

TWV Podcast #022
How Does Your Utility Measure Up? With AWWA's Ken Mercer
Show Notes at <http://thewatervalues.com/pod22>

Intro: Welcome to The Water Values Podcast. This is the podcast dedicated to water utilities, resources, treatment, reuse, and all things water. Now here's your host, Dave McGimpsey.

Dave: Hello and welcome to another session of The Water Values Podcast! Thanks for joining me.

And thanks yet again to my son, Joey, for providing the intro and outro voiceovers, so stay tuned to the end to hear Joey's outro voiceover and as has been the practice for the most recent episodes, the all-important disclaimer.

Today's show is the first part in my talk with Ken Mercer of the American Water Works Association. Today, we discuss the AWWA's Rate Survey and Utility Benchmarking Survey. Next week, I'll bring you my conversation with Ken concerning the AWWA's State of the Water Industry Survey. This is the perfect opportunity to test out a two-part podcast because you don't need to hear the first to gain a full understanding of the second and vice versa. And I'm pinched for time with a lot of work going on and because we're heading to Glacier National Park with my family this week to celebrate my parents' 50th Wedding Anniversary – so happy anniversary, Mom and Dad!

Getting back to today's podcast, Ken does a great job explaining what the Rate and Utility Benchmarking Surveys are all about and how they can benefit utilities. If you are from a utility and you're listening, I strongly encourage you to take part in the surveys. They're open until the end of August but don't wait that long – complete them as soon as possible.

I was recently on the monthly call of the AWWA's Strategic Management Practices Committee, and the importance of the Benchmarking Survey was brought up. It's not a short survey, so expect to spend some time with it – it was described on the call as between a SurveyMonkey and doing your state taxes type of survey. Whatever time you do put into the survey, rest assured that the labors of your efforts will be rewarded with the fruit of being able to use the results of the benchmarking survey. This is something I really believe in, and I hope we get as many utilities to participate as possible. So please, also tell your fellow utilities about it, and if you're an interested ratepayer, please urge your utility to participate in the Utility Benchmarking Survey. I'll include a link in the Show Notes.

With that said, let's get on with it. Open the valves, fasten your seatbelts and here we go.



Dave: Well, Ken, thanks very much for coming on to The Water Values Podcast. Greatly appreciate your time. To start off, why don't you tell us a little about your background and how you got interested in water?

Ken: Well, it's a funny story because I graduated high school in 1993 in Wisconsin. And as most people know in the water industry, it was a big event in Milwaukee. So I graduated high school from Fond du Lac, which is about an hour away from Milwaukee. And I was starting school at UW Madison in the Fall.

I started school as a chemical engineer, and at one point became a little disheartened with the direction where that was going and took a little time off and tried to figure out what it is that I wanted to do. When I came back, I ended up taking some classes with Greg Harrington, who's a civil environmental engineering professor there. I just really fell in love with water and wastewater treatment. It was a real knack. I hate to say this to people who are civil engineers, but it's easy chemical engineering. I'm sure there are those who are chemical engineers. We all know what I'm talking about on that.

But following my undergrad, I asked Greg about where should I go, what should I do? And he said, "Well, I went to grad school at UNC, North Carolina at Chapel Hill", and his professor was Phil Singer. So, I just completely followed what he had done and went down to North Carolina. For people who knew Phil Singer, he's one of the stalwarts of our industry.

Following Phil's direction, I ended up – it's funny how everything is connected, how one person leads to the next. So Phil's got numerous students all over the world. And he said, "where do you want to go work?" And so I said, two places, three places. And he says, "Alright, go meet these guys when you get there." And one of those people that I tapped was Jim Borchert who's still in Southern California with MWH. I walked into his office and just completely hit it off, and so with a master's degree, I started working for MWH. They just added the H at that point. People were still calling them Montgomery, so they'll always be Uncle Monty to me.

Following that up, I worked for a couple years in the Bay Area. I got a lot of experience, a lot of pilot. The basics were water treatment, water resources, that kind of stuff. I decided I wanted to go back for a Ph.D. and looked around quite a bit and ended up at UMass studying under John Tobiason.

If people are interested in the academic lineage of these folks, I had a moment this morning – so Phil Singer's background is disinfection byproducts and water chemistry, and water treatment. He kind of comes from the branch of Werner Stumm, which if people know – you're looking at me, like maybe I'm getting into an area where I shouldn't go, but water chemistry that Stumm and Morgan, which is this huge dense book which everyone has but very few people actually



opened. That's his lineage. That's one-half of where I come from and then John Tobiason, his mentor was Charlie O'Melia at, oh gosh, I'm going to draw a blank. Sorry everybody.

Dave: No worries, no worries.

Ken: Anyways, he comes from Charlie O'Melia, and I'm going to get a ribbing from this from blanking on the school. I'm on the spot. So, John kind of guided me for four years. My research topic was membrane concentrate treatment. I was really getting into brine chemistry. Thermodynamics, for some reason, really struck it with me. It's getting into the fundamentals of why we exist and what that is and how that translates into water treatment. However, following that, I went back to work with MWH here in Denver, and I worked for them for a couple of years. And then an opportunity rose at AWWA and markets were in a swirl and my personal life just seemed to steer me towards AWWA, and it's been a great fit.

Dave: I thought I've lived in a lot of places until I heard that story. You've been able to learn from a lot of different folks and a lot of different places. What are you doing now at AWWA? What's your responsibility there?

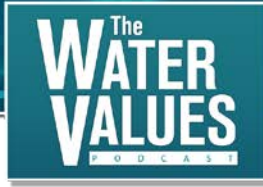
Ken: So my main responsibility, I just came into a new role, and my title is Senior Manager of Technical and Research Programs. So, in large part, my focus is on one of our councils. So AWWA, the American Water Works Association, our volunteer structure is divided such that there are several councils that guide our activities. And some of those would be like the Water Utility Council, Public Affairs Council, and the Standards Council.

The one that I am focused on there is being the secretary for the Technical and Education Council. They're mainly responsible for developing our technical content for the Annual Conference, for any of our other conferences so the Water Quality Technology Conference, the Utility Management Conference, and the new Water Infrastructure Conference. They basically are in charge of putting all the technical content together to make sure that tracks are all together.

In addition, they also do a lot of teleconferences, workshops and seminars, development of manuals and handbooks and other materials. Making sure that those volunteers have the resources that they need and that the staff is dedicated to where it needs to go. That's the bulk of what I do right now.

So that's sort of the technical side. And then in addition to that, I also do the research side. The AWWA does several research projects throughout the year. We'll probably talk about several of these in a moment, but they mainly are a water and wastewater rate survey. We do a state of the water industry survey and we also do a utility benchmarking survey.

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Dave: Let's start off by talking about the rate survey. Can you give us the backdrop on the rate survey and how you push it out?

Ken: So, AWWA partnered with Raftelis Financial Consultants, RFC, in the 2004 timeframe. Prior to that we'd been doing sort of a financial survey, and RFC had been doing one for quite a few years. We combined efforts and at that point, we started doing a biennial water and wastewater rate survey, so, focused mainly on the U.S.

Since then, we've tried to expand and get more Canadian and Mexican focus because AWWA region is primarily North America or international in large part. But our primary focus is North America, specifically a lot of that ends up being North America and Canada. So what it was, was every two years we'd go out and solicit information from utilities about the rates that they are paying, the rates that they are charging, the different customer classes as well as fees. To be honest, it actually goes into a lot of really interesting financial information, as well. So at the time, it was basically a snapshot of sort of the state or the rates in a large part of the U.S.

Since then, we've moved on to doing an every year kind of survey and try to add in some more functionality in terms of what people can do with the data as opposed to just a straight data dump of "here are the rates". Make it into more of a tool and really kind of lends itself a lot more towards benchmarking.

Dave: That sounds like a great survey with a lot of fantastic information. Can you talk a little about some of the questions and some of the information that you are receiving? And you said there was a lot of interesting financial information in there. Could you just round that out a little more for us?

Ken: Sure. So, it basically gets down into some information to start where we try to get some understanding of what the utility is. So, how many customers do they serve? How many connections they have? How much material they've got in their system? And then based on that, it really delves down into the specifics of how much people are charging. So, depending on their rate structure, how much are they charging for residential customers? And then we provide several usage levels to try and tease out how much people are using in terms of what they're charging on a one thousand gallon basis.

Ken: So, in addition to that, you can get down into what fees people are charging, and then there's also a question about utilities CIPs. So we actually get like a five-year projection on the utilities who provide that information. So, it's some really good information and stuff that we really haven't fully leveraged. But it is something that as an organization, we're trying to make sure that the people who are, number one, that the participants that are getting, what they're getting out of it. Making sure that is as good as it can be and then the residual people who are interested in rates as a topic too. Make sure the information they have is what they need.

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Dave: Sure. What are the trends that that information is showing? I don't know if you've kind of looked at, for example, you said you're getting CIP information projected out five years. Have you identified any trends with CIP or any of the other raw data that you're getting in?

Ken: Sure, it's funny, specifically on that, of course some of the data, it's hard to say exactly the quality of it because it is self-reported by the utilities. We don't self-select or dispense. Everyone self-selects themselves to participate in the survey so the information is voluntary, and not verified by any means. We try to stage the actual survey at a time of the year where, hopefully, the information has been as vetted as it can be. And so we try and make sure the quality of information is as good as possible.

Going back and looking at CIPs, going back to like the 2012 data set, I had done sort of a "back of the envelope" calculation to try to get that sort of "Buried No Longer"-AWWA had put out a report called "Buried No Longer" that estimated the state of water and sewer infrastructure. Actually, specifically for water it was one trillion dollars over the next 25 years and then just looking at the projections for five year CIPs from the respondents that we got, you can kind of break it down to a per person basis and then project that out, and it ended up being very close to that. It was about one trillion dollars over twenty years for water and then an additional, actually more than one trillion dollars for wastewater. So, if you look at EPA's numbers, they are more like 500 billion, but then they don't include growth projections within that. They're very specific on their numbers. I think our numbers are probably more on the higher end, but just again, looking at those numbers, it was one trillion for water and one trillion for wastewater over the next twenty years.

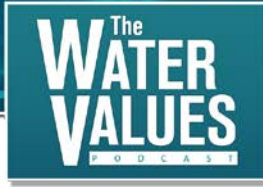
Dave: Wow. And the "Buried No Longer" report came out a couple of years ago-it came out in like 2012.

Ken: 2012, exactly. There's actually a tool that goes along with it now where they try to expand it where utilities can put in their own information and do their own projections. But at the time, it was one of those things where everyone kept talking about these numbers because, as we'll probably talk about in a moment, the number one issue that comes up again and again through our state of the water industry survey is the state of water and sewer infrastructure. As people are just trying to get a handle on how much that actually is, you can do some of these rough estimates and again that was just a rough estimate based on those numbers from the 2008, 2010 and 2012 data sets.

Dave: Just curious to, I don't want to say "test" the data you're getting; but how many respondents are you getting to the rate survey?

Ken: So, we usually get around, our goal is five hundred. And so that includes utilities that provide water only, those who provide wastewater only, and then the bulk of them are actually

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combined utilities who provide both water and wastewater services. So, five hundred is our goal. We usually get somewhere between 350 and 450, somewhere around there. So it's a pretty large data set. And you can try to ascribe some statistical significance to that. There's a lot of hand waving that goes along with that because it's not that kind of survey. But the results are pretty interesting. When you get to a population of about anything greater than 100, but pushing 500, you've got a pretty good data set.

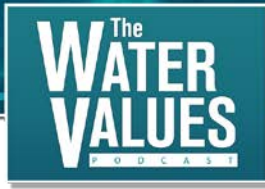
Dave: Well I've got a bunch of questions. What did the most recent rate survey indicate about water pricing? Is full cost pricing becoming more accepted? And because we talked about the capital improvements plans, what are folks or utility managers thinking about how rates relate to capital improvement plans? Are these capital improvement plans realistic? Are they thinking they're actually going to get rates to help pay for those capital improvement plans?

Ken: I mean in terms of that – the data is going to be good. Obviously, the more near term it is and the longer those projections are, the more wish list or speculations are going to be involved in them. That's one of things we try to tie is making sure that, when you mentioned full cost pricing, so making sure that rates and fees totally address the cost of operations. Making sure that includes renewal and replacement. I think that's an area where some utilities have neglected that over time. Obviously, there are very good examples of utilities who are covering their costs in a full cost price scenario.

Historically, when you look back you see maybe a few utilities, probably several utilities, who have not fully reinvested their money to make sure that their systems are in a state that you would hope that they would be. I wouldn't speak for any utility in particular.

Probably the biggest connection is going back to the water and wastewater rate survey, rates are for the most part going up. You see a couple examples where they actually do go down. But for the most part and in large part, they are just continuing to rise and will continue to rise because water demand is increasing and water supplies are not. So as people try to tie the rates that they're charging customers and the different customer classes to make sure that those are equitable, just making sure that meets the goals that they're looking for.

It's interesting when you get into the water and wastewater rates because these are long-term assets. They're in the ground for 50 years at a minimum, in some cases more than 100. And so they're financed for the first 30 years by the community, at that point, who's using it. Then you start getting into intergenerational equities sort of issues about who's paying for what and how is that spread out over the lifetime of the asset. You really start getting into where our industry is going to start focusing more on asset management and making sure that those costs are equitably distributed throughout the lifetime of the asset.



Dave: Can you talk a little about the rate survey? What percentage of the respondents are coming from say a municipal or quasi-governmental type of utility and what percentage are coming from the investor-owned side? And how are the rates different between those two categories of utilities?

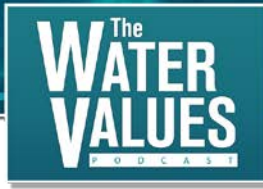
Ken: I think our response rate is pretty similar to what you see within the U.S., about 10% are private, about 90% are public. I don't know if you can go through – we have not done a study where we've gone through and tried to tease out differences between public and private rates. Private rates are set pretty strictly by the boards that govern those, whatever the structure is with that. I don't know that they're going to be that significantly different when you add in that profit margin on top of that.

Certainly when you get into looking at what drives rates, it's so unique. You really get into not only does the financial and engineering aspects, but you start getting into those political aspects. Once you've got that involved, all bets are off as to what's really driving rates. We'll talk about this probably when we talk about benchmarking, but comparing utilities, it's not a straight apples-to-apples comparison. There are so many different things that go into it each one is so unique. It's just like comparing people. We can talk about our body mass index or our blood pressure, and you can look at these few stats that will sort of gauge what our health is, but when you really want to understand the health of that utility or the health of that person you really need to do some investigation that goes beyond simple benchmarks.

Dave: I agree completely with that. Given that you haven't been able to separate the municipal and the investor-owned in terms of rates, what are you seeing as the cost drivers of rates? And I know the political angle is something that is hard to quantify, but what are utilities reporting as their cost drivers?

Ken: It really spans the gamut of issues. You've got some issues where water resources are scarce and people are looking for new supplies. And so they're investing a lot in that front. You've got well-established systems. Take a look at the Northeast where they've got pipe systems that are 50 plus years and in some cases way over 100 years. There are those systems who are looking at reinvesting and putting new pipes in the ground. There's always the aspect of new regulations. How much that's driving – I think the trends on that, we're seeing that is not a huge driver at the moment. Apologies to anyone in AWWA's D.C. office. They might say, no, no, that's wrong. I think overall regulations right now are – obviously, there are going to be some communities, someone who's facing an arsenic issue or they're facing a DBP issue, disinfection byproducts. And if you've got high levels of disinfection byproducts, you're going to be facing some issues that are regulatory driven, but for the most part, it's really an issue of asset management that seems to be driving it.

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Dave: Let's kind of shift gears and move into the utility benchmarking survey. This is something that I think is a very good tool to kind of measure how the utility doing, what areas you need to improve in, things of that nature. But can you talk a little – just describe the survey first off in terms of metrics tracked and things of that nature, and we can take it from there?

Ken: We've really started putting a lot of emphasis on utility benchmarking. So it's a performance benchmarking system that sort of evolved. AWWA got into that in the mid-90's. In large part, we did a lot of research projects at that time with the AWWA Water Research Foundation. Over time, what that has evolved into is selection of about 40 to 50 performance indicators that are really geared towards water and wastewater utilities. Providing them with the framework to look at themselves year over year to establish trends and then also to try to find utilities with similar attributes where you could compare yourself to them to try to found out best practices. It's been an evolutionary process.

One thing that's super nice about that program is it's really easy to get into it. It's all about continuous improvement and really just providing that framework for utilities to say this is where we stand, and we would like to go there. We'd like to improve this much. Or you can also use the framework to say, we are in good standing with regards to that, and we don't need to invest some of our scarce resources to improve that because we're already in the top 75th percentile.

Dave: Do you have any feel for how utilities kind of – we talked earlier about how it's really not apples-to-apples. There are so many different unique characteristics. But how do utilities go and determine what peer group they best align with so that they can get kind of a better read on where they truly stand in terms of some of these metrics?

Ken: The first cut is usually on size. Going down the populations and the number of accounts you have if you can establish what your actual population is. Another one on estimating size would be how many miles of pipe you have. And then just production rates. You can basically break down into large utilities or small utilities. Once you've got that figured out, regional utility benchmarking is also a really good one because everyone's under the same regulatory framework. So every utility within Colorado or every utility in Arkansas, it's a good framework for them to get together. And then a lot of times, they'll have similar water quality issues because they are within the same region, so a lot of their costs would go up. I wouldn't say a lot, but there's the potential for having similar costs because you're dealing with similar water issues.

Dave: What are some of the specific metrics that people are finding most important and most worthy of tracking?

Ken: We break down the metrics into five large areas. There's organizational development, business operations, customer service, and then water operations and wastewater operations. And I don't know that there's one individual performance indicator that just speaks to everyone. It's

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really a matter of taste for whatever the utility is looking for, whatever their issues are. Usually there's some reason that's driving them to get into exploring benchmarking as a way for improving. I don't know how often it is that they just say, wow, we'd just like to get better without any impetus on it. I'm sure there, in fact, I know there are several that do that. But for the most part, there's usually a driver. So people focus in on whether it's some sort of best practice or some sort of business operation they need to focus on.

I guess if you want to talk about just trends that we've seen, one interesting thing. A lot of the data – we usually get – typically, in the last few years, we've got about 100 utilities responding. It's a smaller population than our water and wastewater rate survey. But we do withhold that information. Water and wastewater rates survey, we actually publish all of the information versus benchmarking. We don't provide specific utility's information.

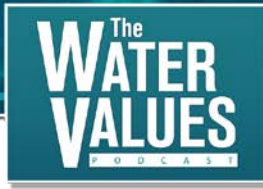
But one thing we have observed over time is with regards to cash reserves, the amount of money that utilities are keeping on hand. If you look back through the trends for three years, there's one that's really interesting because you can just see it just going up, up, up. It's a response probably to the economic downturn or maybe utilities looked at themselves and said we are maybe not capable of getting through this. We need to increase our reserves. So, that's one specific example where if you looked at the trends over time, people have been increasing their reserves at least relatively dramatically over the last three or four years.

Dave: That seems to indicate that rate increases are getting pushed through and that we're getting closer to the full cost of water. Under each of these five categories that you've identified, what are some of the specific metrics that you think are the most useful under those categories?

Ken: In organizational development, a lot of that is really geared towards how utility employees are being trained or employee turnover and retirement eligibility. A number of employees are eligible for retirement however the utility might define that. That's a good one to track in an area where you're expecting some turnover, we'd like to know that. So, if you're way out of skew in terms of how you're using that data is way low or high. If it seems like you're going to get a big flux in turnover, that's a good one. Training hours, looking at the data, I know that the typical amount of training that a utility employee receives is about 20 hours per year. So it's that kind of stuff where you can go and say the 25th percentile the number of training hours we're getting is about 10.

The way I would encourage utilities to use that data is – what the framework that AWWA provides is the 25th percentile, the median, and the 75th percentile. So a lot of times you say the 25th percentile is bad. It's low because it's bad, and the 75th percentile is good. As long as you are able as a utility to justify your position within that scheme, so if you're right on the median, you can say, hey, we're right in the middle. That's maybe really great for some utilities. Some utilities may say that's not good enough.

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It's really when you get into that below the 25th percentile into that area where it's a red flag. Utilities then can look at that. And there may be very valid reasons why they are low in some area. There may be some political reason, something that's completely out of control that somehow whatever it is that's driving it makes your number skew low. As long as you understand that, you can justify that to the board or your customers or whoever it is that you want to communicate with. That's really the basis for it. Its, number one, making sure that you understand where you are and that you communicate that to other people.

The next step would be, well now we know where we are, how do we want to establish where we want to go or do we even want to go somewhere? Are we good? Or are we – is this something that we absolutely need to improve on? So that's how utilities probably should use the benchmarking.

It's not really a beauty contest. Every utility's going to have warts there's something that's driving it for you. Whatever it is your performance indicator is saying, there's a story behind it. And you don't always get that from numbers.

So this is a note of caution for anyone who uses benchmarking data. The best uses are internal tracking. Year over year making sure that you look good. You can understand what your own trends are. And then once you've got that, you can start looking for other partners.

Going back to other performance indicators that we see that are really important, debt ratio for business operations, cash reserve we spoke about that a little bit. In terms of customer service, we've kind of expanded how we track call center information. So that's a new one in the last couple of years that we've tried to improve on. And then just in terms of water operations and wastewater operations, a lot of that is just normalized to the size of the utility. How much O&M costs on a per million gallon basis in terms of how much production the plant is doing or how many do that again in terms of O&M costs per hundred miles of pipe.

Some pretty specific indicators, but it's one of those things where you can kind of use it as first cut to really get down to - first of all establish performance but then again trying to find some people who are in a similar boat to you and say why is it you are performing like you are and to try to find those best performers who say how can we emulate your performance.

Dave: I'm curious about the trends in terms of utilities participating in the benchmarking survey. You said you were getting about a hundred respondents. Is that number increasing? Are more and more utilities starting to respond to the benchmarking survey?

Ken: I came on board on that program a couple of years ago, and I think at that point the Association was still trying to figure out who was using it and to what respect that information was being used. So there was sort of like this tight clique of about 90 utilities who were using it

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year after year. We weren't promoting it very well. Since I've come on board, one of the missions I've been given is to try to expand that population. We're trying to get it a similar group size in terms of somewhere around 300 to 500 in the same vein as the water and wastewater rates survey.

So we're just trying to put more effort in. A lot of that's just helping people recognize that AWWA's been doing this for a long time and that we're putting more energy into it. We've actually just hired a dedicated engineer. Half her time is spent specifically on the benchmarking program. And we've also engaged with our volunteers, which are really the lifeblood of AWWA. It's basically a benchmarking advisory group. They will be vetting the questions. Prior to that, a lot of the survey had been developed through partnerships with the Research Foundation. Now, we're going to have a specific group who is looking at it year over year and trying to discern if we need to establish some best performance criteria. It's nice to have a volunteer backdrop to vet every idea that we roll forward.

Dave: Hopefully, you do get more utilities participating in this because I think that can only help improve the utility performance over time. For those who are in utilities, if you're not participating in the AWWA's benchmarking survey, get up and get on that.

Ken: And you can do that by just going to our website. If you just type in benchmarking, it will pop up. Actually, the survey is open right now. And the same for the water and wastewater survey, I think they both close toward the end of August. So I'd encourage utilities to just go to our website, download the survey. Whether or not you submit the data, that's really up to you. Just going through the effort of filling out both surveys, there's upside for even just doing that. But, again, I would highly encourage it.

Dave: Lots of great information by Ken Mercer in that part of the interview – and make sure you come back for round 2 when Ken talks about the AWWA's State of the Water Industry Survey next week. He was very generous with his time.

So here are my key takeaways. First, and this one's obvious, rates are going up. There are no surprises there.

Another takeaway is the expanse of the capital improvement plans and programs that utilities are preparing. Those CIPs show significant capital needs, and that obviously ties in with rates going up.

My final takeaway is just the immense value that utilities can get from the Utility Benchmarking Survey. By comparing your utility to a peer group, the utility can gain an understanding of what

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they're doing well and where they need to improve and really focus in on those areas where improvement is needed. So I'll again urge you utilities out there to participate in the Utility Benchmarking Survey.

Well, you can check the Show Notes out for this session at <http://thewatervalues.com/pod22>. And please don't be bashful in letting me know what interested you about the interview by leaving a comment on the Show Notes or by emailing me at david@thewatervalues.com. You can also tweet at me @DTM1993. And don't forget to rate and review the podcast on iTunes, Stitcher and other podcast directories and don't forget to tell your friends and colleagues about the podcast and to sign up for The Water Values Newsletter, which can be done at <http://thewatervalues.com>.

In closing, please remember to keep the core message of The Water Values Podcast in mind as you go about your daily business. Water is our most valuable resource. So please join me by going out into the world and acting like it.

Outro: You've been listening to The Water Values Podcast. Thank you for spending some of your day with my dad and me.

Dave: Thank you for tuning in to the disclaimer. I'm a lawyer licensed in Colorado and Indiana. And nothing in this podcast should be taken as providing legal advice or as establishing an attorney-client relationship with you or with anyone else. Additionally, nothing in this podcast should be considered a solicitation for professional employment. I'm just a lawyer that finds water issues interesting and that believes greater public education is needed about water issues. And that includes enhancing my own education about water issues because no one knows everything about water.