

TECHONOMY NYC

Why Water Matters in a Changing Climate

Speaker:

J. Carl Ganter, Co-Founder and Director, Circle of Blue

Introduction:

David Kirkpatrick, Techonomy

(Transcription by [RA Fisher Ink](#))

Kirkpatrick: Carl Ganter, who is an expert at global water situation and runs a group called Circle of Blue, and is himself also a journalist, will take over from here.

Ganter: Great. Hard to follow that. Well, what I love about Techonomy is it really does bring together the superheroes in technology and storytelling. And so my mission as a journalist and photojournalist is to really activate the superheroes and tell some of the world's most important stories. And I think one of the most important stories today is about our water planet, and about water and climate.

So I went to a higher order and I asked an astronaut what it was like looking down on our water planet, and I'll actually read this. This is Jerry Linenger. He spent four months in Mir, a Soviet space station, basically, by his terms, held together with twine and duct tape. It was a tough ride. He was looking down on this blue planet, basically saving every drop of his water from his sweat and urine, at the same time he's looking down at, "A closed ecosystem, only so many sources of life-sustaining water and all the creatures of Earth, just like the three of us circling it, all dependent on water." And guess where he picked to live? On the Great Lakes. So literally, he picked out his place where he's going to land and that's on the Great Lakes up in Lake Michigan.

So we heard about the Sustainable Development Goals earlier today. These are what they look like. We just saw them from Novozymes. They're pretty exciting as far as a path forward. And if you look at it, water really runs through almost all of them. So number six is clean water and sanitation. You can take notes, or you can find all this online at the U.N. So then number two is zero hunger. It's a little hard to read here. Gender equality, number five. Most of the women around the world carry the water. It's the women who do the work, carrying the water.

And then you look here at responsible consumption and production. We're talking about the circular economy. I would argue that everyone in this room has a supply chain or a source that is reliant on a safe supply of water, whether to cool your servers or to feed your crops.

And then you have sustainable cities and communities. We'll hear more about that in a second. You have industry, innovation, and infrastructure. You have affordable and clean energy. It goes on and on. Water runs through all of them. Luckily, number 17 is all about collaboration, so it actually brings them all together.

But back to Jerry orbiting. What's the perfect line for space looking down on a blue planet? Yes, Houston, we have a situation. We have a problem. Our blue planet is thirsty. And so the World Economic Forum's Global Risks Report, the last five years, water's been moving up on the list until we actually—we're mostly 70 percent water ourselves—hit number one. And we actually got water crisis, we got the 'i' changed to an 'e.' So now we're not only number one, but we're multiple crises. We're plural. And this is what the world's water situation looks like. This is where our water stress points are. So when you're looking at geopolitical risk, you're looking at water supplies; you're looking at supply chains, look for the band where the water stress is. This is where we really need to focus our attention globally.

And some quick numbers, to pick up on Jeffrey Sachs this morning, 40 percent of the world's people are being affected by water scarcity. Two billion are compelled to drink unsafe water; 4.5 billion do not have safely managed sanitation, the other side of the water challenge. This is a really important number, 700 million could be displaced. We've seen what's happening now with Syria and now also with Cape Town and Day Zero. We're a great brand. A lot better than what it used to be, talking about transitioning water from supplier, from sanitation to supply. They used to call it from toilet to tap. We're finally getting to better branding about our crises.

Day Zero candidates, also. You can see some usual suspects here, but if you look, London, Tokyo, Miami. These are Day Zero candidates. They could run out of water. You can be in line for water. Imagine Cape Town, four million people waiting for water from 200 different water points. That's what they were preparing for.

So when we step back, and I asked Jerry, "So, looking down on the planet, what did you see?" He saw dust storms emanating from Inner Mongolia, blowing across to Beijing, reaching all the way to Los Angeles. What an awesome view, to see how closely connected we are. So I asked Jerry, I said, "Well, what if you threw a golf ball out the window? Where would it land?" Of course, I'm not a physicist or an astronaut, obviously, but it would land here. It would land at Inner Mongolia. So, I went there. Like I said, I'm a journalist; I'm a photographer. Our secret weapon, as we call it, IWT. When people say, "How did you get the pictures? How did you get the stories?" and you actually say, "I was there."

[LAUGHTER]

So, I went. Literally went. So, I said, "Okay, where would this golf ball land?" It would land here in Xilinhot, Inner Mongolia, and it would land in the backyard of Wu Yun. She's the daughter of a Mongolian shepherd. Her well has gone dry. She has six coal mines around her and now they have to drive 15 kilometers to water. These are some of the faces on the front lines of those Sustainable Development Goals, particularly number six.

So then if we go to Vietnam and the coastal shifts, we're seeing this happen now. We talked about a sea level rise. Well, what happens? Well, I went to see what may be the last rice harvest in this region of the Mekong Delta. And what's happening is the water's coming up. The water's inundating the rice paddies. So what do you do when you're an entrepreneurial rice farmer? You actually convert, you dig out your rice paddies and you raise shrimp. How awesome is that? Except you literally turn around and this is what it looks like. So here comes the Mekong, here comes the sea literally being held back by plastic and mud. So this is happening in our river deltas around the world.

Well, what also is the other side of this? When we don't value water, when they don't have the values and value-aligned and electricity is free to special interests like farmers in India, they don't even have switches on their pumps. They let them run 24 hours a day, 7 days a week, because they can. They can irrigate 24/7. Like I said, they don't even have switches. So it's mutually assured depletion, quite literally.

But then what happens? Well, wait, the satellites are telling us they're still growing. The fields are green. But then, you go here and they're planting rice. Well, where's the water coming from? So when the wells are going dry north of Delhi—the other picture was in Punjab. When the wells are actually going dry north of Delhi, they're turning the water from industry, like this. This is a paper mill I photographed just north of Delhi. See the little bit of water coming out? There are multiple paper mills that flow into canals and then the farmers are actually pumping from those canals to irrigate their crops. Imagine what's in that water, heavy metals, and arsenic, and cadmium, and all the other exciting things. But here they are. They're praying that the waste water keeps flowing so they can keep growing and send their kids to the city.

So then you go outside of Bangalore. Okay, he's washing the beets, that's great. This is ground water pumped at a transfer station. The reason they're washing the beets is they couldn't sell them otherwise because they're using raw sewage to irrigate. They also don't eat their own produce. They send it to Bangalore or onto Delhi.

So this is the water challenge that we're seeing, this kind of ebb and flow around the world. We're also seeing that Mother Nature's pushing back. We're seeing floods like this one at the base of the Himalayas. So over a two-day period, eight dams failed the base of the Himalayas. This is Modi's hydropower plan for India and the dams are literally failing because of surges. It's like right out of a movie.

But then California's the world. It's news, it's now. I'm a journalist, this is great, you know, run out and cover these big stories. But it feels like we're kind of covering our own demise. How do we do this better, how do we connect the stories better, and how do we move ourselves to action?

Well, we turn to technology. We turn to 100 percent technology. Data will save the world. Well, here's the caveat: the world's not just a click away. So this is the data center at the Punjab irrigation district. I was really careful not to wake up the servers. Sorry, that's a data joke.

[LAUGHTER]

But what happens? So we're telling the story, right? We're covering our own demise. But we have technology. We have these different pieces of the story, like perception. We're talking about what do people actually believe. What's the reality, what are the numbers, what are the satellites telling us, and what's the context on the ground? Our man out standing in his field; why is he running his wells 24/7 and how can we change his behavior?

So what if we could see around the corner? What if we could see that entire picture? Rather than just document it, what if we could actually shift that course through better storytelling, through changing perception, reality, and context, and aligning it?

So this is what we're doing at Circle of Blue and Vector Center. Circle of Blue covering the story; Vector Center being an AI and data company. What we're doing is we're document climate change, forced migration, these other risks, and we're mapping them in near real time. Water stress. And then we're looking at this 15-year trend. We keep talking about 2030 around the world. This is what this is starting to look like. We're starting to see China, major stresses in China. Of course, the Middle East. This is that 2030, kind of countdown we're aiming toward in basically everything the U.N., the Sustainable Development Goals, are talking about.

Peru, major water stress. And then we get to Australia. Just got through the whole challenge in the Murray-Darling basin. We're looking at India because we think it's a really intense crucible and a litmus test for how we can solve the world's problems. So the challenge that India has right is the data is siloed. It's very, very separated. It's delayed, it's slow, and it's without context. And yet, we can do vegetation monitoring from the sky, we can do ground water sensing from the sky and the ground, and we can see is the perception, what we believe, aligned with the reality? So when it's apart, then we get election anomalies. When we can actually bring it together and align the stories with the trusted reporting and trusted data, then we can actually connect the stories, connect the data, put it in actual context, and understand and inform the conversation so we're making decisions in near real time and listening better to the planet and ourselves. So we're not just telling the stories, we're listening better and we're adjusting the stories and adjusting the course.

So I'd like to invite you all to participate in what we're calling, you've heard before, this fourth industrial revolution for the Earth. Let's add, "for the Earth." So the World Economic Forum, we're participating in this. I'm on the Global Future Council for the Environment at the forum. It is participating in a very powerful way and bringing together and convening technology and technology leaders and big thinkers. How can we activate all of the sciences? Not only just the data sciences, but I always remind people, we have to activate the behavioral sciences. We have to activate the social sciences. Who are those real faces at the bottom of the story, at the bottom of the arrow that Jerry dropped out of his space ship?

Because we have Wu Yun. I went back; I've been back four times to visit. The coal mines are getting closer. And then the last time she was standing on—these swales of sand should be

green. These should be the green grasslands of Inner Mongolia, where the shepherds run their sheep. And then I went back to the Mirasi, which is near the Pakistan border, and spent my time with this family and walked with the young woman as they got water. So they're walking further and further as wells go dry.

So this is what's happening around the world, so how do we shift that story? Well, yesterday, we heard in the morning, we heard that hope is power with your sleeves rolled up. Well, what we really need to do is make hope visible in all of our stories and all of our data. Because we have this opportunity to align our perception and our reality and context. If we do it separate, if we forget the narrative, if we focus just on the data, we take the people out it and we don't have that moment for reflection as to why this all—what's our purpose and what does this actually mean in moving forward.

So thank you very much. I hope you'll follow water and climate, and circleofblue.org is our website. Thank you.

[APPLAUSE]

Kirkpatrick: Thank you, Carl. That was a great talk. Really good.