

An Interview with
WILL KAUL

Conducted by Marta Monti
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Great River Energy, Maple Grove, Hennepin County, Minnesota

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Marta: Today is June 29, 2015. My name is Marta Monti, and today I will be interviewing Will Kaul at Great River Energy. I'm interested to learn about the early stages of the CapX2020 group. Can you tell me what started to bring everyone together in 2004?

Will: Well let me just start with the context, which was really important. When we started CapX in 2004, and at the time, investment in transmission was pretty much frozen and had been for a long time. And the reason why was we were moving from a privately owned network, where utilities owned generation and transmission--the customers, everything, and we kind of just produced and delivered to our members. The utilities had interconnections with each other for backup and reliability, but, it was a private network and nobody could hook up.

Then congress decided that a little competition would be a good thing, and so the way that competition is created is by bringing in new market entrance, and the market entrance can't access the market unless they can hook up to the transmission system. The process for how that was going to happen evolved very slowly. It evolved very slowly because of the nature of this system, which is that electricity is produced and consumed simultaneously. It's an essential service and you don't want to screw it up.

So, FERC (Federal Energy Regulatory Commission) went very carefully through that process, and in the meantime, people who owned transmission were wondering how this was going to get paid for in the future. "When someone interconnects to my system, how are they charged? How do they have access? Who makes the reservations? Who handles all that kind of stuff?" And in particular, "if we have to make new investments, then where does the money come from? And if I make the investment, then who's going to pay me back? And what are those terms?"

So back in 2004, we were still working our way through those kinds of questions. But in the meantime, we hadn't added any new infrastructure for 30 years, there had been tremendous growth on the system over that period, and we were starting to see some reliability problems. Here locally, we never had a blackout, but we had some close calls. There was the rolling blackouts in California in 2000 and the east coast blackout in 2003, and so there we were--and there had been a number of attempts to organize how transmission function worked in this region that had failed. So, we just needed to do something, and the thing that brought the utilities together was a commitment to our obligation to serve. All other things aside, we knew we had to deliver reliable service to the customers and the community, and to the state and the region. The only way we could do that was to form together in some way, and move ahead.

And we did that without really knowing the answers to some of these tough questions, and so that's why we call ourselves a "faith-based" organization. We decided we would plan a vision, and take that vision and communicate that vision to stakeholders, policymakers, legislators, and

others because we didn't have the kind of regulatory framework that would help to make it a success. Investor-owned utilities were very reticent about making transmission investments because, number one, they didn't know how they were going to recover the costs, and number two, there is this huge regulatory lag. Transmission is 7 or 10% of their business, they don't want to go in for a rate case just for that. And so, they didn't want to make transmission investments.

We went to the legislature, and we were able to get formula rates legislated, and then the regulators instituted that, and so for IOUs (Investor-Owned Utilities) it now became a good investment because they could get the money back right away.

Let me just step back a minute and say that in 2003-2004, it was also a very ripe opportunity for a broad stakeholder coalition to support transmission investment. We had concerns about reliability. We had concerns about the inadequacy of the transmission system to support development of renewable energy. And so, we were able to build a constituency that had environmentalists, regulators, legislators, utilities, industry...everyone supporting regulatory reforms that were necessary to make this happen. So when we did go to the legislature, it wasn't just the utilities, it was a whole broad spectrum. Basically everybody. And we got everything we asked for, we even got some things that we wanted but were afraid to ask for.

And so that was, it was part of our two-prong approach. One was developing a vision for grid expansion, and the other was getting regulatory reforms that would make it possible to be successful. And in terms of the utilities involved, it started with 4 utilities and we rapidly expanded to 11 utilities. Everybody wanted to be a participant in that, everyone had an interest in this obligation to serve that we have, and felt a responsibility for that. And so it was a cohesive group right from the beginning. We didn't have a lot agreements or anything else. Again, with this faith-based thing, we had a shared objective and that was key to our success.

We took our time, communicating with communities, with thought leaders, newspaper editors all around the state. We spent 2 years basically building a political foundation for these projects. We didn't want to meet affected landowners at a public hearing. We wanted to meet them at a coffee shop or at an open house--a place where they were free to ask questions, learn about what we were doing, learn about why we were doing it--and that turned out to be very effective. We literally had hundreds and hundreds of meetings with anybody who would listen.

We got tremendous support from newspapers and the media, and it was because I think we did a really good job of selling the need for the project. Again, it was at a time when a lot of people were concerned about where the grid was going, and the adequacy of the grid, and they were excited about the opportunity for renewable develop.

So you know that's kind of the genesis of how we got started. That was a time of great opportunity that we were able to seize and run with and you know it held together for 11 years. It's pretty amazing.

Marta: Yes, with no contract, as you said, a "faith-based" group. So, you have the initial 4 utilities--you, Xcel Energy, Otter Tail Power, MN Power, but I'm wondering if you had to ask the other utilities to join, or did they come to you and say "hey I think I want in on this"?

Will: Yeah you know I think my recollection is that we went out and solicited support. In fact we went out state and invited Basin electric to come in. We want south, and we invited Alliant to come in. And we talk with our neighbors to the east--American Transmission Company (ATC), and collaborated with them. And so we did a lot of outreach. What we want to do is was involve utilities that were sort of in a traditional planning area that we've had as utilities over the years. Basin declined Alliant declined and we did collaborate with ATC. We did the outreach.

Marta: So the group could have been bigger?

Will: It could have been bigger.

Marta: So, it could have been bigger, and they might be kicking themselves. I say that because CapX has been successful at organizing and building thus far. It has also been successful in pushing MISO (Midcontinent Independent System Operator) forward and has influenced how they operate today. I'm not sure if that's overstating the influence that CapX had, but maybe we could talk a little bit about MISO and how they factored into the beginning of this project.

Will: We work very closely with MISO right from the very beginning, but MISO was not a mature organization like it is now. When we started this in 2004 it had been in existence for about five years. Its planning process wasn't mature yet. It didn't have a real time liquid market in place at all yet, and it was struggling with growing pains. It was a very big heavy lift to set something like it up and get it running, and so on CapX I think was had influenced some of that of the planning processes and approaches at MISO. We did scenario planning to start with, and so we had a low growth scenario, a mid-growth, and a high growth scenario in it. As it turns out we had ended up with a low growth scenario and we had our projects associated with each of those scenarios. We had several groups of projects--actually had four groups of projects--depending on how fast the growth was. We only ended up building group 1, and that was because we did model a low-growth scenario. So that was fortuitous that we took that approach. MISO ended up taking that approach too in its annual planning cycle.

We also had a portfolio approach. We didn't do just one project at a time...that would be death by a thousand cuts for the public and for the utilities and the regulators. So we came in with a

portfolio of projects and we did something that was never done before in Minnesota, which was we brought in \$2 billion dollars' worth of transmission expansion in a single regulatory filing. So here's a portfolio of projects. This is our vision, this is what we need, and the Commission accepted that application, and we went through that certificate of need process. We are awarded a certificate of need, and on the day that that certificate was issued, the public utility Commission's hearing room about half full, and almost everybody there was a utility employee. There was no...very little public opposition to our projects-- two billion dollars' worth. The portfolio approach though, was very effective because it showed a much broader vision and point from here to there.

Marta: How much communication with the PUC was there before this was submitted? I'm sure you can't just plop a big project like that on their table without talking beforehand.

Will: Right from the very beginning we started our collaboration in 2004, and by the end of that year we were before the Commission in an information meeting, and I presented our vision. It was essentially a picture that looked like a broken window. And so it had these cracks on it. And these were the proposed transmission lines that we envisioned in our scenario planning process. It really resonate with them, and they encouraged us to keep going and you know hurry! Basically is what we heard from them--bring something in. We were back to next year, and we kept him updated by probably about at an annual basis, telling them about where progress was. We didn't actually submit our certificate of need application until maybe 2007. So it took a long time for our public outreach. Took a long time to compile the actual legal documents and things like that.

Marta: How do you feel about the process? That it takes so long? It seems like a lot of it was necessary to build in this network of trust between all your stakeholders, and this is a word that is used by a lot from a lot of people I've been speaking with--trust. The trust that comes with the CapX group, and there's no contract for being involved--it's faith-based. Was it worth the slow process?

Will: Oh yeah. One of the things that that causes a lot of problems for projects is that somebody will say, "We need to be done by such and such time." We never did that. So this is kind of an organic process that we...we were making it up as we went along. In terms of "does this feel right? Does that feel right?" And "Did we talk to everyone we needed to talk to? Should we go back out again?"

We put our A-team in the field. We had some excellent communicators. We listen to their advice, and that might be also a little different than how some other utilities approach their projects. We really did rely a lot on our communications expert on how to approach this.

Marta: What made you realize and the group realize that this was so important? Was it that it hadn't been done in 30 years, coupled with the contentious past?

Will: Exactly. I started my career with a cooperative in 1978--in October of 1978, and it was in a month that the controversial HVDC line was put into service. And at that time, angry protesters were toppling towers. I mean these are people who are really committed. They felt *very very* wronged in the process and they were so committed that they were cutting down towers while they were energized. 400,000 volts of electricity. They were risking their lives. So my promise to myself was "never on my watch will we have something like this," and I think all the other utilities felt same way. They knew that there was potential for a great controversy, and if we didn't handle this right, there be hell to pay. So let's just say we had religion about that.

And we really every utility involved deeply respects the landowners. I mean, we have to work together. This is a shared burden, if you will, that are carrying these lines on their property, they're compensated and everything, but you know that's a burden they're carrying for everybody else, and we felt a real obligation to treat them right to listen to what they had to say, to adjust the lines when we could accommodate their needs to the extent we could.

Marta: Let's get back a little bit to some of the regulatory processes. You mentioned that a lot of some of the things you were doing in the beginning was trying to shift the regulatory framework. What needed shifting?

Will: Well there are a number of issues that we need to address. I think first and foremost was cost recovery for the IOU's. Transmission had to be a good investment for them. We accomplished a couple of things there. One was that they could file for cost recovery annually through a rider, which means they would tally up their expenses for the year for high voltage transmission development, and they would submit that the Commission, and the Commission will review it and approve it and they could start recovering the revenue right away.

And furthermore there was a forward looking C-WHIP--construction work in progress. So what they would do is they would project expenses for the coming year and they were actually able to collect that as they spent it, which is a good thing for consumers and for utilities. The utilities borrow less money, and consumers pay less interest on borrowed money. So that was a really critical feature in getting IOUs to the table in an investment mood.

The other thing is we needed to get the statute changed to recognize the benefit of regional markets. The certificate of need legislation as it stood, was basically to serve customers of Minnesota utilities, and course it doesn't work that way anymore. It's a regional market at wholesale, and projects in North Dakota, Wisconsin, and Iowa can help Minnesota customers,

and vice versa. There needed to be language in the statute that recognized the benefit of regional markets, and that that could be used as a justification for building transmission.

At the time we were proposing our projects the permitting process was it two different agencies. Environmental Quality Board (EQB) did the siting the project, and the Public Utility Commission (PUC) did the certificate of need. So that was changed I was that one of the changes we were afraid to ask for but we got. The Public Utility Commission proposed, and the EQB agreed that it all belonged in one place. It went to the Commission, and that was a really important good thing for us.

Then finally I think the last major thing that we wanted was the ability to form a TransCo if that made sense, and in the past they've been some discussion about whether utilities could actually divest of the transmission, and put it in a transmission-only company. In fact that there was an attempt by Xcel and NSP to do that before we started CapX that was a failure, partly because the state wasn't sure it had the authority to allow that to happen. And so Transco business model is pretty common in the United States, it's still not in Minnesota. It is in Wisconsin and Iowa. But we wanted to be able to do that *if* it made sense.

Ironically, in the end nobody transferred in assets, but CapX really was a TransCo. In the sense that it was a transmission development company that created this investment opportunity for the utilities, it had got the job done.

Marta: How are they actually working having projects in multiple states, all with different PUC's/PSC's, and ways they operate. How you apply for your permits are different, etc. Was the push for regulatory change only in MN, or did the group venture into the Dakota's and Wisconsin to try and change things as well?

Will: Our focus was on Minnesota. You know it's in four states, but ninety percent of the lines are in Minnesota. North Dakota have a process kind of parallel to Minnesota. South Dakota's process was different, but friendly for transmission development. Both North and South Dakota wanted the transmission, and so to say there was good incentives for regulators to approve the projects because North Dakota has a lot of energy to export and this will increase their export capability. South Dakota had a lot of wind development waiting to be exported. They needed and wanted this transmission build. Wisconsin was another kind of a situation, but I'd say its process is more like Minnesota...a lot more public involvement, a lot more dialogue and discussion about it. But again Wisconsin Commissioners were progressive and forward thinking, and they saw the need for making the marketplace more efficient, improving reliability...those kinds of things.

One of the commissioners in WI, Lauren Azar was a leader on the Wisconsin Commission, and a leader that helped MISO develop its MVP (Multi-Value Project) portfolio and a cost allocation

mechanism for making that happen. So I would say that Wisconsin regulators were progressive, forward thinking, and very interested in seeing the market be successful.

So it was a different story in every place, but Minnesota was that was our major focus and that's where all lines were basically.

One thing I'd like to talk about is the durability of our vision. You think about how the world has changed in our industry, and just in general since 2004, and it's pretty amazing that what we've gone through, as an industry, and as a country. We went from a period of time where we didn't have any of the rules put together for how you do transmission expansion like this. We went through a time when we had a financial collapse in our country that was very significant. It change patterns and use electricity. We had a time when renewable energy development increased astronomically, or the resource mix of utilities has changed dramatically, and you know really none of these things were a part of our vision specifically.

Yet the vision was the right vision. I think it had to do with the fact that we did this scenario planning, that we took one step at a time, and it turned out to be the right plan. It was a no-regrets approach, and that was what worked in the end.

Marta: One thing I've been curious about is how translatable a group like this could be somewhere else in the country? And if other regions could benefit from this sort of approach in planning.

Will: You know so I've been a speaker at many national conferences talking about CapX and our model. I'm unaware of anyone ever attempting it, and you know I think it's... one thing that I've learned over the years is that electricity is very regional. And every region has its own personality. It might have you know. We're kind of coal based here, and now we have a lot of renewable energy. Out east there is a lot of natural gas, down south it's something else. California is you know obviously California very progressive.

So you know, different personalities, different histories. One of the things that we had here that this kind of unique in the Midwest is we have a lot of municipal utilities, we have a lot of cooperative, and then we have a lot of IOUs that kind of shared playground for a long time. There's been a model of cooperation over the years, and I think that was sort of the foundation that we could build on when this opportunity came.

I don't know or pretend to understand the histories of other parts of the country, but they tend to not collaborate very much that I can tell. In fact that, we may be unique in that regard.

Now and I will just add one thing, and this is something it really should be taught in business school if it isn't, which is trust is actually the greatest lubricator I've ever seen in business. It's a very efficient way to conduct business and we don't have to spend a lot of time and money and lawyers, we don't have to spend a lot of time and money double checking each other. We were really able to move ahead on a handshake, and that made things go real smooth. It was a very low overhead project we had a handful of people managing \$2 dollars expansion.

Marta: Well trust is certainly something we talk a lot about at the Humphrey school, and working through relationships with stakeholders.

Will: You know, speaking of stakeholders, that's another interesting piece here that's very much a part of the electric utility industry now. Before we were deregulated, there weren't stakeholders at the table very much. In the deregulation process because of the unique nature of how it was done in this country, utilities weren't forced to divest of transmission of generation assets-- we were allowed to continue to own both. And the concern being of course, if you own the transportation system and your market participants, you would be able to use the transportation system to your advantage and to the disadvantage of your competitors. Well, we weren't ordered to divest. So instead we have a process that is regulated by FERC Federal Energy Regulatory Commission and we have institutions like MISO now that convene stakeholders to work through policies, issues, tariffs, etc.

So over the years now, for a decade or so people have been getting used to working in a stakeholder group. And there's also a whole set of behaviors that go along with that everyone knows they can get exactly what they want, but people come to appreciate that it's easier to get what you need to quote Jimmy out Excelsior you know the story of Jimmy? So you know the Rolling Stones did a concert in the Excelsior amusement park 1964. It was a little park out and Excelsior Bay on Lake Minnetonka. It had a roller coaster that was all rickety and scary and fun. So Mick Jagger went over to the drugstore to get something and Jimmy, who was this local character of color, he'd like wander up and down the streets aridity wore bowler hats and had a grocery bag full of stuff. Shabby clothes, but loved and and cherished in the community just for who he was. Well so Mick Jagger asked for something at the counter and Jimmy happened to be in right behind him, and the cashier said "I'm sorry we don't have that." And Jimmy says "well you can almost get what you want." So I became a Rolling Stone seeing all time hit songs.

Marta: No kidding, right here in Excelsior. I never knew!

Will: Ok, so, getting back to stakeholder groups. People know they can't always get what they want. But they do get what they need, generally. And so there is a whole behavior around has evolved over time. And you know, it works.

Marta: You mentioned that RTOs (Regional Transmission Organization) like MISO have different personalities. They have different operating systems they have different goals to kind of course is going to be a variant, but I get the sense that it was a confluence of a multitude of things here in the Midwest. Some might say we have a culture of working together already.

I was talking with someone from the PUC in South Dakota about their energy mix, and he mentioned that a utility there is joining SPP, and I asked him if a group like CapX could emerge in South Dakota, and he didn't think so. But as you said, everyone has a different generation mix, and everything is localized. Yet at the same time we have FERC, and people are starting to think and work more to address regional systems.

Will: And even inter-regional

Marta: Exactly, and that leads to my next question. How do you see that working in the future?

Will: Inter-regional planning is in the infant stage. There was a 2-year long process that the DOE (Department of Energy) sponsored called "the Eastern Interconnect Planning Collaborative," and there was one in the west as well. They had 31 states involved, with state Commissioners, utilities...in fact it had the same stakeholder groups that you'd have in a typical MISO meeting. You had environmental groups, renewable energy developers, large industrials, low income transmission owners etc. They set up a fairly elaborate long term process just to begin a discussion about interregional planning. To start out with, everyone was kind of like you know looking out after their own interests. It ended up being a very collaborative and cohesive group, and so I think what it said to me, was that you know once you get to know each other, understand it what's making each other tick, what kinds of interests are of a concern-- then you have the potential to achieve some good things.

Every market....So these markets are regional, and for example MISO is next to PJM, and they are both next to SPP (Southwest Power Pool). They all have their own personality and interests, and market rules. And so if you do a transaction between regions and there's different market rules, they call that friction. Economists would call that friction. And you like to get rid of the friction. But when you get rid of the friction, there are winners and losers. And so that's the challenge to overcome--the friction--by dealing with the issues of the winners and the losers. If you overcome the friction you should have enough savings to maybe reallocate to take care of some of those problems.

At the beginning of the process, East Coast states thought that all the Midwestern states wanted to build transmission 1,500 miles so they could develop renewable energy in the Midwest and make money on it and then have them pay for renewable energy and the transmission. There was that kind of suspicion. And so they were looking at building offshore wind. Well turns out that's

extremely expensive. And controversial. So we went through this process, and they started to think that a little more transmission wouldn't hurt.

So we were getting there. There's no institutional process, though, that is in place right now to make that happen. FERC did order 1000, and that's requiring these markets to put together some processes to do that. So we're getting started, and I think that economics will drive it. As the resource mix changes that will be the driver in the end.

Marta: How do you see 111d fitting into this as well?

Will: Yeah, interesting question. 111d...we don't know what the final rule is going to look like, but we do know it's going to change the resource mix over time. The study of what impact it will have is in process. MISO has a study. CapX is actually doing a study, just in our backyard here, just to see how the resource mix might change and what transmission might be necessary to make that work well.

111d is part of a transition of the resource mix, and there's only one thing that's driving it. And in a lot of ways I think the market itself is overtaking the regulatory and legislative policy making arena. People are asking for things that they didn't ask for before. Customers want green energy more and more businesses want to be green. People that own these big data centers that use a tremendous amount of energy....they're coming in and saying we want 100% renewable energy. And so the market is overtaking regulation right now, and legislation policy making in some ways.

I think that remains to be seen how that plays out a lot of it's happening at the distribution end of the system, which has some effect on the transmission system, but a lot more effect on the distribution system. We're going to see a lot of investment in technology in the distribution system, and that is probably more a focus than the transmission system in the near term.

The transmission system is getting built out across country now. CapX projects....we're pretty good shape here for a while. We don't see a bunch of new projects coming up in the near-term future. That may change, but 111d and other things, but you know, I think we're more focused right now on the distribution system and the technologies that are going to be required there. That kind of market will evolve and be successful.

Marta: So there is different kind of future in the works for the CapX group?

Will: Yes. So CapX does have a future, it is still going strong. We just are in the process of finalizing investment principles for going forward on projects. When we started CapX, transmission was not a favorable investment. Now it's a very favorable investment and so we're

going from grudgingly...you know, "I'll do my share if you do your share" kind of thinking, to "I want as much as I can get." And "How do we share that?"

And so we're very close to agreeing on those investment principles for going forward and that's a good thing. As far as the activity on the edge of the system--the distribution system--we're not actively thinking about that or studying as a group. I think we are individually and that may evolve, I don't know.

Marta: But you see the group staying together in some fashion.

Will: CapX is a great brand. It has been useful for us in developing transmission. It's been useful for us in maintaining relationships among utilities which facilitates a lot of other things. We have a lot of other bilateral business with that we do with each other. And it's been very effective in dealing with regulators and legislators on policy issues. So we can know when we have a united front that's very helpful.

In fact as one of the great strengths of CapX was that we had the co-ops, the municipal, and the IOU all agreeing, which in the past hasn't been the case very often. We all came in together, and other say, "It must be all right if they all agree."

Marta: Yes and I think that's what I'm getting at when I'm asking if something like CapX could work somewhere else. I'm in the camp that trust is a big thing, and I've had a few people tell me that some of the lines wouldn't have been approved had the group not been working together. So I do think there is value to the group.

Will: You know, it might be translatable into the next big issue. If it is about the integrated grid...now there's a lot of different terms, like smart grid, integrated grid, grid modernization. We call it future grid here, just for the sake of confusion.

But, all those things have to do with finding ways to use technology to meet changing business needs, and because of the convergence of all these digital technologies...it's just this very dynamic right now. So yeah maybe there's a maybe that's a way to collaborate in another scale or issue area.

Marta: So, we're getting close to the end of our time, and I'm wondering what I have not asked you about that you think is important to talk about?

Will: My favorite thing is the durability of the vision and the partnerships over such a long time, and that the vision we had turned out to be the right one. In the face of unforeseen circumstances or conditions of all kinds.

Marta: I appreciate you emphasizing the durability piece. One of the things I noticed is that in the early 2000's, there was a prediction of load growth, but then it wasn't there. So one of my initial questions, which has since been thoroughly answered, is how do you justify the project when the growth that was expected wasn't there?

Will: Our load growth scenario was 1.9% growth, which is the high growth scenario now, but we were also doing work that had been put off and delayed for a long time. So, half of it was catch-up.

Marta: One last question, for clarity. You mentioned in the beginning of our conversation that investment was stagnant. How was CapX able to convince people that it was time to invest?

Will: We had a number of audiences that we had to sell the project to, including our own companies. It wasn't universally embraced by all account believed to begin with. I think that the East Coast blackout and Congress was picking up the issue. We passed a big energy bill in 2005 after the blackout. There was a lot of momentum behind attending to this infrastructure development need that we had. So I don't know there was such a hard sell as it was just a concern about how utility investors would be able to cover their costs because the rules just weren't written yet. Right and that was something that MISO was able to do for us and we worked very closely with them and they were involved. Day one they knew exactly what kinds of problems we need to have solved and they created reliability tariffs, then they created the multi-value project tariff over a period of many years, but in time for our projects.

And legislation was passed in 2005 making transmission a good investment, and that sold it for the utilities. And I think the public was really concerned about reliability. The Commission was, the legislature was, the federal government was.

Marta: I was living on the east coast during that blackout, and it was really apparent how accustomed we have become to having reliable energy all the time.

Will: People are accustomed to reliable energy, and it's just going to continue to be more and more so. Someone at the University said that through the electrification of the economy, the demand for electricity will quadruple by 2050. If you electrify transportation, that's huge. If you generate from more and more renewables, electricity becomes the best fuel choice.

Marta: That's very interesting, and something to watch progress.

Will: Anything else?

Marta: No, I think this is a good place to end. Thanks so much for your time!

Will: My pleasure!