Alex Usher (AU): Good morning, Bryan. Thanks for being on the show.

Bryan Alexander (BA): Thank you, Alex. Good to see you again, and a delight to be on the show for the first time.

AU: Bryan, you've written a book about universities and the climate crisis. I don't see many similar books out there talking about the climate crisis in a sectoral way, like hospitals in the climate crisis, or the K-12 sector, or the insurance industry. What's specifically unique about higher education that it deserves a sectoral treatment when it comes to climate?

BA: You're quite true. There aren't many books on this. There's one about the US military and the climate crisis, which is actually very useful. But other than that, I think we're still breaking this down. Higher education has several different things to contribute in several different aspects by which it is impacted. One is our research enterprise, which is so critical to the entire world of climate studies. Not just climate science, but how humans respond to it and how we think about it. We also have our teaching mission, which is so crucial for everything from thinking about general climate literacy or general climate knowledge for a generation growing up in an ever ratcheting-up climate crisis to producing students who are equipped for green jobs, whatever those might be. And also just helping students think about the general dislocations that climate crisis may bring about. We also have, and this is not unique, but this is worth noting, we have our physical plant. Most campuses have some kind of physical footprint - grounds, buildings, parking lots, and so forth. Those are impacted by the climate crisis in different ways. Everything from direct impact by storms to having to rethink them in terms of the overall transition away from a carbon-based system of energy and production. I think that there's also a fourth is that we have a public mission and that can be town-gown relations and that are campuses and their immediate community. But that can also be our role as public intellectuals, our people working in the broader world as we negotiate with businesses for contracts, nonprofits for support and relationships, governments, regulatory compliance, and so on. We have the ability to contribute greatly to national and international discussions about the climate crisis.

AU: Let me pick up on the issue of infrastructure. One of the ways that you talk about the climate crisis is the way that crises may affect institutional operations directly. So I'm thinking of examples of catastrophic cases like Pakistani campuses being underwater for most of last fall, or to go back in history, like what happened to Tulane after Hurricane Katrina. I'm curious, in the United States, which institutions do you think are most at risk physically from climate catastrophe?

BA: I think right now the institutions that are most at risk are all the ones that are in the state of Florida. Florida is low lying. It is massively exposed to sea level rise from both the Atlantic and a shared Gulf of Mexico. We can observe that it's politics are not exactly the climate friendly. But on top of that, it's also likely to be sapped by rising wet bulb temperatures. Wet bulb temperature is a combination of the thermal temperature plus humidity. So all of these, I think, make Florida extremely, extremely dangerous. You can also look up and down the East Coast as a whole, which is all likely to be nibbled away by the rising Atlantic. When we're talking about rising sea levels, it's not just the rising water, it's also the fact that that water infiltrates local groundwater which then impacts everything from drinking water to what plants and animals can grow there. If you look up and down the East Coast, you see a lot of colleges and universities, especially in the Northeast. You know, looking at New Jersey, looking at

Delaware, New York State, Maine, Connecticut, Rhode Island, Massachusetts. So, there's a lot of exposure there, but also I would look in the Southwest. I mean, one of the ways we're talking about climate change is that either you get too much precipitation when you don't need it, or you get too little when you actually do need more precipitation. So the American desert, so-called in the Southwest, looking at regions like Arizona, Nevada, and Utah, those are areas where there's a great deal of danger. The specific thing around Salt Lake, there are a couple of institutions there, because the Salt Lake itself is dwindling and may start emitting toxic fumes very quickly. But also just the advancing desert, and desertification which gives us rise to the questions of is it worth it to continue irrigating/ supplying water for other purposes and air conditioning even the outdoors in those areas?

AU: It's interesting that you think Ron DeSantis will leave enough of Florida higher education standing before the climate crisis gets to it, but that's a discussion for a different day maybe. A lot of your book is about roots for institutions to get to net zero at a corporate level. Could you maybe talk a little bit about which university activities do cause the greatest CO2 emissions? Where should institutions be focusing their efforts to reduce their carbon footprint? What's the low hanging fruit here?

BA: Oh, this is a great question. It's difficult to answer this question because there is not good data about this. Individual campuses may or may not measure the carbon footprint. Rarely do they do so as a whole at the corporate level, as you say. We don't have good data that is comparative on this. So we can't say, "Harvard is better than University of Miami or Utah" or the whole state's institutions are better than those in Nevada. We just don't have good data on this. So that's a research hole that needs to be filled. The biggest production of CO_2, though, I would guess right now based on the research I've seen, has to do with the physical plant the production of buildings which you cement and concrete, which emit a lot of CO_2 in their lifetime, plus the cost of maintaining them, of air conditioning them, providing them lights, and heating them and that all depends on electricity, which is often sourced from burning coal, burning other fossil fuels. Air flight is also a serious gout of CO_2 into the atmosphere. It's interesting, we don't have good measurements about just how much plane flying or how many miles a given academic community does. By academic community, I would include students, as well as staff, as well as faculty. Well, you know on a per capita basis, or at a per mile basis, air traveled emits a great deal. So that's one we have to take a look at. I also don't have good figures on food systems because we know that food systems that rely on meat and on animal products emit both carbon dioxide, especially in travel, but also methane in the course of production. Methane, while shorter lived in the atmosphere than CO2 is much more powerful to 40 times more powerful.

AU: Let me pick up on that issue about travel. That's an area where if you have got enterprise level plans to get to net zero, this is one where you've got to change a lot of individual behavior. I was intrigued, I love the passage in your book where you talked about the visceral opposition you've encountered at universities when talking about reducing academic travel particularly for conferences. That's really ingrained in people even after Covid, it's how to get to those conferences. So, tell us about whether you see much prospect for academic culture changing to facilitate a reduction in emissions from travel.

BA: Well, some of the cultural shifts are actually very difficult. So we think, for example, about the idea that someone early in their career can actually benefit from the deep immersion in a professional event, which is honestly so far harder to get online. We could also think about research enterprises where the research object is not fully digitized. Think for example, about archives which aren't digitized or think about natural sites that just haven't been seriously scanned. And I think those are going to take some

heavier lifting. Now, beyond that though, returning to a professional event or going to an archive, which is digitized, but you like being there for various reasons; the emotional purposes of reconnecting with people. And, of course, the perk of just having a vacation or a vacation-like event when you just get to go somewhere else on somebody else's dime. I think we know how to handle this. We did this during the pandemic. There are interesting projects on which I described in the book trying to do this for climate purposes. And I think we'll gradually get there. Most cynical and reflecting my undergraduate training in Soviet studies, I would say this is progress that is generational. I think that people in their twenties right now be much more comfortable with this than people in their sixties. So we may see, as in many situations, progress one funeral at a time as the old saying goes. But also I think that as climate awareness builds up and as the crisis ratchets up and people feel it ratcheting up, which isn't necessarily the same thing, I think we may see more academics start to change their minds and reduce their flying.

AU: Right. Are there any institutions you would point to as being leaders in getting to net zero ones that have particularly strong record in achieving rapid decrease in carbon emissions?

BA: Well, one that really stands out for me as an outlier in Pennsylvania, Dickinson College has had a President, Provost, and a faculty consensus that they need to take sustainability very seriously. They've done some unusual things. For example, they have a requirement for the undergraduate curriculum that students have to take at least one class in sustainability in order to graduate, which is unusual. University of Barcelona, students actually struck to make that happen. But Dickinson actually imposed that successfully. They have a wide range of other practices. They have an off-campus organic farm, which the students work at, and in town they sell both the produce as well as food made from the produce. They also had a interesting project, again, this is the American tradition of undergraduate research, where the undergraduates research the town. It's in the town of Carlisle, a small town. They measured the town's carbon footprint and then presented that data to the town leadership, I forget if it's a city council, but the town really respected that and actually referred them to the county in order to do the same for the county which is all terrific data. As someone who supports undergraduate research, I think this is just a terrific thing. The campus has reduced its emissions. They achieved net zero some years ago and have maintained that. I think that's in many ways an outlier and a leader, and one to keep an eye on.

AU: Bryan, another chunk of your book is about how universities can change their core activities of research and teaching in order to deal with the climate crisis. Let me start just with the issue of curricula because you've already mentioned it a little bit. You give a lot of examples of new programs or curricular tweaks that we might use in order to affect change. But I'm kind of curious, what is the evidence that students actually want these kinds of new or amended programs? What does the demand side of the equation look like? And bluntly, will universities make or lose money by trying to address climate change through their curriculum?

BA: Oh, that's a great question. I mean, right now, I would say that a good bet would be to expand the climate curriculum. We should make sure that, that, that occurs at different levels. That can include classes which are not thematically climate related, but which include climate content. It also includes specific classes, climate science 101, but also minors, certificate programs degrees and we should expect the same more in the way of undergraduate as well as graduate programs. Perhaps indeed entire units or colleges devoted to this. The evidence we have has to do with polling by generations and we know that people under 30, especially under 20, tend to be much, much more concerned about climate crisis

than their elders. And so, to the extent that we teach traditionally undergraduates, I think we can rely on that. I haven't seen good evidence polling specifically current undergraduate students. I'd really like to see that. I think that's another research opportunity that should be filled. But I think right now that's a pretty good bet. It depends on your institution, right? It depends on part of the culture that you draw from. Some campuses already have a progressive or environmental flare to them. Think about Lewis and Clark College, out in the west coast of the US for example or the Vermont Law School, in Vermont, which is explicitly very green. I think you can expand that and I think it would be a good bet. But that isn't easy to do and that requires a wide range of everything from hiring, to professional support, professional development, perhaps interdisciplinary research centers on campus. It may also require the ability to redesign an entire curriculum perhaps overall an undergraduate curriculum or at least individual departments.

AU: In a similar vein, you talk a lot about ways that university research can adapt their programs of research to address policy issues of climate and climate adaptation. And you provide countless examples of these kinds of research efforts. Two thoughts occurred to me as I read those parts of the book. The first is that a lot of the examples you provide are multidisciplinary in nature and often require very large teams to work on and not all profs are particularly interested or adept at that kind of research. Second, someone's got to pay for all this, right? Researchers follow the research funding opportunities. What are the prospects for changing academic research habits and what are the prospects for funding agencies, particularly in the United States, making more money available for these kinds of projects? Because those seem like some key enablers for the kind of change you're talking about.

BA: They really are. It's important to remember that almost every academic discipline has already engaged the climate crisis. I mean, not just the obvious people like earth science, environmental studies, chemistry, meteorology, but also we've seen this in religion, we've seen this in philosophy, in history, in economics, and psychology, sociology, even the humanities. So we're already seeing this happen. So this is not hypothetical or speculative. This is already starting. If you will forgive the terrible pun, this is a rising tide. I think that for the sciences and the quantitatively intensive social sciences, they already work in teams. Plural authorship is the norm. So for them, this is not surprising. I think for the quantitatively less intensive social sciences than humanities, this is more difficult, especially the humanities where single authored work is the norm and plural authorship is often seen as basically not worth the accrediting. So that will take some change and some getting used to. But also I think a lot of humanists are really in the position where they see themselves as being able to cross disciplinary boundaries and get value for that and get valued for that in their work. We should expect to see some of that as well. Supporting this is tricky. I mentioned before the need for multidisciplinary centers and professional development. The question of funding this is very interesting right now in many countries, not all, but many countries, there is government led, nationally led interest in climate studies. That's helping shape some funding in the public sector. I think in the private sector, a lot of foundations are interested in this, and a growing number of businesses are also interested in at least greening up and trying to get their ESG goals in, or trying to make money on the transition away from the fossil fuel based energy system.

AU: One thing you didn't talk about much in your book was what I call the second or maybe third order effects of the climate crisis on higher education. When I do my talks to universities about likely scenarios for the next decade, it goes something like this: the climate crisis intersects with various other world crises, for instance, Ukraine to create increased political and economic volatility, which doesn't just tie up government resources. It ties up government headspace and if I could put it this way, policy attention

such that universities are going to get less attention and less money over the next little while. They shouldn't expect much in the way of increased government support and maybe they should even brace themselves for cuts as other priorities rise to the top. Am I being too pessimistic? Are there scenarios here?

BA: No, I don't think you're being pessimistic at all. My previous book Academia Next argued that higher education specifically in the United States was overbuilt for capacity. We know that total enrollment to the United States since 2012 has declined every single year and in fact, our measurements of enrollment now may be too optimistic because they include a lot of dual enrollment in community colleges with high school students as well as a number of international students. So I think higher education in the US is clearly overbuilt and there's not a lot of public appetite for increasing funding at that level. Probably the American Supreme Court is going shut down the Biden administration's debt forgiveness plan this summer. So, I don't think it's pessimistic at all. I like Adam Tooze's use of the term "poly crisis" to describe the intersection of all these different threads. So Ukraine coinciding with DEI pushes, coinciding with covid, coinciding with the climate crisis. I think we can use a metaphor of oxygen that that too many crises suck all the oxygen out of the room, and it's hard to maintain all these. The Swedish climate scholar and activist, Andreas Malm, said that he thought covid was the worst thing to happen to climate activism and that it just pushed climate off the table. I don't think it's completely correct, he said that early in the crisis, but I think there was a lot of that going on. We see this over Ukraine. Russian war in Ukraine is also not just accelerated a lot of energy development, both for good and for bad, but also it really just sucked all the oxygen out of the atmosphere. So it was really hard to be able to talk about this kind of thing. I think higher ed is going to have to make a deliberate effort to engage with the climate crisis on multiple fronts, multiple domains cause we're not going to get a lot of support, broadly speaking, from the world around us.

AU: Lastly, one thing I really appreciated in your book was the fact that it is genuinely global in its coverage of university initiatives. I'm curious, what did you learn about the different parts of the world and their different approaches to the issue of universities and climate change? How much of the policy response is genuinely universal because academia is somewhat universal, and in what areas do you see some very specific national approaches?

BA: That was a major theme. In fact, the book I started to write was actually the next version of Academia Next looking at all of higher education ahead 75 years. I found that the climate crisis was woefully under discussed. So, I ended up focusing on that. You could find some interesting variations that are actually pretty well known to scholars, like yourself, who work closely in international higher education, European Union, European Commission universities and colleges tend to be very focused on process and on regional policies. China, in contrast, more or less, has a top-down drive to decarbonize. While at the same time, they're burning tons and tons of coal. It's interesting to see how this starts to play out in Chinese higher education. It's interesting to take a look at Middle Eastern and African higher education, which is still very, very clearly focused on jobs as the output of higher education. That's where we're likely to see more push for green jobs as well as for specific job skills. So for example, you know, just a drive to have more electrical engineering. Cause that's a crying need for this process. In the United States, we have all kinds of unique oddities. We have a very active climate denial movement which you do see in other countries. You see this in Brazil, for example, you see this in Turkey, you see this in Australia to an extent as well. But we also have an unusually disorganized and disaggregated higher education sector. We have a ton of institutions, about 4000 or so, but very little federal influence,

much less oversight. About two thirds of institutions are state funded in theory, a smaller degree in practice and states get various degrees of oversight. About one third are private, and they are in many ways just private entities on earth. And so this is very different from say, the European zone where you get a lot more, not just top-down manage, but also a desire to have cohesive action in one direction.

AU: That's all the time we have for today. Bryan Alexander, thank you very much indeed.

BA: Thank you, Alex. I look forward, I enjoyed this conversation. I look forward to hearing more from your listeners.

AU: It just remains for me to thank this shows excellent producers, Tiffany MacLennan and Sam Pufek, and you, the listeners for tuning in. If you have any comments or suggestions for future podcasts, please do get in touch with us at podcast@higheredstrategy.com. Join us next week when our guest will be Dr. Olabisi Deji-Fatile, Editor-in-Chief of Frank Talk Now, and Chief Operating Officer of AF24 News, and a regular commentator on Nigerian higher education. Bye for now.