

Sustainability Now Podcast

“Don’t Build a Stadium There!”

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Mike Disabato What's up everyone? And welcome to the weekly edition of Sustainability Now, where we cover how the environment, our society and corporate governance affects and are affected by our economy. I'm your host, Mike Disabato, and this week we're going to take you through the economic power that our stadiums and what can happen to that power when it collides with the colossal power of Mother Nature. Thanks, as always, for joining us. Stay tuned. The Winter Olympics is already coming to an end this weekend. The excitement, the multinationalism, the beauty of competition. It really makes me pine for more. And luckily for everyone, it's the year of the World Cup.

Mike Disabato: the World Cup this year is going to be spread throughout Canada, Mexico and the US, and it's going to be attended by a global cadre of football enthusiasts, which means that the economies surrounding each of the stadiums will reap the benefits of that global attraction, because stadiums can be a great source of wealth for a community. Think of Taylor Swift's Eras tour that added more than ten billion US dollars in economic impact over its time span. Now, that was concentrated in the hands of the host cities hospitality industry. Because of the flights people booked, the restaurants they went to, the hotels they stayed at. Now this is great if everything goes off without a hitch and the notoriously calm soccer fans come to Stadium A and they patron its town's various shops, bars, restaurants and hotels. But the World Cup runs this year from June eleven to July nineteenth. And what would happen to that town if it got so hot that play had to be suspended? Or the hastily built infrastructure around the stadium to handle the influx of fans buckled under the heat, or there was a sudden deluge of rain that set upon a drought stricken area, flooding everything in and around the stadium. What would they do then? Now? This would not only disappoint the fans, but it could prove economically disastrous for the host city or town, let alone the municipal bond holders that likely purchased the necessary bonds to help build some of this new public infrastructure. It's a problem that may plague certain stadiums and certain cities throughout the world. As climate continues to change and the World Cup brings a mass of people into areas that might not be used to them. But the question is which stadiums and which cities? And are we talking about today, or are we talking about in fifty years? It's a question my guest and colleague today, Katie Towey, explored in some publicly available research, for which I'll put the link in in the podcast description that looks at World Cup stadiums and maps them against a number of material physical risks. And she does this to show that there is both, of course, a risk and investment in these areas, but also an opportunity for adaptation to be had to ensure the World Cup and events like it go off without a hitch. And even though Katie is more of a Mets fan than the fan of a beautiful game, I thought it would be fun as the world continues to horrify, to call her up and ask her to tell me about what her research found.

Katie Towey So for our analysis, we focused on four hazards that could realistically affect matches in June or July when these games are going on. So we focused on heat waves, pluvial flooding, or more commonly known as rain induced flooding lightning. And then more of a structural longer term hazard to be aware of which is subsidence. And one item that we found from this analysis is that often the dominant hazard at one site is often not the dominant hazard at another site. So if you take AT&T Stadium in Dallas, for example, it has the highest exposure to heat waves amongst all the stadiums that we looked at in our analysis. But it's a closed roofed stadium, so the most immediate impacts would likely be on transportation systems, energy demand for the surrounding area and the experience of fans coming and going from the stadium rather than direct exposure to the players during the match.

Mike Disabato So you've got a closed roofed stadium like AT&T in Dallas, where the heat wave risk is more about what's happening outside the transportation, the energy grid, the fans getting to and from the game. But then you have places like hard Rock Stadium in Miami or Arrowhead in Kansas City that are

open air, same heat wave, totally different problem. And remember, these are problems that these stadiums can face today. It's something that they have to focus on right now.

Katie Towey But interestingly, while Dallas ranks the highest for heat waves. It also ranks the lowest for rain induced flooding. So that can reduce the risk of surrounding property damage or any type of disruption to access to the stadium from heavy rainfall and hard Rock Stadium stands out in a different way than what I just highlighted with AT&T Stadium, because it ranks among the top three for all four hazards that we examined.

Mike Disabato Meaning it's a complex case and there are low risk stadiums. Of course, there's BMO Field in Toronto, for example. That's low on a number of physical risks. And what Katy was just discussing there with heat waves and floods and lightning, those are flash events. Like I said, there are things that can happen tomorrow. It could cause long term damage. And the question is always when that happens, who's going to pay for that sort of damage? The stadiums are these odd beasts in that these billionaires often lobby and try to help build them, but it's not usually with their money. It's usually with taxpayer money or with municipal bond monies that underpin the stadium, as well as some of the infrastructure that surrounds it, especially for a massive one off event like the World Cup or the Olympics. And the issue is, is that the municipal bond market has been slow to adjust for fiscal risk in twenty twenty three. A Duke University study looked at over seven hundred thousand municipal bonds, and it found that cities with high climate risk are borrowing at basically the same rates as cities with low climate risk. The bond market is just not pricing climate risk in. And on the insurance side, we have a perfect case study of what this sort of physical risk can do to a stadium and its surrounding community when it's inappropriately accounted for in March of twenty twenty four. Saint Petersburg, Florida cut its insurance coverage on the Tropicana Field, which is home of the Tampa Bay rays, from one hundred million US dollars down to Five million US dollars, and they did this to save the city two hundred and seventy five thousand dollars. Now, their own insurer had warned them that the roof was vulnerable to high winds. And seven months later, Hurricane Milton shredded it. And the repair bill was not two hundred and seventy five thousand dollars. It was sixty million dollars and insurance covered about eleven million of that, and the city covered the rest. So you've got stadiums that are facing millions of dollars of possible climate losses today, and the financial systems around them, the bonds that build them, the insurance that protects them, are still sort of behaving like the past is a reliable guide to the future. And it's not. And that is just what stadiums face due to these flash events like floods or heat waves, things that could happen chaotically in the moment. There's also a more long term insidious risk lurking underneath some stadiums, something called subsidence, a long term risk that Katie will now explain.

Katie Towey It refers to the gradual ground movements, uh, underneath, um, a stadium, for example. And it's often linked to changes in the underlying soil conditions or groundwater changes. And over time, it can affect the foundation of different types of assets. It can affect drainage systems. More importantly, it can affect the structural integrity of these properties. So even small changes underground, um, as a result of subsidence can increase maintenance costs. It can ultimately require reinforcement in various places in a stadium. And within that, uh, hazard category, we found Lincoln Financial Field in Philadelphia to actually have very high exposure to subsidence.

Mike Disabato So I mentioned earlier that the bond market isn't really pricing in these risks. And these stadiums are often backed by massive companies or they're sponsored by them, you know, AT&T, hard Rock, whoever. So what should they actually be thinking about when they're building or assessing one of these facilities, I asked Katie.

Katie Towey So ideally you would think about when you're in the process of either building or moving a stadium, you don't just want to look at what is my risk today, but because these stadiums are going to be around for decades to come. How is that risk profile going to change over the length of duration that that stadium is going to be in place? And that's probably a more common one, where stadiums might be built to withstand the impacts from a flood. That is a one in one hundred year event today, but maybe in fifty years that one in one hundred year event becomes something that they experience one every fifty years, or one every twenty five years. They get more intense and more frequent, and thus the costs from those types of floods will start to pile up, not just in more frequency, but also in intensity as well.

Mike Disabato And we actually have a good example of this happening right now as we speak with the Winter Olympics, which I'm anxious to report is going to run out of places to go in the next couple of decades. Here's an example Sochi in twenty fourteen, they used about eighty percent of artificial snow. Pyeongchang. Ninety percent. Beijing in twenty twenty two. You might have forgotten this, but it was the

first Winter Olympics to use one hundred percent artificial snow. They needed three hundred snow guns and forty nine million gallons of water to pull off the event. And Cortina d'Ampezzo, who's hosting the Olympics right now? It's had forty one fewer freezing days per year than when it hosted in nineteen fifty six, and they're making nearly two point seven million cubic meters of artificial snow. It was quite a fear that the Olympics might not happen this year because of its lack of snow, but it got enough in the end and it's not getting any better. So does this mean that only the largest cities with the best fiscal budgets should be the ones that can accept a new stadium build, or be given the ability to host a large scale event like the Olympics is.

Katie Towey So all over the world you have communities that are building or renovating stadiums and large scale venues right now, and these being assets that are designed to last for decades. It's really important to understand that the climate that they are being built in won't be the same climate as the one they operate in over the course of their lifetime. And so for the people who ultimately are bearing the cost of these stadiums, whether that be taxpayers, investors or both, there's a real stake in understanding just how resilient that these stadiums will be over time. So will that stadium be able to withstand a major hurricane today, but will it also be able to withstand it twenty, thirty, fifty years from now? Or when you have those events happening in the future, is it going to be the community that is the one that is ultimately absorbing, uh, the cost of the repairs. People think of stadiums as, like, these great economic opportunities for communities. And they are. But because they are also these fixed, capital intensive structures that sit in these very dynamic, uh, physical environments, there's a risk that comes along with it. So before we go and commit billions of dollars towards building or repairing these types of infrastructure, it's worth asking whether we are truly planning for the climate that these assets will face over the next fifty years, or just the one that they are currently being built in.

Mike Disabato And if they don't, if they ignore it or parse down the coverage for insurance to save money, like what happened in Florida, you can have a once in a lifetime event that's now actually a five year event. Come in and wipe out your city budget and the ability to pay back bondholders. Now that's an extreme, but that is the sort of thing that can now happen with more frequency, as Katey's research shows. And I don't think this means that we don't have a large scale sporting events anymore as the world warms, but it will mean towns and cities that might have liked to host these events have to now seriously consider the climate risks of agreeing to host, and everyone from the city to the municipal bond investor will have to wonder if their local government is using the right climate data to understand the risks faced when accepting a bid. And that's it for the week. I want to thank Katie for talking to me about the news with a sustainability twist. I want to thank you so much for listening. If you like what you heard, don't forget to rate and review us and subscribe wherever you get your podcasts so you can hear myself, Bentley or Gabby at any time on Sustainability now. Thanks again and talk to you soon.

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