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 Issue: October 5, 2020



## Changing the energy efficiency industry from CapEx to Energy Savings-as-a-Service Model



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**CEOCFO: *Mr. Kreiss, on the Onsite Utility Services Capital, LLC site, front and center, is "Energy Efficiency Reinvented." How are you doing that?***

**Mr. Kreiss:** Traditionally, the energy efficiency upgrades for customers have been sold on a return on investment or a fast-simple payback. The problem with that whole direction and path is that your energy project is now competing with their core use of their capital. That is why, typically, the energy efficiency contractors sell one out of four, even though the return on investment looks great. However, that business owner has limited capital and is always looking at what happens if there is a business opportunity to be able to grow the company.

In our case, we just looked at it and said, "We have got to be just like the utilities." The utility borrows the money, they build a power plant of whatever energy project is going on, they maintain it, they service it, they earn a return on investment and they charge a monthly service fee to the customer. We just happen to offer onsite utilities. Therefore, we are deploying equipment onsite at the customer's site. They do not have to buy equipment; they do not take on debts. We own, operate and manage the equipment, taking care of all the service work and we agree to provide them with energy savings, so their monthly service fee is going to be less than what they currently spend for generating their own lumens, for light and BTUs for heating and cooling.

**CEOCFO: *Do companies recognize the value? Are they concerned perhaps service may fall down as time goes on or it may turn out to be more expensive? On the other side, what if a company wants to stop? What is the commitment when you have an engagement?***

**Mr. Kreiss:** Our biggest problem that we have is educating the customer who has had his Capex budget drilled into his head, including the CFO. We need to get organizations to look at it more from a, "How do I use my core capital and is this the best use of my core capital." It is interesting, because we had a private equity group that purchased a retail company and they came to us and they said, "We want to use your money for doing all of our energy upgrades at our current stores, because we want our company that we bought to use all of their capital for building new stores, because we get a better rate of return. Right there, it kind of tells you, when you can grow your company and use your capital that way, as compared to when saving, "I am not going to save my way to making my company grow." That has got to be using and deploying that capital in its best use for what the company does. As far as the longer-term commitments, the nice thing is that most customers look at it and feel like they are hesitant sometimes to buy technologies. They do not want to be the first guy on the block to buy them or early adapter, like with LED lights when they first came out.

What we do is remove the concern over the ongoing maintenance and operation of the equipment. That is part of our agreement. We make sure that the equipment and technology is performing and, provided they do not run a forklift into it or something, they know that the maintenance is going to be taken care of and their people that they have on staff can focus on what they need to do for the company. We utilize local contractors and partners for doing our service work. We do not maintain long contracts with those service providers, because we know that people go out of business. Therefore, we make sure that we have got a long enough term commitment with them, but we always have additional partners within that territory if we need to change who is going out to service that account, just from a manpower standpoint. Of the longer-term agreements, most of our agreements run between five to seven years, unless you are going to be going into something where there in onsite generations of power, such as co-generation or solar. Those are going to be longer term contracts; twelve to twenty-five years. However obviously, for those other contracts from the five to seven years, we have typically recouped our investment.

We have earned our return on investment. At the end of a service term which is usually 5 to 7 years, we typically will abandon the equipment on site and the customer will get all of the savings for the future. The only exception to that is when we do an ongoing cloud energy-based management system for optimization. Then they would still maintain an ongoing monthly fee, but that is because we are continuously doing machine learning and making sure that we are optimizing how the building is operating. Otherwise, we are typically out of there and the customer gets all of the savings and they now take ownership of the equipment. Then we go on to the next customer.

**"We need to get organizations to look at it more from a, "How do I use my core capital and is this the best use of my core capital." Fritz Kreiss**

**CEO CFO: *How are you able to provide innovative energy efficiency solutions?***

**Mr. Kreiss:** It has been interesting, because we remove that CapEx and the debt factor. We have actually been able to bring more unique solutions that people have literally invented, patented, tested, but they are having trouble getting out into the marketplace. We kind of remove that, because it is our responsibility to make sure that whatever we are deploying on site is going to perform as expected. It is our extra insurance policy that the customer knows that they are going to receive a benefit. That is because we own the equipment, so we are kind of stuck with it and we make sure that equipment that we are utilizing is going to typically have a longer warranty, because we want to limit our risk, obviously.

We also want to know, from a labor standpoint. We assess what our costs might be over the term of the agreement. For example, LED still sells. Most of them will continue to burn for a long, long time and they save a ton of energy. However, we have to factor in that we are going to have so much put aside for being able to take care of that, but over the term the typical warranty period for LED is five years. We only utilize, in ninety nine percent of all of the times. We only use products that have a seven to a ten-year warranty. That is simply because, once again, it limits our exposure.

**CEO CFO: *Would you give us a couple of examples of what you might bring to the table at a particular location, what the new idea is, where it is appropriate and what kind of savings it can garner?***

**Mr. Kreiss:** I could utilize this because it is something that is in the middle of the mix right now; we have got a couple of casinos. The casinos have three 'twelve hundred ton' fixed speed compressors for their chillers. That means that even if they are only running at a partial load, they are still using the full amount of electricity as if they were running at a full load. We look at that and then this happens to be also operating at four thousand one hundred sixty volts, so it is at medium voltage. We implement a VFD (Variable Frequency Drive), so we are going to convert this fixed speed compressor into a variable speed. This will allow us to match the power input by adjusting the hertz from the VFD, and that will literally allow us to go from a, in one case, point six five KW per ton for that twelve hundred tons. We are going to be able to bring it down on an annual basis to about point four, point three four KW per ton. We are literally just about cutting the energy use in half.

Another one is using about one KW per ton and we are going to be able to cut that down, once again, down to about point three four KW. Those control the variable frequency drive, but then we are also going to optimize the air handlers. We utilize special valves that are super sensitive, and they are able to maintain the temperature at the air handler by less than one degree. Typically, most air handlers are going to see the temperatures float from four degrees higher and maybe four degrees lower, then it is going higher again, then it is going lower, which is why at many locations you feel

like you are either overheating or you are too cold. We optimize both ends of the entire chilled water loop. Then we put in controls that are going to continually, not only monitor and give you lots of data and information, but we want to make sure that it is continually adjusting to the current weather patterns, as well as what the occupancy rate is. We know that bodies give off heat, so as we get higher occupancy, now it is going to be able to adjust. Our big key there is to maximize the Delta T temperature of how cold the water is when it leaves the chiller verses what the temperature of the water is returning to the chiller to be cooled again. We want to maximize that between twelve/fourteen degrees, verses many of them operating about four to five degrees for a Delta T.

That is just one example. However, at that same location we are going to be implementing hotel room occupancy controls. When someone is in a room it will allow them to be able to do their set temperatures, but when they leave the room it will allow it to either float higher or lower, depending on the season. Most hotel rooms are typically unoccupied by about sixty two percent, so there is a lot of time where people turn everything on, they crank the air and they leave. This allows the hotel to typically save another thirty-five to forty five percent of the amount of energy use per heating and cooling each room. At the same time, we can now bring in voltage optimization. The average voltage across the country commercially comes in at around four hundred and ninety-three volts and in reality, the motors really want four hundred and sixty volts. You end up paying for that extra voltage, even though the motor cannot officially use it. In fact, it has to be dissipated by heat. The utility has to create high enough voltage to make sure that they can push the electricity down the line to get to all the buildings, because there is light losses the farther it goes. Those are some of just a few things for the hotels where we can bring solutions. We will typically put in solutions that we know that we can isolate and monitor, so that we can gauge exactly what those savings are. Therefore, we try not to have things that are going to overlap with each other, just because that becomes fuzzier math and we like customers to be able to look at it and say, "I am saving money."

**CEOCFO: *What is your "Clean air as a Service" and how is that progressing?***

**Mr. Kreiss:** That is another thing that is actually part of these casino projects. Bipolar ionization is where we are literally creating positive and negatives oxygen ions. This actually mimics the clean air up in the high mountains or sometimes you maybe had smelled it if you have had lightning strike close to where you are; you can smell the ions that have been created from the lightning bolt. Also, many ions are created when you are by an aggressive waterfall and you can just smell the cleaner part of the air. What happens with these positive and negative ions is that they travel through the air and they are going to be attaching to all kinds of things. Some of them are because the particulates in the air are sometimes too small, that you really cannot catch them with a filter unless you make such an aggressive hepa filter that you really inhibit your pressure within your air flow system. What it does is it creates charged particles and now they attract each other. The negative attracts the positive and they agglomerate or come together and they end up in big enough pieces that they either will settle down on the carpeting or be caught by a bio filter. However, we also take care of bacteria and viruses. In fact, the tests that have been run on viruses are showing a 99.4 percent kill rate within ten minutes and that just happened to take care of your air, but it also lands on surfaces and adjusts with surfaces, so it is going to continuously clean that room. The bipolar ionization also removes and interacts with volatile organic compounds and can also remove smoke.

These systems have been used in the hospital industry and actually some of the food processing industry to keep things clean and now it is just being deployed; it is used for indoor air quality, other than the smoking part. It has been kind of pushed to the side over the years. There have been some people that have been very active in it, but for the most part that was not the hot button. Now, we can turn around and not only make a building safer for the employees and for customers, but we can reduce energy at the same time. ANSI/ASHRAE Standards, which covers all the different rules and regulations for heating ventilation and refrigeration, has got ventilation rules that typically required so much fresh air coming into the building. However, right now their COVID task force recommends increasing the amount of fresh air by one hundred and fifty percent, which is going to strain not only the equipment that maybe was not built to be able to handle that much, but it also going to really ruin a lot of companies' budgets for their heating and air conditioning. However, ASHRAE has a second section that we can utilize, and that is indoor air quality standards.

Now, we can reengineer that whole scenario and literally reduce the amount of fresh air by up to seventy five percent, which means we are not heating, cooling and dealing with all of that humidity for all of the fresh air that is coming in. Sometimes, if you are in cities, all the fresh air is not all that fresh. However, we are going to save somewhere between 25 to 30 percent, if the customer is replacing a unit, by doing an indoor quality engineering we can reduce the amount of

tonnage that they really need by up to twenty percent, which is a great saver on the Capex budget. We are also going to monitor CO2, so we are going to do demand control ventilation. Therefore, if there is six people in a room and room was maybe typically designed for thirty people, but there are only six there, we can now just monitor the CO2 and when the level gets to a point where we need to, then we bring in more fresh air. However, otherwise there is no reason to be bringing in the fresh air, because we are cleaning it perpetually, through the bipolar ionization.

**CEOCFO: *Onsite Utility Service was recognized as one of the fastest growing companies in Silicon Valley. With so much opportunity, how do you decide where to focus your efforts and outreach?***

**Mr. Kreiss:** Our main focus has been in really building our whole company to be able to scale it. That means we have to work through other partners all across the country, so we spent the last few years in a lot of outreach to find the technology partners and the contractors and the technicians to be able to implement what we are able to develop. We also want to work with them so that they start to bring their projects that they have got sitting on the corner of their desks that they thought were really good projects and the guy just turned around and just said, "You know Lynn, it is just not in the Capex budget this year. Maybe you can look at 2021."

I think that everything is going to be exacerbated with COVID-19, because everyone has been strained, unless you are a grocery store or Amazon. In fact, the two hotels that we are designing things right now for; one is at a forty percent occupancy. That is difficult! You look at New York City and they are just going to start to allow some inside dining. It is hard and I think companies will be much more focused on how they used their capital and make sure that they are maintaining it. We have just become that little utility service that comes to the side and says, "Hey, we will help you and provide you with your lumens and BTUs for less money than what you currently spend and we do not have to use your capital or your debt." I think our next thing is that as we start to really deploy and expand to the end users; that is the phase that we are in now, that we have got a good base of our contractor partners across the country and now it is just doing the outreach. It is still difficult. We can still get the feedback from many of our partners where, unless someone has to do something, it is difficult for them to pull the trigger.

We have got some schools in California where are designing the Clean Air as a Service, because they want to get to the point where they can open and open as safely as possible. However, they are hesitant because they do not know if we implement something and they need to start making their "as a service" payment as if they were operating, but they do not know when they are going to be operating. We still have some of the "go – no go" of activities, but we have got a lot of stuff ready to implement and customers know that they do not have to come up with their money or find a budget for it. I just think that next year is going to be a big transition year. We are going to see many companies that are no longer going to be there. Other ones are going to flourish. Even employees! Look at the one bank where they say, "Come Monday everybody is back in the building," but then you have got other banks that are still saying, "Probably not till January at the latest." Therefore, the buildings and the operating characteristics are just kind of in flux."

**CEOCFO: *That will change, as you said.***

**Mr. Kreiss:** America is such an amazing country and I feel pain for these business owners and the employees that just want to work and do a good job! However, there is going to be a whole new series of entrepreneurs that are going to create all of this stuff and hopefully with more and more innovations that are going to really skyrocket us even farther!

