

the transportation fuel market, but that could change with the changing environment for D3 rents or for low carbon fuel standard credits.

Zack Fuss: Probably a good chance to expand a bit on how the value of RINs is derived as a function of the renewable fuel standard. My understanding is that the EPA sets these limits every year, but how do they think about the amount of rents that are produced?

Chadd Garcia: Well, the EPA sets the volume of fuel that has to be derived from renewable energy. Each gallon creates a RIN, and then the RIN trades on its own market. If a new type of fuels developed, then it will increase the supply of D3 RINs. Obviously, the amount of fuel that the government sets that must be made with renewable fuel every year is going to drive the demand part of the difference as well. As you said that market can be quite volatile. Presently, a D3 RIN is trading for \$2.50. When you convert that to million BTUs, which is how natural gas is traded and priced, that value of a RIN is \$29.32 per million BTU, which is pretty substantial given that the spot market for natural gas is around \$6.

Zack Fuss: So, this is probably a good segue to better understand, if you can walk us through the economics of perhaps a single site, if they were to take their product to a landfill and also lay out what it looks like, like, am I looking at a power plant? How exactly do you capture the gas from an outdoor trash dump.

Chadd Garcia: Once a waste hauler picks up garbage from a residence or community and take it to a landfill? Landfill is either owned by the waste management company themselves or by a governmental entity, and it's basically a hole in the ground where the waste is dumped into. And what they do is they line the bottom of the landfill with PVC type material. They dump the waste on top of that material, and then they'll after they've accumulated a certain level, they'll align it again and they'll just put in layers and layers of these cells into a landfill. The cells are there to prevent leakage from the waste into the groundwater, and then any rain that gets dumped on to the landfill will get channeled into a receptacle and collected. And then that we call it leachate. That rainwater mixed with the items in the dump would get subsequently get cleaned, can either be cleaned on site or through dehydrating the water and disposing of the leftover solids, or it can be sent to a municipality's disposal water facility. The landfill gas is collected by wells that are drilled

both vertically and horizontally into landfills and pipes are inserted in that collects the landfill gas for process. In the first year of a landfill's operation. There's not that much landfill gas that is produced because the organic material goes through an aerobic breakdown. So, the oxygen is in place. After about a year, an anaerobic breakdown of the organic matter occurs where bacteria that operate in an anaerobic manner start to process the organic compounds. And that's what creates methane and some of the other greenhouse gases. They comprise landfill gas. To put it in perspective, what kind of problem this is for landfills.

Chadd Garcia: Municipal solid waste in the US accounts for 14- and one-half percent of human related greenhouse gas emissions. The methane emissions from municipal solid waste landfills are equal to about 20 million passenger vehicles driven for one year or CO two emissions from powering 12 million homes energy use for one year. So, when landfill gas is collected, assuming it's going can be turned into rag, what happens first is that it goes through a primary treatment and in the primary treatment, moisture is removed from the landfill gas. After the moisture is removed, it goes through a secondary treatment. The secondary treatment removes impurities. At that point, the landfill gas can be used to generate electricity or as a medium BTU fuel to run some boilers or other equipment onsite at a landfill. This is what's typically been done with landfill gas. The higher use is to convert it into an RNG, and so that requires a third and advanced treatment. The third treatment removes the carbon dioxide, the nitrogen, the oxygen and other volatile organic compounds from the gas. So, it isolates out the methane and then they compress the methane into a high BTU gas that can be used to power a vehicle. And I know that if you go back to FLS Analyst Day, they talk about the possibility of taking some of the landfill gas that they produce and using it to power some of their equipment or it can be sold into a natural gas pipeline. There was a recent interview that Nick Storch gave where he said that the purity of their methane is even greater than that of the methane that's in the natural gas pipelines that they're putting their R&D into.

Zack Fuss: And then can you walk us through the economics of just a single site?

Chadd Garcia: If you look at the economics of a project, they often talk about a build multiple. The Capex that's required for an RNG project is four times the projected EBITDA. So, if you invert that, that gives you around a 25% unlevered IRR. What he has found is

that because of the commercialization strategy that they have, where they contract presently, 50% of their volume, that is going to go up to 70% in long term contracts, that gives their lenders comfort to the point where if they finance these projects using project level finance, they can get about 70% debt on them in 30% equity. The IRR is going to go up dramatically.

Zack Fuss: Clearly, if unlevered, it's at 25% and they can lever them up at such a nice loan to value, you get really great returns. How much capital can you deploy into one of these projects? I'm trying to appreciate their how much it costs.

Chadd Garcia: Their largest agreement for projects that are disclosed is with Republic Services, which is one of the leading landfill operators in the country. They formed a JV with them. There are 39 landfill gas currently in this JV. I think that more will come in over time. The capital that's going to be required to realize this is going to be 1.1 billion 800 of it's coming from Archaea and 300 is coming from Republic. So, they can deploy a substantial amount of capital. Like I said earlier, the economics are great for the landfill operators. They're going to get a royalty on top of the ownership of the JV. If you look at FLS earnings calls, the CEO said that for him these were 40% plus IRR projects and the best use of capital in this business.

Zack Fuss: I'd be remiss not to ask as inevitably such high IRR and returns on these projects attract incremental capital. What is it that differential? It's the company and provides them with a barrier that doesn't allow a well-heeled private equity sponsor to usurp them.

Chadd Garcia: Private equity sponsors are coming into the game, but their secret sauce is Most of the industry creates projects that are bespoke to each landfill. Archaea builds their R&D facilities using a modular design. Most of the R&D products are prebuilt, and they use interchangeable subcomponents and they're delivered to landfills on a flatbed truck and then put together on site. That's different from the rest of the industry. And using the modular design, they are able to create these R&D projects at a much lower cost than if you do it on a bespoke basis and they can put them together much quicker than their competitors. What they found is that their R&D projects have a much higher uptime than that of their competitors and they recover more methane.

Zack Fuss: Given that process, power seems to be important here, probably be helpful to learn a little bit more about the history of the company, how it was founded and who the major players are.

Chadd Garcia: Sure, the business was founded by Nic Storch, who's the CEO, and Richard Walton, who's currently the president. Both of these gentlemen entered their careers in the investment industry before ultimately buying a landfill and trying to operate it. When they turn from investors to operators, they learned how challenging running a landfill could be, and particularly with respect to the compliance regarding the landfill gas. Given those challenges, they saw an opportunity in RNG. They went out for bids with contractors to build RNG facility on their landfill. They found the bids to be quite expensive and the development time to be quite long. And so, they ended up building their own site with an internal team that came in around half the cost of their bids in less time. They recognize that that could turn into a nice business. Brian McCarthy. Full disclosure is a good friend of mine. He joined as CFO. He joined from Saltonstall, which is a very old multifamily office in Boston. They have several decades of experience in investing in energy. Saltonstall and the Rice family invested in Archaea. Shortly after joining, Brain created the commercialization strategy in which they would contract a majority of their volume to creditworthy counterparties over a long period of time. In April 21, Archaea, combined with ARIA Energy, which was a company that was owned by Ares management, the combined Arcadia ARIA entity went public via a SPAC that was created by the Reiss family. Interesting to note, there's been a lot of companies that went public via a SPAC. I own a couple in my portfolio that's been one of them, and there's no SPAC carry in this one, which is on the rarer side. The economics that management and the SPAC sponsor are getting are just from their outright ownership of the stock.

Zack Fuss: How do you think about the size of this opportunity? I think there's something like 25, 2600 landfills in the US. Presumably you have other areas in North America, Europe. What is the size and scope of this business potentially?

Chadd Garcia: There are 2600 municipal solid waste landfills in the US. 20% of them have existing landfill gas to energy projects which include both renewable electricity and then RNG projects. It's worth noting that the electricity sites could ultimately be converted to an R&D site. If you exclude that 20%, that gives you 2100 remaining sites with no existing

project. Around 500 sites are likely good candidates for R&D projects. The criteria to make something a good candidate would be first, is there sufficient landfill gas volumes being generated by the site? And then second, is that landfill close? Call it within three miles to a natural gas pipeline that you can tap into to sell the RNG through. Currently, there's 74,000,000 million BTUs of RNG supply. If you look at the ten publicly announced mandates to source R&D over the next 5 to 10 years, the demand for it is expected to be two and a half times the current supply. Examples would be California Public Utilities Commission putting in place state-imposed mandates. National Grid, which is an electricity producer in the Northeast, voluntarily wants to increase their energy consumption. If you look at that demand increase two- and one-half times the current demand, there are only a handful of producers that can produce substantial volumes in the short future. And I think that both bodes well for Archaea as well as eliminates too many concerns about competition. There's only a handful of people that can do it. The key is to lock up the supply with. Landfill operators. The demand is going to be there.

Zack Fuss: As this industry matures over time. Conceivably, every landfill that is eligible for this type of capture will have it. Where is Europe in doing something comparable? Is it relevant there yet?

Chadd Garcia: I don't know. I don't follow the waste industry in Europe as closely as I do in the US. I think there's so much opportunity in the US that Europe is probably a high-quality problem to have in the future. If you look at IKEA right now, they have 88 projects that are announced. They'll probably commission 20 of those 88 projects in 2023. Those 88 projects are expected to contribute \$600 million a year in annual EBITDA. And for this industry, EBIT is very close to free cash flow. So about 5% of EBIT would be used in maintenance Capex. These businesses generate substantial tax credits, so they're not going to be paying taxes in the intermediate future and then whatever interest payments you have.

Zack Fuss: I'm trying to appreciate the free cash flow conversion relative to the capital layout. Are they not the ones that are funding the initial Capex? Or is it just that maintenance Capex once Capex is deployed is de minimis?

Chadd Garcia: The latter is funding a good chunk of the Capex, not all of it. Their landfill partners fund a bit too, but maintenance Capex is fairly de minimis after it's deployed to get to the 600 million of EBITDA that they're expecting from these 88 projects. It's going to take about 1.9 billion of capital from Archaea. Some of that has already been spent this year. So, it is a substantial capital outlay.

Zack Fuss: And are these projects typically financed on a project finance basis, or is the company constantly raising capital?

Chadd Garcia: The company may not need to raise any more capital. The company does have some company level debt. They've got a \$1.1 billion debt facility of which 500 of that is in use to get to the 1.9 billion of capital that they need to deploy over the next five years. They have 600 million in debt that they can pull down, and then they're going to have the free cash flow from existing projects and from projects that they're building out. I'm certain that they're not going to need to raise any more equity if they needed to raise any more capital to deploy into these projects, it should be likely done on a project basis.

Zack Fuss: What does the competition look like? Presumably if I own or operate a landfill, I have the ability to contract with whomever. Are there other competitors that offer a like solution? Who are they going up against?

Chadd Garcia: So, Montauk Renewables is a big one. They're about the same size as Archaea, but they don't have the same commercialization strategy. They're mostly operating in the spot market. There's another company, Opel, Kinder Morgan, bought a few RNG facilities over the last 15 months, but it's de minimis to them. It's about 2% of their EBITDA. Waste Management, which is the largest landfill operator, is going to do it internally. Their landfills are kind of off the table at this point. But who does that leave you with? That's left. It leaves you with Waste Connections Republic. GFL. The Republic entered into a substantial JV with them. It's 39 projects. Republic already has some contracts with other operators, but those contracts at some point will expire. And it'll be interesting to see once those contracts expire, if new landfills enter into the JV that Republic has. And then if you look at GFL, they have been very vocal about wanting to deploy capital in this space. They've said that they are evaluating a couple partners. But if you have some eagle eyes and you read our Kids 10-K, they reference a JV with the landfill

operator and the JV is called Saturn Renewables. And if you look at the location of that JV and go to Google, the landfill operator in that town is GFL. They have an established JV with GFL, and I would expect that we would see some nice announcements that would go IKEA's way.

Chadd Garcia: But let's take it back to their existing business. If Archaea never won another project, they still have the ability with the existing 88 projects that are announced to get to 600 million a year of EBITDA. And they think that that \$600 million a year is the downside case. There are several ways for them within the current 88 project base to get that over a billion. One way they would do that would be carbon sequestration. They can capture the carbon that's produced when they generate in clean landfill gas. And if they sequester that, they're eligible for a federal tax credit called a 45 CU credit, which is probably worth about \$1.50 per million BTU, there's some substantial value there. Additionally on projects that don't generate. Sufficient volume to have an RNG project. They're working on clean hydrogen projects. Lower volumes of landfill gas would be appropriate for generating clean hydrogen, both on hydrogen and the carbon sequestration. They're probably about two years from projects positively impacting their financials. They can also go to a lot of the existing projects that they have and enhance the well field within the landfills, which would allow them to generate more production. I'm pretty excited about it. If they can get to 600 million to \$1000000000 of EBITDA a year without winning another project that's compelling, the company is trading at a \$2.5 billion enterprise value right now.

Zack Fuss: So, if I look at the revenue generating opportunities here, given the broader interest in renewables, carbon sequestration and an evolution towards cleaner energy, the business case seems rather obvious, but there are obviously risks here inherent in their business model. What are the key risks for a business like this?

Chadd Garcia: When I first started looking at it, I thought there was new technology risk. I was mistaken. There are not any new technology risks because the company is not using a new technology to clean out the landfill gas to generate their energy. All they're doing is using existing technology with some slight tweaks and perhaps some better execution so that technology risk is off the table. There's obviously price risk and cash flow risk. The RAND market is highly volatile. Same with the ZFS credits, but the company mitigated this

as well. 50% of their volume is contracted through long term fixed price contracts with creditworthy counterparties. That's going to go up to 70%. That risk is off the table. You have supply chain risk. That's certainly a risk that investors and businesses are learning about post COVID. There's certainly inflation risk. The company is dealing with this by having an upfront bulk ordering program that started it in the summer of 21. I think that they could benefit from inflation because even their long-term fixed price contracts have some inflation escalators. There's regulatory risk. The government can say that they no longer care if transportations made with renewable energy and that could kill the DD three rent market. Or a state could say that they no longer care if their electricity is produced with renewable fuels.

Chadd Garcia: But if one state decides that they don't care about that anymore, that doesn't mean that every other state is not going to care. Additionally, their fixed price contracts have no regulatory outs. Even if every state said we don't care about having renewable natural fuels, the parties that they've entered into these contracts with will still have to buy renewable natural gas from IKEA for the next 5 to 20 years. I think the competitors can copy their process. I know that our key is working on some patents right now, but they won't tell us what they're going to have, what part of their process. Let's just assume that competitors can copy the modular design. Competitors are building R&D plants. They're bespoke, but let's say they can copy the modular design. From what I hear, the advanced treatment part is quite difficult from an execution standpoint. It's not an easy thing to do, but people are doing it. So, there are energy plants out there. I just think that they've got the supply locked up, a good chunk of supply locked up. They have enough projects signed up to get them to 600 million or \$1,000,000,000 to be bid on. I think that that provides enough margin of safety to me to not really have to worry about the competition too much. So, when you're.

Zack Fuss: Evaluating a business like this, clearly, it's a unique situation in which you have a company that's doing something that's good for the environment. It has that ESG halo, but also a highly compelling economic model. What are the lessons that you've learned from studying this business from an investor's perspective? And then if you consider their business case, what have they done? Are operators that you think can be applied to other industrial businesses today?

Chadd Garcia: There's certainly some new lessons that I learned as well as there's some old lessons that I've learned from other companies that have applied in my analysis of Archaea. Let's start with the new lessons. The first lesson, which I already spoke about is new applications of a technology can produce new uses or a widespread adoption of that technology without incurring new technology risk. That was a key lesson that I learned in analyzing the business and spending time on it. The next lesson is that the commercialization strategy can have a material impact on other parts of the business. As an example, a high percentage of the business's revenues in long term contracts. That's going to make our Q's revenue and free cash flow more durable. That makes the investment safer from an equity perspective as well as for a debt investor into the business that allows them to take on a higher level of debt on the projects and do so at a lower price as far as old lessons that I applied. Most interesting business is the Boston Beer Company. They spent some time learning about that business throughout the years. Jim Coke, the founder of Boston Beer Company, when he was a consultant, I believe that big he told people that he wanted to enter the beer business. It received too many positive responses. In fact, he received a lot of reasons from people why he would fail instead of getting upset with the people that gave him negative feedback. He just wrote down all the reasons why people told him that he would fail, and he only left BCG and started Boston Beer Company when he found a way to mitigate all of the reasons why people told him that he would fail. I think in this case he has done a great job in mitigating the risks. The next lesson that I applied is that government regulations can create complexity, and that complexity creates opportunities, particularly when you have several layers of government regulations.

Zack Fuss: Both. Chadd, thank you for joining us. This is a unique and really special business. It'll be really fascinating to watch its evolution as it deploys capital into these facilities and monetizes their LFG.

Chadd Garcia: Yeah, my pleasure. Thanks for having me on. I enjoy the podcast.

Zack Fuss: So, Chadd, we recorded this last week. Little did we know BP would announce a deal to by Monday morning. What's your reaction to the news?

Chadd Garcia: Well, I have mixed emotions about it. I definitely think that BP is getting a good deal. I, as an investor, was keen on watching my investment thesis play out over years, and I think this business could have been worth much more than the takeout price, given the price that BP is buying it. It is slightly under the valuation that Kinder Morgan paid for some landfill gas assets. The assets that I've heard is not as good a quality as Zakiya. So, I wonder if this announcement starts a competitive bidding process where maybe Kinder Morgan wants to increase the size of their landfills gas business from what I believe is about 3% of their current EBITDA something larger. They certainly have the balance sheet to do this deal pretty easily. There are some other players out there. Brookfield Renewable Partners is deploying money into the space. It's well known that they are investing into the transition to renewable energy. So, it'll be interesting to see what happens. I don't know if news is going to be the last news that we see, but if you look more industry wide to their partners, I think it does give a bit of a value for some of the landfill gas assets that are on Republic's balance sheets and GFL's balance sheets. GFL, I know a little bit better the underlying business, and they said that they expect within a couple of years these landfill gas projects to generate 125 to 150 million in unlevered free cash flow annually.

Chadd Garcia: And if you go back to FLS, analysts say in May, while they have given 125 to \$250 a year estimate for these projects, they also noted that their internal goals for these projects are to generate 175 million to \$200 million a year in free cash flow. And so, they know the business pretty well. And I would take their internal numbers to heart a little bit more than their public estimates. So, if these businesses should start hitting GFL financial statements in the second half of 23 and hopefully finish being deployed in the first half of 24. And so, if you look at the transaction value that BP is paying for IKEA \$4.1 billion, EV, if you look at the free cash flow multiple that that implies going out to the latter half of 23 at the beginning of 24, or our key is projections. That's about 15 times free cash flow is what BP is paying. So, apply that to the \$200 Million internal estimate from GFL and that gets you to about \$8 Canadian per share or around \$5 per share. US dollars of value to GFL and their stock price stays a little above \$25. If I was a GFL shareholder, I think that would give me some comfort that there's some hidden value in the GFL opportunity.

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