

# “The Water Is Not Going to Be There:” A Risk for Business

*Updated 13 April 2026*

**Steve Odland:** Welcome to C-Suite Perspectives, a signature series by The Conference Board. I'm Steve Odland from The Conference Board and the host of this podcast series. Today we'll explore how water scarcity is rapidly shifting from a local environmental issue to a global structural business issue. Joining today is Dr. Alex Heil, senior economist at The Conference Board. Alex, welcome.

**Alex Heil:** Hi, Steve. Thanks for having me today.

**Steve Odland:** Our conversation is going to be based on a couple of papers that you've written recently. Why did you do these papers and how can our listeners find them?

**Alex Heil:** Last week turned out to be World Water Day and we took that as an occasion to freshen up our research on water supply issues. We have a global water resource paper that was published yesterday. We have one paper that focused on US issues in the Southwest of the US and then there's one that's coming next week on corporate water use. We felt it's in many cases an underreported issue but it's certainly one that is of growing importance. And people can find this at The Conference Board website, they can look for energy, infrastructure, and environment and the papers will be posted there.

**Steve Odland:** This is not a new issue. Particularly in more arid areas, but in developing areas, water's been an issue for a very long time. But it's counterintuitive because as you look at the Earth's surface, 70% of the Earth is covered by water. But we're not talking about salt water. We're talking about fresh water. And that's a lower coverage.

**Alex Heil:** Right. If we're looking at just the breakdown, 97% of all water is contained in the ocean. If we're talking about fresh water, we're down to 3%. And then we're taking out glaciers, we're talking about inaccessible options. So really only half a percent of all global water is somewhat readily accessible. Hence the growing urgency when it comes to

dealing with droughts and scarcity in general.

**Steve Odland:** Yeah. And it's key to life, not only humans but all forms of life, including all of our food supply. In the paper you coined the term "water bankruptcy." We've moved from water stress to water bankruptcy. Tell us what that means.

**Alex Heil:** This is actually a term that I believe came out of work by the UN. Let me just make sure I don't take too much credit for it but it resonated with me as a term that really is describing what's going on.

We're dealing with a situation where 25 countries in the world right now are characterized by water stress. If we're defining water stress, what does that mean? That means 80% of their available water resources are essentially already used or spoken for. If we're looking at this from the point of view of their water supplies, it's a much more immediate concern. One of our papers tries to break down what is the level of water urgency globally. It doesn't appear uniformly across us across all countries but it's certainly something that for some parts of the world is much more immediate.

What also appealed to me about the term water bankruptcy was it is a growing business and financial issue. Going forward it is certainly-- and you're right, it's always been a concern. It's always been a planning issue-- but I think it's going to become an issue that is going to have financial repercussions in many countries around the world.

**Steve Odland:** We sit in the US and we take water for granted. In most developing areas is the same thing. You could argue we have plenty of water in the US but that's only true depending on where you're sitting. It is really a local issue, isn't it?

**Alex Heil:** Yeah, that's true. Water is managed for the everyday consumer, residential or business, by the local utility. They are the ones that operate the infrastructure, the pipes, the treatments, the distribution, and then ultimately, on the reverse side, the collection system. It is something that everybody uses, everybody takes for granted.

And to not forget that point, I spent 10 years in the water sector at some point in my career, and the one issue that I really took away from that is that water is consistently underpriced. The price we pay for water does not adequately reflect the scarcity that comes along with it. And certainly in many cases also does not adequately reflect the cost of producing, of treating, of delivering that resource. And certainly then that's a big issue.

**Steve Odland:** Spoken like an economist.

**Alex Heil:** Yeah, that's one of these issues that we're talking about, scarcity, and scarcity usually comes along with issues of price. In many cases, water prices are so low that there is no or there's little incentive for conservation. There's little incentive for reuse and recycling. And, as a result of that, we're running into a resource constraint.

**Steve Odland:** That's an interesting part of your paper. You're talking about water as a critical supply input. That's more from a business manufacturing standpoint and so forth. But let's level set. Where is water used? How is it used? And where are the biggest stress points?

**Alex Heil:** The use is really widespread. There is the residential, the household level. There's businesses, there's industries-- some of which use more water than others for cooling, for processed water. But really where the greatest demand is in agriculture.

If we're doing a survey of regions around the world, the percentage varies but it's certainly true that in almost all cases, more than half-- in many cases, much more than half-- of total water consumed is a function of what is used for agriculture, in particular, irrigation.

I recall, Steve, we had this conversation at some point, maybe a couple years ago when we first revisited this topic of water. But irrigation practices are inefficient in many cases. The way that water is used in industry is inefficient. But if we're just, without talking about necessarily the operational aspects there, talking about the quantities of water consumed, a lot of it is an agricultural problem.

**Steve Odland:** It is, and so much of it evaporates in the course of transport from supply to fields and on and on. We need to continue to improve technology and investment in infrastructure here, don't we, Alex?

**Alex Heil:** Oh, that's absolutely true. That's true for the way that water is used, both in agriculture and as well as in other industries where it's used for cooling and so forth. But also just on the infrastructure side of the delivery aspect of it, the average water pipe in this country has a design life of 80 years and is 120 years old. As a result of that, you have a lot of leakage, you have a lot of inflow, you have a lot of costs that are incurred that are recovered from users but they're not directly caused by the actual water that is being delivered. There's lots of inefficiencies that could be ironed out even outside of these problems that we have with just the resource availability.

**Steve Odland:** Your point is that you're 50% over the life but you also are using outdated piping. A lot of lead is being contributed and so are heavy metals and so forth because of the pipes that are 120 years old. There's infrastructure needs, even if it's working, in order to ensure safety.

**Alex Heil:** Oh, that's absolutely true. We can talk a lot about the fancy aspects of smart metering. We can talk about the issues of how water rates are calculated and applied to different consumers and to shorten the period during which consumers are sent the signal of how much their consumption is actually worth and what price they should be paying.

Those are all issues that lend themselves very easily to the application of better economic practices. That's all true. But on the engineering side, we have vast gaps when it comes to just the quality of the infrastructure and certainly the delayed and deferred maintenance

that a lot of these systems need.

If we're going to parts of the world that don't have developed water systems yet, or they've never gotten to the point where they have this defined water infrastructure in place, they have massive needs to build water delivery and then sewer collection systems. And those are overwhelming in financial dimensions. These are vast costs we're talking about.

**Steve Odland:** Yeah. And these pipes are leaking too. Your scarce supply, a lot of it's going right into the ground and being leached off just because of all of that. A lot of work needed here. In the paper you talk about water being framed as a macro critical risk. I don't think that most companies, in their enterprise risk management (ERM) processes, think about water. They just take it for granted. And you're saying, "No, that has to change."

**Alex Heil:** Absolutely. It's really important to take two issues and relate them to each other. There's, on the one hand, the supply chain in general and the supply chain that a business monitors closely and optimizes for cost, logistics, anything along those lines that also comes with exposure to water. Because it is true that if you follow your supply chain to the origin of an input material, those businesses and those suppliers, they have water demands and water needs and water constraints themselves. You are indirectly exposed to what their constraints are. That is something that is not as transparent, not as easily planned for, but it's something that is very real.

When you're talking about this sort of macro, global strategic issues, there are certainly parts of the world that have much more exposure to these kinds of water risk, where investments are not just in water delivery but also in additional technologies like desalination, more advanced technologies. Taking this all together, water becomes an issue that should be thought of in a much more comprehensive and macroeconomic context, rather than as a very narrowly defined input to your business operation.

**Steve Odland:** We tend to think of water as an issue for beverage companies. For example, Coke and Pepsi, and for human consumption. If you're in the tech arena, you go, "Okay, that doesn't affect me. Who cares?" It actually does because all the way up the supply chain in tech, you've got chip manufacturing.

This is just one example that you talk about, Alex, but it's really important. Chip manufacturing takes a lot of water and data centers take a lot of water for cooling. If you're in the tech industry, which is huge and growing, you are vulnerable.

**Alex Heil:** Oh, absolutely. The numbers are staggering. We looked a little bit into the water needs of data centers. Everybody's talking about data centers these days when it comes to their electricity needs, their impact on the grid. We have documented a lot of this. But if we're just looking at a large data center that may need 5 million gallons per day of water, that's equivalent to the consumption level of a small town of, let's say, 25,000 people or so. We're just extrapolating from one data center-- and currently there are hundreds of billions of dollars that are invested in that particular technology to grow

applications such as AI and other processing needs. There are competing needs that will be at the forefront of a lot of planning and risk management for a lot of business entities going forward.

**Steve Odland:** Now you've got a convergence here of many risks throughout infrastructure. You touched on this a little bit but you've got geothermal, you've got hydropower, you've got logistics, water transport. You've got convergence in risk, contributed to by water-- not strictly due to water-- but contributed to.

With ERM, you have to be thinking about what happens if the canals go down and there isn't enough water. You can't transport goods. You start thinking about all of these things. It goes beyond even the use of water in manufacturing and consumption.

**Alex Heil:** Oh, absolutely. From a business perspective, if we're trying to assess this all sounds overwhelming. There are a lot of issues. There are several steps, essentially, that businesses can take in order to address some of these, in some cases, pretty immediate concerns.

Have to have a sense of what your exposure is to some of these water risks, and not just your immediate consumption but certainly risks that are embedded within your supply chain. Risks that are embedded outside of your actual place of operations but in the water basin, in the watershed, in the region in which you're operating, and in which your suppliers are operating. Transparency and accurate assessments of these are very important. Keying in and trying to get a better sense of supply chains and their respective risk is important, too.

From an economic angle, it's also important to be aware of the economic value, the economic prices. So what are we actually talking about here if we built in all these costs? One cost in particular is the cost of becoming more resilient to some of these risks, resilient to be able to respond if there are these kind of constraints that are materializing in a much more immediate way. That's important.

And resilience is both important from, "What is this going to cost me?" as well as, "How can I shield myself from some of these operational downsides so that I can keep my business going?"

**Steve Odland:** We are talking about water scarcity and shortages and its impact on business and economy. We're going to take a short break and be right back.

Welcome back to C-Suite Perspectives. I'm your host, Steve Odland from The Conference Board, and I'm joined today by Dr. Alex Heil, senior economist at The Conference Board.

Okay, Alex, this whole notion of pricing water. Again, you're an economist. You price to try to govern the amount of imbalance, supply and demand, and the amount of usage and conservation and all of that. You've talked about how it's systematically underpriced, you mentioned that earlier in the podcast. What would change if everything was priced in

balance and priced into capital allocation? What would happen to the cost structure of American business?

**Alex Heil:** Just the natural extension of saying, oh, water's underpriced, that if we were fully pricing it, some of these costs would certainly go up. But it's also fair to say at the same time that if costs, and as actually I should say, if prices were aligned with some of the more immediate use characteristics.

And just to give an example to the audience, there's a big difference between indoor water use and outdoor water use. Filling up your swimming pool or watering your lawn should essentially come at a different price point than using the toilet or taking a shower. The same applies to certainly business operations when we're talking about businesses with varying degrees of demand peaking. In other words, there might be a business that simply turns on the tap and runs water 24 hours a day and others that have peaks and valleys. They have spikes in their demand. So the utility needs to provide capacity to accommodate those peaks. But then that capacity is idle for many hours during the day.

Just incorporating pricing with those kind of demand characteristics could bring cost recovery for them in line with how much it actually costs to provide that kind of capacity. That would be a good way to create more transparency for users on how much the resource is actually worth and how they could be cutting their costs by implementing greater efficiencies. Bringing this sort of point of use closer to the point of payment would help with that as well.

**Steve Odland:** Okay. Now, if anybody is still awake after all that.

**Alex Heil:** I'm sorry. I spent 10 years in the water sector, I get all carried away.

**Steve Odland:** No. It's really important. You wrote a paper called *Running Dry: The US Southwest Water Crisis*, which is really important. That seems to be the nexus of our current water bankruptcy in this country. You talked about the water situation along the Colorado River. Talk about that.

**Alex Heil:** Anybody who's been out west in the US has encountered the Colorado River. It is a main water resource for what is called the Upper and Lower Basin states. That's Colorado, New Mexico, Utah, Wyoming-- the Upper Basin. Arizona, California, and Nevada-- the lower basin states.

The agreement between the states is from 1922. Not surprising, the quantity of water flowing down the river essentially has been falling because of drought, because of greater heat waves, more volatility, less snow pack, various issues have contributed to that. But the allocations have not necessarily changed. They were revised a few times downward to reflect some of this. We're really talking now about a system in which seven states have greater water demands than what the river can actually provide.

In part, this has induced a much more immediate management of efficiency. For instance,

it's not an issue of residential growth. Las Vegas doubled its population but actually lowered its total water consumption because of efficiencies and what they're allowing, what they're requiring users to do, and what kind of constraints they're placing on water use.

But at the same time, again, coming back to agriculture, a lot of agriculture is the main draw here. We've all bought strawberries from California and those are the ones that directly depend on Colorado River water. That's going to be much more difficult to sustain going forward. A related factor is the Colorado River is a river that actually never empties out in the ocean because by the time it gets to the ocean, it's dry.

**Steve Odland:** That used to be a seasonal issue and it's now structural because of what you said. It gets used up. There's nothing going through. But it then creates not just a topical environmental, social & governance (ESG) kind of risk but it's a core business risk in that entire region for, as you said, agriculture, mining, manufacturing. People are trying to put chip foundries there and there's no water. You have to think about all these things.

**Alex Heil:** What is resonating most with people are the two big reservoirs. If you're taking, for instance, Lake Powell and Lake Mead, water levels in those reservoirs are currently at 25-35% full. That's going to be a problem because, at some point, there's not going to be sufficient water anymore to operate the turbines to generate electricity at the dams. That's the condition called power pool. If this gets worse and the water continues to drop, at some point there isn't even enough water anymore to make it over the dam, essentially right? Through the system of passages inside of the dam for water to run down river. At that point we're then looking at really an entire water-based economy in those seven states that is going to be severely questioned just because there won't be any water.

**Steve Odland:** We've talked about a few industries that are most impacted. Just run down your list of all the industries that should be thinking about this.

**Alex Heil:** The way to think about this is there's water consumption, there's water withdrawal, right? Withdrawal basically means if you have cooling needs and you extract water from a water body, and then you discharge it again into the water body, you might have high withdrawals but very little consumption.

Consumption means a brewery that fills bottles with beer based on water. That has much higher consumption. What we're seeing is water utilities certainly have high consumptive rates because they are delivering water to consumers. We have a lot of, in some cases, tech businesses that draw on water resources for cooling and the water evaporates and actually doesn't make its way back into the water body. So that can also mean high consumption. And I think there are some businesses, you know, water processing in heavy industry and so forth.

We need to be aware that there are differences. But water delivery itself is certainly the largest consumptive category when it comes to water use. And that also then, by extension, includes water that is used for agriculture. Those are really the main users of

Colorado River water in that case.

**Steve Odland:** Our listeners are probably saying, why doesn't the government deal with this? And it's complicated, as you've written. You've talked about the interstate negotiations. There are federal rules coming up this year that are expiring. You've got multiple layers of environment going on. You've got policy changes probably down the road here, which then creates volatility for businesses and uncertainty for businesses. How should businesses think about and plan for this possible change in policy?

**Alex Heil:** It's a complicated situation that is based on a very simple problem and the simple problem is that in the years when the compact between the states was agreed upon, the river levels were much higher. So the allocation agreement that was agreed upon was based on more water than even in years following, almost immediately after. That's just gotten worse over time. For businesses that are operating in and around the Colorado River, there are concerns that the federal government is going to step in and broker a solution. That solution will have to take water allocations away from some users and allocate it to others.

All in all, what this is going to mean is that the overall level of water is falling, the availability is diminishing, and so one really needs to think about efficiencies. One needs to think about reuse, and think about what kind of water demand am I placing and can I really sustainably do that going forward? Because ultimately the water is in all likelihood-- if climate projections, heat projections, drought projections are correct-- the water is not going to be there.

**Steve Odland:** Now, you could also look at what we've been talking about in terms of risk mitigation and year end and all those types of things. But you can also turn it into a competitive advantage and you talk about that in the report.

**Alex Heil:** There are businesses in certain parts of these user states and these stakeholders have really taken and played this up to their advantage. Like I said, some of these efficiencies, some of these reuse practices that both municipalities as well as businesses have enacted, they have really shielded them to a certain extent from some of these constraints. That's been helpful. Despite the fact that water use, from just a visual observation, is high in a place like Las Vegas, they have been very crafty in making sure that their per capita water consumption is continuing to fall. By positioning yourself with those strategies in mind and actually acting upon that could be an advantage for some of those businesses that are better suited at doing so.

**Steve Odland:** Any final thoughts? Anything we missed from your papers that you wanted to bring out?

**Alex Heil:** Water is such an integral issue, an importance to life that, unfortunately, it's frequently overlooked. I think these issues play out slightly differently. If we're talking about the Southwest of the US, if we're talking about drought in other parts of the US in Europe, if we're talking about water infrastructure, availability, certainly, in some

developing world countries.

Ultimately this all comes down to the same issue of the scarcity of water is materializing in various forms, but in more and more critical and immediate needs. As a global community, we just have to find a way to comprehensively deal with it.

**Steve Odland:** And these papers can be found on our website, Alex, TCB.org, and then click on the Economy, Strategy & Finance Center, right?

**Alex Heil:** Yes, they're all there. You can also look me up on the TCB website and as part of my bio and background, all my papers are to be listed there and these water papers also feature there prominently.

**Steve Odland:** Wonderful. Dr. Alex Heil, thanks for being with us today.

**Alex Heil:** Thank you so much, Steve.

**Steve Odland:** And thanks to all of you for listening to C-Suite Perspectives. I'm Steve Odland, and the series has been brought to you by The Conference Board.

## AUTHORS

---



Steve Odland

**President & Chief  
Executive Officer**  
The Conference Board



Alex Heil, PhD

**Senior Economist, ESF**  
The Conference Board

---

The Conference Board is the Member-driven think tank that delivers *Trusted Insights for What's Ahead*<sup>®</sup>. Founded in 1916, we are a nonpartisan, not-for-profit entity holding 501(c)(3) tax-exempt status in the United States.

© 2026 The Conference Board, Inc.