ONE ENERGY
WIND FOR INDUSTRY®

CONSIDERING WIND

PLANT MANAGER

Q1. How big are the turbines?

The turbines are 405 feet tall. 405 feet tall is roughly a 40-story building. To put the overall system into perspective, the tower, the nacelle, and the hub all go up to a height of roughly 265 feet, or 80 meters. The rotor that then spins on top of that has blades that are about 140 feet long. To get some scale to the size of that rotor, the overall size is about an acre and a half, so it's an acre and a half of swept rotor area. It's again, hard to get perspective of this, because humans weren't designed to understand scale like this. To put it in simple terms, it's a 26-story building with a football field spinning on its tip.

Q2. Will we need a plant shut-down?

In most cases, we do need to coordinate a shut-down event for the initial tie-in. We are capable of doing hot work, and we have done hot tie-ins to plants, but most plant safety procedures require that we don't. In order to make this happen without actually negatively affecting your production, we work around your cycle.

Most plants have a regular shut-down once a year or so. We will coordinate to have the actual tie-in happen that time, and then we can do all the rest of the tie-in to our system as appropriate for the rest of the project. So typically we do end up with one shut-down for the initial tie-in. Most of the time we can completely mitigate any effects of that. The shutdown we've done in as little as two hours before; typically, it's half a day.

Q3. How will this affect our neighbors?

First and foremost, One Energy's top priority with any project that we build is safety. So, we make sure that all the projects we build are safe for our customers, are safe for the neighbors that are near our customers, and also safe for the crew that's building the wind turbines.

One Energy goes through a rigorous process to make sure we are designing our projects in order to minimize any effects that the wind turbines might have on the neighbors that live near where the project is going to be. Probably the largest effect is that the wind turbines that we build are tall, and the residents are going to be able to see them. But in no way are our projects ever going to be unsafe for the community or for customers.

Q4. What due diligence have you done to assess the effect on the neighbors?

One Energy goes through a very rigorous process to ensure safety, and to make sure we're designing our projects so that we're minimizing the effects that the turbines could potentially have on the neighbors. There are really three main things we're looking at. We're looking at shadow flicker, we're looking at sound propagation, and we're looking at ice throw.

Turbines cast a shadow on the ground. Because the blades are spinning, that makes the shadow appear to flicker. While this in no way is a hazard to health or safety, it can be an annoyance. So, we make sure that we site our projects so that we're minimizing any potential shadow flicker on neighbors.

The second thing we look at is sound propagation. Turbines do produce noise. Over the last five, even ten years, technology has significantly improved, and the sound from a turbine has reduced significantly. With that said, we still model it. We see how far the noise from the turbine is going to propagate out. And we make sure we're siting to minimize any effects, or minimize the perception of noise, at any nearby residence.

The third thing is ice throw. Like any outdoor structure, during a freezing rain event, ice can build up on the turbine, and in particular the blades. Unlike most structures outside, wind turbines spin, which means during a freezing rain event, ice can either fall from the blades, or in some cases it can actually be thrown from the blades. One Energy has a proprietary software that uses a Monte Carlo simulation, uses a whole bunch of equations, and takes into account drag and different ice particle sizes, to calculate how far that ice could be thrown and what the probability is of the ice hitting all around the turbine.

We make sure we impose setbacks on the turbine to mitigate or to reduce any effects the ice might have on the nearby residences. One Energy's top priority when building turbines is safety. So we design all our projects to ensure safety, and make sure that we are minimizing any potential effects from the turbines. Our main goal is to be a good neighbor. We're going to be here for the next 20 years, and we want to make sure we are keeping our neighbors happy for the next 20 years.

Q5. How will the community respond and how do you educate the community?

Our community rollout of our projects is very deliberate. We find that the most important thing to rolling out a successful project is timing and also education. We make sure the project stays private until we all determine it's the right time to make it public and

announce it to the community. We make sure we roll it out to the key stakeholders of the community first, so they have all the information in order to answer questions.

We also make sure *we* are available for questions all the time. We talk to community organizations, such as Rotaries, or Kiwanis, we also talk to the schools. We go into the school systems and have presentations to educate the kids as well. We find as long as we are getting the right information out there at the right time, our projects are very well-accepted in the communities we go into. A lot of the communities understand this is a very good thing from one of the largest employers in the community, and they understand it is going to benefit the community as a whole.

We also want to invest in the communities we're going into. Each turbine has a $5,000.00 per year scholarship associated with it, called the Megawatt Scholarship. And that's awarded to graduating seniors in each of the communities. So, it's just another way that we're showing we're a part of the communities we're going into.

Q6. How do we roll this out to our team members?

It's an interesting process of telling everybody about this project. It's great when it's time to move forward, but then you want to tell the community, you want to tell your team members, you want to tell key stakeholders in the community. The important part is to do it under a unified plan, so there's a system, and it all happens right when you want it to happen. The worst thing that could happen is that *parts* of information get out, because *parts* of information cause questions, and then you aren't ready to answer them, and we have a problem.

We've found that when we do this in a methodical way, where we make sure everybody gets all the information as quickly as possible and as tightly grouped together as possible, we have the best communication with the community, and the best overall understanding. Typically, the way we suggest this is that immediately after the stakeholder rollout, where we've brought in community officials, we then do a planned rollout for internal team members and for other people closely involved.

So typically we would have a community meeting in the morning, and then late morning we would do an internal email—or whatever the internal communication for the plant system is—to tell everybody about the project and to answer any questions. Then, the following day, or later that day, the entire project would go public. We try to group the entire thing to within a day. The reason we do that is that way, there's no "we told so-

and-so first." We've done our best to be as transparent as possible, and say, "okay. This is real project. It's moving forward. Time to tell everybody and give them all the information."

Q7. What is this going to cost me?

It's funny. People always ask us, "what is it going to cost me?" And we tell them "just a little bit of your time," and it's almost hard to believe. The reason this works is because it saves you money right away, and because you have no up-front cost. But that's not how things are typically done in business. We've crafted this entire project delivery model to make it where all you have to do is sign a contract, and you don't start paying for power until we're delivering it cheaper than you were able to get it before.

So it actually costs you nothing. I think the most expense we've ever seen a plant pay was for the ground-breaking ceremony they decided to throw for it. But beyond that, we bear 100 percent of the cost, and we have no means to bill you other than for delivering power. We have no other mechanism in the contract to bill you for anything other than the cost of power. That's how you know it's not going to cost you anything other than the savings you get in power prices.

Q8. What is this going to save me?

In order to understand what this project is going to save you, you need to look at the project economics we've provided. Typically, we end up with a savings initially. Usually that savings is between 5 and 15 percent; it depends on the exact economics of what your plant size is and what your current rate is, as well as what we were able to offer based on the unique conditions of your site. And then, the real value is having that savings carry on for 20 years. There's always a good question of what's going to happen to the price of power in the future? I don't have the answer to that. You can pay a whole bunch of consultants a whole lot of money to give you a good guess.

In general, over any long-term period, the price of power has always gone up on the retail side. Even when generation has gone down, the actual price of power goes up or at least stays the same. You can decide what you want to use to model the future, but you should have an immediate savings, and that savings should be cheaper than the rates in the future, whether they stay the same or go up. The more the rates go up, the more you save.

Q9. What is the return on this?

The problem with modeling simple return is that in order to have simple return, you have to have had an initial expenditure. If you have no initial expenditure, you have no return,

because you have no investment. A lot of companies struggle with this idea that there is no simple return, there is no internal rate of return, there is no good metric to use. You *can* use net present value (NPV). A lot of companies have a mechanism to do a net present value, and you don't have an initial cost to show against it, so it's just the present value of the future projected savings. So you can do an NPV calculation.

When you're modeling return, you have to model this as a savings project with no cost. Essentially, it's an immediate savings to your OPEX. It's an immediate below-the-line savings. And that's how you have to actually compare it. And the out-of-pocket cost is zero. So the return is infinite. But a far better way to compare that or understand it is, what is the savings for doing nothing?

Q10. Who else is doing this?

Right now we have customers that include Whirlpool Corporation, Ball Corporation, Marathon Petroleum, Cooper Farms, Haviland Plastics, Valfilm Corporation, and others that aren't public yet. We have several facilities across the state of Ohio. It's pretty hard to drive across northwest Ohio without seeing one of our projects, whether or not you realize it. This is becoming mainstream.

The more companies do it, the more they want to do more of it. The more they see people next to them doing it, the more they have questions. If you Google on-site wind energy, or you take a look at what's actually happening, you're seeing that more and more of this is happening around the country, and that customers are continuing to reinvest in this.

Q11. What if the turbines stop running?

If the turbines stop running, the key is that you're never disconnected from the power grid. Our systems are what is called "utility interactive." That means they are connected to the grid, operate in parallel with the grid, and never take you off the grid. It would be very expensive for us to exactly match the production of the turbines to your consumption at the plant. It's not possible without adding into other systems, like batteries, other generators, and things like that.

Because you're never disconnected from the power grid, if there's no wind, if there's less wind, or if you're consuming more power than the wind is providing, you get that power from the grid. That all happens in a fraction of a second automatically, and you never see it.

Essentially, you have to think about the power grid as a series of pipes carrying water. And we have another pump that we're putting out with the wind turbine. But you have two different places you can draw water from, and they're connected through one pump. When you open that valve, you don't necessarily know where it's coming from. It could be coming from the wind turbines; it could be coming from the power grid. You get the water you need no matter what, which is the same way this works. You get the electricity you need no matter what, whether it comes from the wind turbines or the power grid.

Q12. Do the turbines run all the time?

The turbines run when there's enough wind for the turbines to produce electricity. There's a range of wind speeds that the turbines produce between. Usually the wind has to start at about six miles an hour for the blades to start spinning. On the flip side of that, if it gets too windy, the turbines shut themselves down to reduce any unnecessary wear and tear on the turbines. So if we have a very large storm come through, the turbines will shut themselves down at about 55 miles an hour.

There are a couple other instances where the turbines might not be running. If there's planned or unplanned maintenance on the wind turbines, they won't be running during that time. Also, if the grid goes down – if there's a grid outage, for safety reasons (for the workers that would be working on the grid, trying to get it back up and running) our turbines will not be running to ensure the safety of the grid at that time. But for the most part, throughout the entire year, the turbines will be running a majority of the time.

Q13. Will this power my plant during an outage?

We often get asked about, "what would it take to actually have these turbines be backup for us?" There are a lot of things we can do to go through the series of steps necessary to isolate ourselves from the power grid, and to try to deliver power. The problem we have is that we don't guarantee it's going to be windy on that day. So any time you do a true risk analysis on this, it's not beneficial for us to make the wind turbines your standby power, because it just might not be windy that day or it might not be windy *enough*. That's too hard for us to predict and that's too hard for you to bet your plant's operational abilities on. It's far more cost effective and has a far better savings if we just say, "when the power grid is down, we are down." And if you really need to have backup power, do that separately from this project.

Q14. Does this go on our land or are you buying land?

We have done projects that are both on customer land and projects on land that we've purchased next to the customer. Either one works and either one's allowed by Ohio law. And in most states, as long as you're contiguous or next to that plant, it's allowed. The real key is what's available. If you have 1,000 acres of land available, and we're able to work in with your long-term plan for using that land, it's far more attractive for us financially, and for you in terms of savings, to not have to go buy land.

That said, we understand that sometimes we need to buy land to make this work, so we're open to either. Generally, projects where we're on customer land have a lower rate than projects that we have to buy land for, but both are options.

Q15. What if the plant expands?

Any time you add additional electric usage, it's good for us. It's good for – well, we can debate if it's good for you. But it's good for us, and we'd love to be able to put more capacity on there. As you get to a certain size, we'd love to have a conversation about if additional turbines can make sense. But your core electric system is still going to be there, and you're able to expand.

We also try to take expansion plans into account before we site the turbines. Most companies have a long-term expansion plan. Whether they're looking at high-likely scenarios or low-likely scenarios, there's a plan. We like to understand that plan, so we can site the turbines with that expansion in mind. Again, this is a 20-year project. We'd much rather you be able to continue to expand as much as possible in those 20 years.

Q16. What if the price of power goes down?

If the price of power goes down, depending where it's at and where we are in the 20-year cycle, there is some risk. Anybody who tells you there's not risk in that is crazy. When you compare it to other risks—in terms of material costs, the history of the power grid, and the history of electrical prices—it would be an unprecedented event for that to actually happen over any long-term period. That said, it is a possibility. It's one of the unmitigated risks in this. The price of our contract is a fixed-price contract.

Q17. Does this make my plant more valuable?

Value is a concept that's hard to define. Value is based on what a willing seller will sell a project for to a willing buyer, or vice versa. In order to truly understand value, you have to ask, "what are people looking for when they're doing purchases of plants?" In purchasing a plant, understanding long-term operating costs is important.

We have found that when people are looking at either selling their plant or talking about new locations, having access to fixed-price energy is very attractive. For some people, having access to renewable energy is very attractive. When you combine the ability to have access to both fixed-price energy and renewable energy, that does create a value proposition for some buyers, but not all buyers.

So, do we believe it makes your plant more valuable? Absolutely. Is it likely that it will add more value? Probably. How much value becomes a very complicated question to answer.

Q18. What if they sell this plant?

The way our agreement is structured, the turbine attaches to the plant. The turbine goes with the plant, unless something happens to trigger a break from that, through one of the clauses that you're able to use to exit the contract. If you sell that plant as part of a larger transaction to a creditworthy counterparty, as specified in the contract, the turbines automatically go with it. If there are issues with the creditworthiness of the off-taker, there's the potential to have to do some credit support. But the intent of the agreement is the turbines go with the plant and they become part of that plant no matter who owns it.

Q19. What exactly are you expecting from my team?

From your team, we need help in a few key areas. One, we need help with the rollout. We have to have you there with us to say why this is valuable to you, why this is important to the community, and what the actual effect of this is for your plant. It's important that your team members and the community hear that from you and not from us. We'll say it with you. We'll be right next to you. We're the ones investing; we're the ones who believe in this right along with you. But you have to be there to say that. So it's important to us that you're part of that rollout, answering those questions and talking about why you made this decision.

Beyond that, we need some basic engineering support from your team, just to coordinate where we tie-in and exactly how we tie-in. On top of that, it's whatever else you want to do, in terms of the marketing and other rollout as the project moves on. This should be the easiest project you've ever had to manage and run. The whole project can function without any support from your team, other than coordinating where we tie-in. Everything beyond that is up to you.

Q20. How well have your predictions worked out in the past?

We have done a very good job at predicting the production of our turbines for all our operating projects. For our entire fleet, the production has been within a couple percentage points of what we had predicted it was going to be, which is well below the national average for the industry. But this isn't good enough for us. We are continuously looking at all our methods, and continuously looking at what we can improve, and how we can get better. We're pushing not only ourselves, but also the industry, to not take "good enough" as the best answer. We're looking for ways that we can get that percentage down, and best predict our projects for the next 20 years.

Q21. Are there guarantees the turbines will produce power?

We guarantee the turbine will be properly maintained, and we will use commercially reasonable efforts to continue to produce power. We deliberately don't provide exact amounts of power production guarantees, because doing so involves predicting the wind, and taking the wind risk. We are very good at predicting the wind, but it's very hard to give you a specified number without introducing more risk. And risk translates to cost.

The easiest way for us to do this is to guarantee that we will do everything possible to keep that turbine operating. From a practical point of view, we only get paid when that turbine operates and we only get paid when that turbine makes power. So we have every financial incentive to keep that turbine operating as well as possible. Historically, our fleet has availability across the fleet above 98 percent. And in some cases, approaching 99 percent. That's a very high availability number, and it reflects the fact that we're encouraged to make power, based on the way our contracts are set up.

Q22. How often do we get update reports on the turbines?

During the construction period, you will have access to a website called "My Wind Project" that will give you regular updates on what the construction is like for your particular project. After the project is put into operation and the turbines are producing electricity, you'll get a monthly report. Every month we will send you a report that says what the production was for that month, what the availability of the turbine was for that month, any maintenance (either planned or unplanned), and other statistics that go along with how the turbine was performing for that month.

Q23. What is the mywindproject.com?

Mywindproject.com is a tool we created to allow you and your team to immediately access the project and get information on it. It's a website built for our customers, that only our customers have access to. But it's a way that, when you're in a meeting with your boss or with your team, you can pull it up and see everything from recent photos of the project, updates, plans of the week, ongoing wind resource reports, or updates about wind production. It's meant to be a portal that makes it easy for you to be able to tell the story of your project.