

Role of Academic Institutions in a Low-Carbon Transition

Daniel Tkacik: My name is Daniel Tkacik. I'm the Executive Director of the Scott Institute for Energy Innovation. Quick thanks to the High Ed Pavilion and UPenn for providing the space for what I hope to be a very helpful and informative panel discussion. But today we're going to be talking about the role of academic institutions in a low-carbon energy future.

And just to give you a preface to this, I've been to a couple of talks here at COP talking about the role of universities in the energy transition. And they've been highly informative, highly educational. Yes, universities should be partnering with the private sector, with municipalities and local organizations. Yes, universities should be fostering multidisciplinary research. And of course, yes, universities should be embracing the spirit of entrepreneurship at the universities. But how exactly universities go about actually doing that, that is where I believe these centers and the institutions within the universities actually make those things happen. And so what I hope to be talking about today is the challenges, the barriers, that institutions at these four different universities are running into in achieving those kind of high-level goals.

So let's start out, I think it would be useful for everyone to introduce themselves and give two to three minutes about your energy institute, how you're structured, what your priorities are, how you're funded, et cetera, just to get a level set of who we're talking to in the room, and what we're dealing with. Mathy, do you want to start us off?

Mathy Stanislaus: Sure. Hello, everyone. I'm Mathy Stanislaus. I'm Vice Provost and Director of something called the Environmental Collaboratory. The Environmental Collaboratory is about two years old. It was designed around taking a unique approach to environmental institutes at universities, very much an on-the-ground environmental justice, equity-based focus. And that's the only reason I agreed to make the leap into universities. This is my first leap into universities. We could talk about the bureaucracy of universities later, you know. So, we're very much around partnering with communities, and basing all our work around their priorities. And bringing students and faculty based on their priorities. And dealing with the issues that people skirt over. That is, how do you build capacity for communities to authentically be at the table? And how do you then link that with the data and analysis to support recommendations developed by them, and then develop support for them to help implement that?

So that's the external facing. And internally, we have the small challenge of, how do you actually make trans-disciplinary work real? We could get more deeply into that. And we're—I sit in the provost office, and so my role is to kind of try to do this cross-connection among colleges and schools and try to foster trans-disciplinary work. So I'll stop there, and I'll want to come back to the challenges of that.

Shatha Qaqish-Clavering: Thank you. I'm always the person who asks the questions, so it's nice now to be able to speak in this panel. So thank you, Daniel, for the invitation. Thank you, Cory, for organizing this. My name is Shatha Qaqish-Clavering, and I am the Director of Strategy and Operations at Climate Positive Energy Initiative. It is a strategic initiative at the University of Toronto. We are also two years young. We started January 2022, last year. And our mandate is really multidisciplinary research. So we have received \$7 million from the University of

Toronto, and this \$7 million is split between the Vice President Research and Innovation Office, and then the other piece is from the various faculty at the University of Toronto, and the various campuses. So it's supposed to be an initiative over three years, with the mandate of showing leadership of research when it comes to climate at the University of Toronto.

So we work under four different pillars. The first pillar is training. So, we provide scholarships and awards for undergrad students, for grad students, as well as for post-doc fellows who are working on multidisciplinary climate projects. And the second piece is grants. We provide internal grants for U of T Professors to encourage them to work on multidisciplinary solutions to the climate challenge. The third piece is the translation and communication of all the research that happens at the University of Toronto. So, we have two big conferences that we organize per year. One conference is related to students. It's academic.

And then the second conference is more business oriented. Because of the multidisciplinary team nature of the work that we do, we cannot go deep into having technical meetings or technical conferences, so we opted into the business conference. So our first year, we collaborated with Toronto Board of Trade, and we launched our inaugural climate conference. And this year, we collaborated with Ontario Chamber of Commerce, where we hosted just last November, our summit. And we got different industry leaders across different sectors, from manufacturing into automotive into energy into electricity, all the way to municipalities, steel manufacturing, cement manufacturing, et cetera. So it's very, very multi-disciplined.

And the last piece is our industry-facing piece, which is, our mandate is really to bring industry money into campus and support bridging the gap that we talked about yesterday between academia and industry, and how can we make this happen through the multidisciplinary role that we have?

Cory Colijn: It's rare that when you're ten years old, you're the oldest person in the room. But the Kleinman Center for Energy Policy at the University of Pennsylvania is now ten years old. My name is Cory Colijn. I'm the Executive Director of the organization. Thinking about who we are. So, we have a mission to create the policy conditions for a just and efficient transition to sustainable energy. We really work on policy design.

We are housed kind of uniquely at the Weitzman School of Design at the University. So even though we act like a provostial center, we are not. We have a home school. There are real advantages to that. We're in a small school at Penn, which has some structural advantages. But we act like a provostial center. So we are collaborating. There are 12 schools all on one urban campus at Penn, which is also pretty unique. So we act a little bit more provostially, in terms of our connections with others on campus.

In terms of our priorities, I think we can think about that in two ways. We have substantive priorities around policy design, as I said, and really around justice in governance of the energy transition. And then we can think about the priorities in terms of who we serve. So we have three main constituency groups. We are at the university, so we have our students. We have our faculty, and the faculty that we have recruited to Penn to be affiliated with the center. And then we have external stakeholders. And that's really a broad group of people that we can include

communities under, and we can also include decision makers and the policymakers that we try to influence as a center.

How are we organized? We have a core staff of about ten people, and then we have a core faculty who have been recruited to Penn to be affiliated with the center. So that makes up kind of the center nucleus. And then we have faculty fellows, and faculty affiliates. Practitioner fellows who we bring in, which really round out our ability to connect with the world outside of Penn. We have a graduate certificate program, so we have students that come to us through that program. And then we have a lot of research associates.

And then in terms of how we're funded— we are— it's a little embarrassing to say this, but we are very privileged at the Kleinman Center. We were founded with an initial \$10 million gift, which was given as a five-year term gift. Which, for those of you who work at universities, understand very much proof of concept. So, "Here's a bunch of money. Spend it down as quickly as possible and prove that you're worth something." We were able to do that, so we received a second \$30 million gift a couple of years ago, which established our endowment fund, and since then have also raised probably about another \$5 million in philanthropy on top of that. So we are uniquely positioned. That gives us a lot of flexibility in terms of the kinds of projects that we work on.

I will say that core faculty who we've brought in, they're also bringing in big federal grants and things like that that they're using the Kleinman Center as a pass-through for. So there is other kinds of money coming in, but our core operations and our ability to pick and choose what we work on is really privileged by the fact that we have this philanthropic money.

Tkacik: Got it. This is great. So, a very diverse set of institutes and centers. Sorry, Cory, to one-up you. But the Scott Institute for Energy Innovation actually just turned 11. So. But the Scott Institute is actually quite similar to the Kleinman in the way it's structured. We have a core staff. We have about 150 faculty affiliates from across the entire university that we are tasked with coordinating and keeping together. And our three main priorities at the university are to grow research, grow entrepreneurship, and to act as a very important convener, which kind of bleeds into the first two. And part of the research and the entrepreneurship is really working with external organizations, as well as internally making sure we have the right people in place, and fostering interdisciplinary research, et cetera. We're going to be getting into all of that in a second.

And I figure we could start with communities, community-driven work. With the Scott Institute, we constantly have local communities. The county of Allegheny County, where Carnegie Mellon sits, coming out to the Scott Institute and saying, "Hey, we have a climate action plan. We would love to work with your researchers to help implement that, give us feedback, et cetera." And while our faculty would love to help out, they're also trying to keep their own research groups afloat, keep their graduate students funded, et cetera. So I'm curious to hear from each of you, especially those who have been engaged in community work, how you're able to actually make that happen. What the incentives that you've had in place to make connections between your very busy faculty and researchers, to the actual municipalities themselves. And let's start with you, Shatha, just because I know that you have a lot going on in this area.

Shatha Qaqish-Clavering: Yeah, sure. One of the examples I want to give is the city of Toronto, talking about community. The City of Toronto is developing a youth engagement strategy for climate. So we heard about their grant. They approached us. And then what we did, because we are multidisciplinary, we have over 300 faculty members and 300 grad and undergrad students affiliated with us. So we have kind of an overview of what type of research is happening, which professor is doing what. We ended up approaching a few professors saying, “Hey, we have this thing coming from the city. Are you interested?”

The key, I would say, is finding a lead professor. Once you find someone to raise his hand or her hand to say, “Yes, yeah, I can take it,” we realized that it’s easy for them to convince their colleagues to come to the table. And how we sweeten the deal, also, for them, is that we said, “Well, it’s \$120,000 from the City of Toronto. We are going to give you \$100,000 on top of that. That will be like a quarter of a million-dollar project. Can you make it happen?” So that incentivized them to say, “Yes.” But the big but there was, we need more people. We need multidisciplinary group. And the professor, she’s from the Department of Environment and Physical Sciences, so she needs more support.

So again, because of our network of professors, we were able to bring eight different professors from eight different departments, to come on board and work on it. So not only this professor now is doing consultation with you, but also, they are talking about food security. Because food security is another pillar, because there was a professor whose main area of study is the food, and they are talking about communications. There is a professor from arts and media. Arts and media and climate, how relevant. She’s trying to organize dissemination strategy of, “Okay. This research, how can we introduce it to youth, and how can we get more acceptance from youth?” And as I said, finding that nucleus for a professor to say yes to that.

The project itself has turned out to be very interesting. It’s over a two-year project. The first report was just out a few months ago, and the report was talking about interesting facts. So, the professor was going down there to speak to youth and to understand from them, how do you think about climate? What are your thoughts about it? What do you think? What do you think is missing? What are your feelings about it? And also, she didn’t start from scratch. So she went into also youth organizations that are already established, to try to gain trust within the youth community because you don’t want to start from zero.

And the findings of the report was, youth are feeling betrayed by the institution. They have climate anxiety. They are not feeling safe when it comes to climate. They are worried and scared of climate, because they feel it’s a problem beyond their scope. They cannot solve it. They don’t have a solution for it. Which, I felt it’s very interesting. And the aspect that they feel betrayed by their own institutions, and whether it’s the government or not, this is why they ended up having more trust into these community groups. So now that the recommendation will be to establish kind of a hub, whether it’s a virtual hub or a physical hub, for these youth, it’s a safe place for youth to gather, speak about climate, gain momentum, and move forward.

Tkacik: That's really fascinating. And I know, Mathy, you also have an opinion on how students can be involved in this, and how they really add energy to the situation. If you could share a little bit about that.

Stanislaus: Yeah. Let me talk about the students first. One of the things that happened early on was, a student who attended COP two COPs ago came away and recognized that we did not have an LCOY in the United States. Local Conference Of Youth. Right? So they put in an application and got accepted, but they had no support across the university. So they approached us, and we helped facilitate, and we basically fundraised for them to pull together the first UNFCCC sanctioned LCOY in the United States, which was an amazing event. I think we had students from 27 states attend. So it was really amazing. And we were just kind of being supportive of them, so they developed their own recommendations. Then I facilitated a briefing to the White House Council on Environmental Quality of their findings. So the students were really jazzed by that.

But in terms of the students' role in projects, Drexel has very much centered on experiential learning. We have a co-op program, and broadly experiential learning model. So we have a team of both co-op students, scholar students, that we bring into the projects. And then we kind of go through a process of what issues are more exciting for them, based on the issues that communities have identified, you know. And so students are really not only energized, but I would say— we'll get at the transdisciplinary. The level of transdisciplinary thinking that students come to the table with are really awesome, you know. In many cases, I think, far better than faculty. They really connect wide and disparate issues. So it's been fascinating energy. And they've really taken on the respect and temperament of what it means to do authentic community-based work.

Tkacik: Yeah. Cory, I would love to hear your thoughts on this.

Colijn: I only have a few.

Tkacik: I was going to jump to you anyway.

Colijn: I would just very quickly say that I think something that my colleague, Alison, who's sitting here, pointed out in a conversation earlier this week— we're saying "community-based work." And I think, and she thinks— to quote her— that there is a real difference between community-based research and community-based projects. And there has to be an understanding that there are distinctions. And one role that I think centers can play, and especially centers who have embedded research staff within them, is we can be a little bit more responsive to some of the community-based projects that come our way, which then allow faculty to dedicate their time to community-based research. So that's one thing I wanted to say.

The other thing I wanted to say is that I think that this also speaks to a larger trend that we're seeing now in the higher education sector, which is, for a very long time in the history at least in the United States of higher education, there has been a mandate to create new knowledge. And I think we're now moving to a world where we're being required to create knowledge for good. And defining that, what that really means in practice, I think is going to require some structural

changes at the university level in order to align things like how we tenure and promote faculty. So I think there's some larger mega-trends and shifts that are going on as well.

Tkacik: Yeah, and I think that's a fantastic point. You and I were talking yesterday about how at many universities, there are not really rewards set into place in the structure of the university to reward faculty for services. For working with communities.

Colijn: There sure aren't at Penn. I will say, though, I have several faculty friends who work at public institutions, public universities or land grant universities. And I think it's a little different. I was talking to a friend of mine recently who's at the University in Minneapolis, in the Public Policy School. And she said, "Well, 30 percent of my time is responding to the state when the state calls and they need something. They need me to work on a project, or something like that." So I think there's also just a difference between the public higher education sector and the private sector.

Tkacik: So along the same lines as motivation to do work for good, part of the many funding opportunities, at least in the United States, that are coming down from the Department of Energy and National Science Foundation have a requirement in that application of, how is this work relevant to policy? How is this work relevant to community-driven work? How is this going to serve the communities in which you are sitting, and how is this going to help the workforce? This is a new thing for so many people, especially folks in STEM fields, material science and engineers, who are working on, say, a new coding for materials that will help elongate battery life. They have not, not for their own lack of ill will— they want to contribute to the betterment of the societies in which they are sitting in— but the question is— these institutions are really looking for help. And when they are applying for these applications, they need help in developing that community benefits plan that's part of that application. They need help developing a workforce plan when they're submitting these applications for this work for good. So I'm wondering, from each of your institutions, if and how are your centers providing any sort of assistance? Or is that something you have in the plans down the line, in terms of helping faculty who have to fulfill these requirements? [Responding to singing in background.] Thank you for my song.

Colijn: No one wants me to sing my answer. I'm looking at my colleague, Angela, right here, because she deals with this a lot. I think that we have not sorted this out as a center yet. But what I can say is that over the last many years, there is an enormous uptick in the number of requests that we are getting, especially from our science and engineering faculty, who are required to include community benefits plans or the policy implications of their work as part of their federal grant applications. They're coming to us and saying, "You gotta help us!" And we are having to be very responsive to that. And I think that that is totally a role that we can and should play as a center. But you have to have capacity for that. So it's about building out that capacity at that scale. I'll just leave it there.

Tkacik: Shatha?

Qagish-Clavering: Yeah. From our very short experience that we had over the two years of, what's working with us, what's not working with us, we realized that grants are our best bet. And

they are our best friend. So going individually after industry funding, it's very, very challenging. And the amount of investment of time and effort you put towards it in comparison to the amount of return on that investment is really minor. And we can talk about this later. But what we realized is, grants are really good. And grants, if we're doing to continue to survive, we need to really focus on grants.

So we have a few successful stories. The first one was a project, it's called Can Store. It's \$24 million project from the federal government. It's 11 different academic institutions, 22 PIs across Canada. And the idea of that is to study, how can we support northern Canada in terms of their energy transition, and how can we support the South? Because the north and the South have totally different issues. So this is what this grant was focused about.

Now, the other grant is about the grid, grid modernization center. For that grant, again, we kind of wrote the whole idea to the university. We told them, "There is this funding opportunity." And we reached out to professors to see if they are excited, if we can get some momentum around it. And we found that person—we got lucky another time—and found that person who raised his hand and said, "Yeah, that's interesting. That seems like something I can do." But again, he needs support. So we rallied professors to support with that. But for this one, it was very multidisciplinary, where we needed policy. So we went to our School of Public Affairs, and we got policy people to come on board. We needed consumer behavior. We went to Civil Engineering to get consumer behavior professors from there. We needed policy consumer behavior. We need climate modeling. So we got people from Physics, and also the engineers for the core project.

So this project wouldn't have happened without our institute, because that professor in electrical engineering wouldn't have led it without the policy piece, without the consumer behavior piece, without the climate modeling piece, because they don't do any of that at electrical engineering, although the core of it is about electricity and the grid modernization. So that brings the importance of a multidisciplinary center to seek the opportunities. And as you said, because we are really focused externally, and we are not just into our own research. So we can have, really, overview about what externally is needed and how can we match it with internal support?

And we ended up having 50 different partnerships, actually, with industry partners. Because industry will come when there is money from the government. So you tell them, "Hey, the government's going to put money at the table. Do you want to put money? And in this way, your money will be matched. Every dollar you put is matched by the government." So we ended up having \$13.5 million secured from private sector. Government, I'm not allowed to speak about how much money secured from the government, because it's supposed to be embargoed. There's no announcement yet. But we are hoping something will happen in the coming couple of months.

Stanislaus: So I think it's important to define community first. Right? Communities, as I define it, are community-based organizations who authentically represent residents. Separately, municipalities. Right? And I think being cognizant of the difference. In terms of, I would say, faculty and students—particular faculty that we bring on, but I'm very careful because it's very much education. I tell them, "Do you know what the environmental justice principles are? Can you articulate that? Can you articulate community"—so I'm very, very careful about doing a

debriefing and monitoring to make sure both the students and faculty who are on board understand that, and also understand that we're focused on addressing the systemic issues, the justice for these issues that are embedded in the Inflation Reduction Act, in particular. So we bring that prism and education, in a sense, before the faculty and students are engaged.

And it's an ongoing process. And we've done a little of things to inculcate authentically what that means. So we've established a data sovereignty agreement with community-based organizations. We established a consent process. And we had some really tough conversations about, how have you been taken advantage of by my university, and by other universities? So we've established framework before we can get to prioritization. And then we're going to take that prioritization in terms of building the data and solutions. So that's the community-based piece.

We separately do work in municipalities, but we also have a threshold for the municipalities that, do you embed equity and justice in their work? So we do work with municipalities across the state. Now, I would say that is, at this moment, more knowledge building and technical assistance. So when they approach us, it's some basic knowledge so that they can prepare for federal grants.

And with respect to federal grants, we have made a decision that we are not going to take the lead on any federal grant because we don't want to be viewed— because I sit in the provost's office. So we do not want to be viewed as taking money out of different schools and colleges. But we will support and be part of— and we are that. So when we get approached by faculty and university-wide efforts on these issues— on workforce development and equity and justice. So I take the lead on framing that. I have a high bar. It's like, if I'm going to be on, it's got to be authentic. So that's some of the strategies that I work on.

Tkacik: Got you. A common theme in a lot of this is the role of interdisciplinary work, and so that segues into our next section that I wanted to ask each of you about. It's very easy, and I think many of us would have to admit that when we first started these jobs, "Oh, just do interdisciplinary work. No problem, that's easy." No. It's actually— it can be hard. There are sometimes structural barriers to conducting interdisciplinary work. So I'm curious from each of you how your institutes go about fostering interdisciplinary work. And just to reference a quote from yesterday's pre-meeting, this isn't chemistry faculty working with chemical engineers. That's not that interdisciplinary. We're talking about chemistry faculty working with public policy faculty, et cetera. So I'm curious to hear from each of you. We can start with you, Mathy, on how your institutes foster that kind of collaboration.

Stanislaus: When we figure it out, I'll let you know. [LAUGHTER]

Qagish-Clavering: Thank you!

Stanislaus: We were lucky to get really flexible philanthropic money to experiment, right? The first thing, we want to do a ground-up process just to build kind of— my institute's new. And you all know, someone from the provost's office, "Okay, this guy from the provost's office." You don't want to get into all this perception. So we had a really ground-up process, fostering

transdisciplinary work. And I had the provost come and amplify that, the President come and amplify that. Really self-generated, but we said it's got to be multi-school and you have to at least have two different disciplines. And it was a complete failure, right? It was a complete failure, because they came to the plate with the same problem that they've been doing forever. So we view our funding as the early at-risk funding to lay the groundwork for federal funding, right?

And the lesson coming out of that is, if you want to foster— and this is coming from a number of faculty liaisons. It's like, you need to define the kind of disciplines and the problem you're trying to solve. So for example, emergency preparedness, people say, "Emergency preparedness, what is that?" So we've defined it as, you know, urban planning and risk communication. What are the disciplines that people may not actually see themselves in? That's our next effort to try to really foster this transdisciplinary work.

Qagish-Clavering: Yeah, that's a tough question. You are asking all the tough questions today. It is tough. Okay. Thank you for saying it failed, because I was really so careful about saying it. Yeah, I'm going to— okay. You are the Vice Provost. I'm just a Director. So I'm not going to say it failed. I will use my own words. But we tried. We really tried to do this multidisciplinary research and encourage researchers to work together. And early on, a few months in the job, I realized you cannot force researchers to do what you want to do. Researchers would like to do what they want to do. And what they feel it's important. So you cannot just tell them, "Hey, I want you to do this." Or, "Can you work with that?" And, "Who am I to tell them this?" And I discovered that a few months on the job.

So our grants, as I mentioned— we have grants every year that we deliver. And again, the mandate of this grant is, at least you should have two different departments, multidisciplinary. And we focus on that. So, submit your application. They will submit, but then it's not multidisciplinary. So we tried.

Stanislaus: You can say "failed."

Qagish-Clavering: No, no. I'm going to say we did not achieve what we set out to achieve, or what we hoped to achieve at the end of the process. And this is why we started to think differently. So now, we started more thinking about, maybe if we create some kind of courses. Some kind of other initiatives to force and foster working together, rather than just telling the professor, "You shall do this."

So in August, we launched that Climate Finance Accelerator. It's in partnership between our organization and Rotman School of Business at the University of Toronto. And the idea of this Climate Finance Accelerator is that it started as a course. It's a graduate-level course where the professor is mandating, because she's leading it, for it to be multidisciplinary. So she's saying, "I'm going to deliver, the course is delivering information, and then there will be groups working on solving problems." So within these groups, she has to have multidisciplinary students. She's getting students from public policy, getting students from finance, from economics, and from engineering and science. And she is putting a group of five to six students on specific projects.

And the idea of this is not only just a course, but it's really experiential learning. So we are contacting these companies that we have relationships with, and asking them, "Can you bring a problem forward? It's for free. We're going to solve it for free. You'll have great at the grad level, students, who can work supervised by their professor, and we're going to help you look at the problem from doing policy scans and understanding government incentives and government regulations in the space. We're going to support you in finding creative financing options around it. And also, telling you if it's a solid technology at the end of the day or not. So really capturing the whole spectrum of innovation to find a solution to this company's problem." And the hope is that once this course is over and the report is delivered to the company, that will incentivize the company to say, "I love it. I want to implement it. I'm going to pay you money. Can you help me implement it?"

So this is really the hope. And hopefully in the future we can get more serious about getting companies to really fund this type of work from the get-go. Because you need to establish first your position there and show successes at the very beginning.

Colijn: So, not only do we, as an Energy Policy Center— or I should say we're not only housed in a university that doesn't have a policy school, we also don't have an energy department. So Penn has really, since the 1980s, been very focused on disciplinary strengths and disciplinary departments. We went through a long period of time where we shut down a lot of what would have been considered interdisciplinary departments.

So our real challenge is getting the disciplines to answer the kinds of questions that we think as an energy policy center are really important. And you cannot force a faculty member to work on anything that they don't want to work on. But you can cajole them, and you can offer them—and I think we're going to talk about communications later. You can offer benefits, and you can offer, if you have it, money, and things like that. Time. To faculty, that can allow them to do and to answer the kinds of questions that we want to ask.

So there are two ways that we've done this. One of the ways— we have a faculty grants program that Angela here designs every year. And it's centered around five— or actually more than that, this year we have almost ten— big questions that we're seeing in the public domain that require different disciplines to apply their disciplinary methodology to a question of energy policy. And we typically and traditionally design those questions so that it's a big question, but you can answer it if you come from the finance department. Or you can answer it if you come from organizational dynamics, or from city planning. Right? There are lots of ways in. So it's kind of this intentional design. And the outputs that we get from that go into the public domain. They're the products that we use to try to influence the policy debate from our side. So that's, I think, one thing that we do.

The other thing is super hokey, but we provide the opportunity to get people into the same room together who wouldn't otherwise talk. So for example, a couple months ago we ran a workshop in regenerative agriculture. And we brought 20 people into the room, all from Penn, all working there. The soil scientists in the room with the engineers who are working on drones, in the room with the veterinary medicine folks. And we had a fabulous day together. And at the end of the day— these are people, these are faculty who have been at Penn in some cases for decades, who

are saying, “I didn’t know he was here.” And we’re all on the same campus, right? So I think just the function of saying, “We are going to pick a couple topics that we’re going to bring people together so that they can talk and have the freedom to do that across disciplines”—it starts things.

Tkacik: I love that. I often joke that energy institutes and environmental institutes such as the ones represented up here are really just running a dating services for faculty and other researchers. And, you know, between entrepreneurs and investors, et cetera, we have to be the matchmakers. We have to provide the opportunities for people to meet in the ways that you’re describing. But you also mentioned communications.

So one of the final things I wanted to touch on up here is the role of institutes and centers at these universities in providing communications. Because as we’re discussing, we are representing faculty and researchers across the university that speak so many different languages, let alone the language that policymakers speak. So there’s a really important role or a really important opportunity for these centers to act as kind of the central conveners of these important findings, and then translating those findings to policy-relevant language. Or if it’s not policymakers we’re trying to reach, maybe it’s the private sector, and someone working in X, Y, or Z business, that we’re trying to make sure that the work that’s going on at these universities is relevant to those folks who need that expertise. So I’m wondering if each of you could just very briefly touch on, if any communications efforts at your centers— if not, you don’t have those in place, the role that you see for those in the future. We can start with you, Cory, because I know— well, you’re holding the microphone. But also, you have an answer. Yeah.

Colijn: When I was first hired and we were putting together this staff at the Kleinman Center, and we were looking at the organizational structure, I remember saying, “We don’t need a communications person. Let’s hire that person later.” And I was really wrong. And we hired that person pretty quickly. Just shows my own naivete setting this up. But we have a lot of different research outputs that come out of the center, or research products that come out of the center. So we have opinion pieces, but we also have our policy digests and reports and a very active podcast, and reports from events and things like that.

So we have overinvested in a communications capacity. And we’ve done this because we’re a policy center, right, and we’re trying to influence the policy debates, mostly at the national level. But it’s not just good enough to put it out there. And I think that as centers, sometimes we think that if we’re putting things out there in the public domain, they’re going to get consumed. And there’s just so much— well, there’s a lot of bad information out there. But there’s also so much good information that’s out there right now, you can’t stop there.

So we, in the last couple years, have again really invested a lot of time in building networks that are going to receive what we put out there. And that means, in some cases, buying really expensive tools that help us do that. And in other cases, having personal communication with people on topics that we work on a lot.

But that’s not even good enough either, right? Because as a center, I think one of the liabilities at universities— we create things all the time. We create new centers and new structures and

everything like that, and they never go away. So once you're established, you're there forever. And I don't think that that's good. So we really want to make sure that we are continuing to measure our own success as an institution.

So one of the ways that we do that is, we put things out there. We get it into the hands of people who we hope are going to use it, and then we measure that. So we've spent a lot of time over the last couple years figuring out, how do you measure policy influence through these kinds of products that we're putting out there? And we do that in a bunch of different ways. We look at who's reading it. We look at the responses. We look at whether it's getting cited on the Hill. We look about whether our faculty are getting asked to testify. We look at the meetings and the requests that we get that come out of the dissemination of this information. And we track that really carefully.

It's incredibly time consuming, right? But we have to, I think, have a duty to continue to measure and prove why we are relevant and why the university should keep us around. But it's also motivating to faculty who work with us. Because we're able to show them, "Hey, look. You published this, a couple thousand people read it, 15 people contacted us to set up briefings for you. Three people ended up getting briefed, and then you ended up cited on a piece of testimony on the Hill. Pretty cool, huh? That your research can be used this way."

Qagish-Clavering: So for us, what we did was really communicate our research in a manner that the normal person will understand. So that when you go to our web site, it's not very scientific. What we did over the past two years, we funded 80 different projects. And what we did this year is just to post all these funded projects on our web site. So we divided them per different area, whether it is a policy, whether it is social justice, it is carbon capture, hydrogen. So, per different areas. And then for each area, we didn't include the whole project proposal or anything. What we did was, we just summarized it in a very approachable way, very understandable way, that kind of— it doesn't have any scientific words in it, so that if you want to read about hydrogen recycling and why it is important, you can just read this paragraph. And then if you are really more interested, reach out to us and we will connect you with the professor.

So I know it was successful, because the President of the university himself was able to quote some of the projects that we did in— I think it's called *The Health Times* in Canada, where he was having an op-ed about the important of energy institutes at the different universities, and his office didn't reach out to us. Usually his office, when he has a briefing or he needs a quote, they will reach out to us and make sure that the information's correct. But this time, they did not, and we didn't even know about it until government relations said, "Oh, by the way, here's a copy. You got cited there." And then when we looked at it, we were like, "Oh my God, that's so accurate. And they are referring to a few of our projects." And then we were like, "Oh my God. It's the web site." Like, we just updated it just a couple of months ago. And then the President team was there quoting some stories from our web site. I was like, "Oh, wow." So, money well spent.

So this is one area. The other area is, again, when you deal with science and sometimes policy, it's really hard to understand, especially from a multidisciplinary perspective. So if I'm a scientist and listening to a policy person speak or vice versa. Every year, we run what we call

CPE Research Day, Climate Positive Energy Research Day, where our students who received funding from us will come and do elevator pitch, five minutes. And we give them the template of the slides, and we tell them, “You need to be sure that a random person here understands your research. What are the key messages you want to tell this person? They are not interested in seeing your graphs and charts and how many millimoles and stuff you did. They are really interested in having an overview about it. And guess what? We are having industry panelists, finance panelists, people that have no clue about your work. And these are going to judge you. In five minutes, what can you deliver?”

The students’ feedback for us actually was amazing. They were like, “You taught us how to deliver something that is very scientific, very tough, very hard, in a very nonscientific, smooth, easy way to communicate with the audience.” So this is another thing where really, I think part of communications is, make the material accessible to people. And this is what we were trying to do.

The last piece I’m going to talk about really quick is government relations piece, which influences policy a lot. So we always keep government relations in the know of what we do. We always summarize for them a few important projects that, “Oh, when you speak to the Ministry of Environment, we would like to focus on these. When we speak to Training and Development, we need to focus on that. Economic Development, this project, and this is how we’re going to position it.” So we really work with different stakeholders across the campus.

Stanislaus: So you should have given your advice to half the presentations at the COP.
[LAUGHTER] I thought I’d been funnier than that. No? [LAUGHTER]

So we don’t really have— we don’t have— a comprehensive communications strategy. It’s something that’s an ambition, both internally and externally. I have worked with the Comms office and pushed out a number of op-eds. In fact, one a few days ago. But we’ve built in communication as part of our project work. So in the back end, we envision supporting a communication campaign in support of our external partner. That’s kind of embedded in the ultimate strategy of having recommendations, particularly in the policy realm, being implemented.

But I also want to underscore where I see, beyond communication, if the goal is to influence adoption of the research-slash-recommendations, I think a huge role of universities is to be a convener. I think universities can be a neutral convener in a world where there is such a paucity of those that can bring people to the table, even people that disagree with each other. Bring them to the table around difficult issues. So that’s something that I see as crucial to our work. But I think crucial for universities. Do we have enough time, do we have any more time?

Tkacik: Yeah.

Stanislaus: So can I then ask a question for all of you all, then? What can these four and other centers do collectively? Again, I think that when I look at this COP, when I look at federal policy, state policy, there’s only so much that each of our centers can do alone. Right? So I just throw out this question, what are the potential ways that we can bring our collective forces

together to be at the table in the same way that private sector trade associations and advocacy groups have right now?

Tkacik: I mean, I'll give a not exciting answer. But, having more conversations like this. I mean, so I was telling Shatha yesterday that in the United States— unfortunately, just the United States right now, eventually we'll open up internationally— we run what's called the University Energy Institute Collaborative. And that is a collection of over 150 different energy institutes in the United States, to get together a couple of times a year and share these kinds of things with each other, to learn from each other so we're not all just siloed, trying to solve problems, trying to reinvent the wheel that perhaps— maybe Drexel has already invented that wheel and we can adopt that wheel. Or UPenn has figured out how to do X, Y, Z, that Carnegie Mellon has not. So I think just having more dialogue like this, and talking more and exchanging ideas and sharing best practices is a first step towards working together.

Qagish-Clavering: Yeah, I agree. This is very important, sharing best practices. Because some of us are new, some of us are older. So maybe we learn from other people, and we don't do— I mean, older institutions. Sorry. [LAUGHTER] So, maybe it's important, right? For example, my university, we have the idea that we have to be sustainable. But we are trying to figure out how, and we didn't figure the answer yet. And then speaking with Cory, and speaking even with universities in Canada, we realized that that might be impossible, just depending on grants and funding by industry. Because I don't want to talk about the whole overhead structure and all the bureaucratic issues at universities, but these conversations are important because if I go back to my university and tell them, "This is the model at Pennsylvania, this is the model at Drexel, this is what they do," we might stitch some ideas together and develop something that will work for the University of Toronto.

The other thing I was thinking is maybe as you suggested, an association. Maybe an association of— and you have it in the US, you said, already, for the energy institute across different universities, so that we don't see ourselves as competing with each other, but actually as a powerful force to inform government decisions. There are granting opportunities that could happen across the border between Canada and the US, and one of them was the recent one by NSF and NSERC in Canada, where it's the centers of excellence. So you need to have a researcher from Canada, a researcher from the US, and someone from either Australia or the UK, and then you can build a center of excellence. And then each funding organization will give you money for that. And that, I think, we will be able to influence it and show some areas that are really important, that we need some money for. And we can all work together towards.

Colijn: Just really quickly, I'll say that I think that centers— if you think of centers as the intermediaries between the faculty that are working at the universities and the work that they're doing out in the world, I could see a real benefit for having some kind of network that allows— you know, we have a faculty member who wants to go and work in Cincinnati. Has already received the money to do that but doesn't have the trust or the comprehensive understanding of that specific domain. Or it could be anywhere. And that there's a network that you can tap, and they will tap you, vice versa, to collaborate on very regional or geographically specific projects, I think would be really responsible.

Tkacik: Mathy, you asked the question. But do you have your own suggestions or answer here?

Stanislaus: I think we were talking yesterday. One, I think that no university has the same expertise. And if we could figure out— I mean, even in energy transition, that is a huge topic with how many disciplines embedded in that environment? I mean, even— or nature-based solutions, defining that. Resilience. So I think it will be good to— there are a lot of networks of networks, you know? And I'm not going to give you my view on those network of networks. But how do we operationalize the outcomes, the expertise, from a policy-driven way? That's one thing I'd be interested in.

The other is, if we could all agree— maybe it's the US first, and then we could talk about Canada. Right now, billions of dollars are hitting the ground. Left to its own devices, it's either going to be whittled away, or not going to its intended purpose. Is there a possibility that we can come up with some principles or a framework that says based on our research, our capability, however we want to frame it, this is how it could be delivered. And I can't tell you, as a former policymaker, the impact of a bunch of large universities aligning on almost anything, and issuing that— and we could do the same thing, in fact I was talking to the negotiator from Canada just yesterday around emergency preparedness, right, and how could universities, beginning with North America, create a standard set of best practices?

Colijn: Interesting. We'll try. [LAUGHTER]

Tkacik: So Cory, you're the host. Do we have time for questions?

Colijn: I think it's three o'clock, and people should be able to leave if they have somewhere to go. But if anyone wants to stay.

Tkacik: Yeah.

Stanislaus: No one can leave. [LAUGHTER]

Tkacik: And if there are no questions, we have the built-in crickets in the ceiling.

Audience Question 1: A quick question for you. What are the timelines of academic research and policymakers decisions?

Tkacik: Sorry, so the whole room can hear it.

Audience Question 1: This is about how do you deal with the challenge of timelines, of academic research, which is long-term, and policy decisions that are short-term? And to be impactful, sometimes it's not possible to wait for a full research project that may take many years. Like, now we have many researchers that complain because— I mean, we give grants. We want that research to be ready, perhaps, in a timeline of a year. And we have had pushback. So I want to hear how you deal with that.

Stanislaus: So, I'll give you an answer that probably no one's going to agree with. Legislation is not built on perfect data and perfect analysis, right? And so much policy is based on such a paucity of information. And so in terms of impacting a policymaker, based on your existing research, a meta-level polling of existing research to inform policy, that's how policy is made. Not, wait until the complete— so this dichotomy. A kind of research model of getting it completely done before we pronounce on anything, versus the world as it is. The world as it is has to make decisions around policy and legislation right now, right?

So I think there are various ways of doing that. And some is a meta-level poll, already peer-reviewed published research. That's easy. Really requires that you synthesize it in a way that may make people uncomfortable, right? Researchers want a comprehensive answer. Policymakers want three bullets to advance policies.

The other is, is a researcher comfortable, when they're 30 percent of the way done, there are some preliminary results. I know, I know, that's a stress test, right? Because policies to impact the world are happening right now. And there's this misfit between the timeline. That's an issue. I don't know whether we can solve it, but that is a real issue. And the result is bad policy. I can point to you so many bad policies. None of them I did, by the way. [LAUGHTER]

Qagish-Clavering: Yeah. My only two cents on that is research versus consulting. That's it. I cannot convince the researcher to do it. Some of them would be like, "I can do it as a consultant, but I cannot hire a student to do it as a researcher." They could do that. And at the U of T, they are allowed. They are allowed to have their own business and do consulting outside, obviously, of the U of T business framework, especially in policy and business and economics. They do lots of consulting there. So yeah. If you want something like that, that they don't want to wait, we can do consulting quick. But again, like my role as an energy institute is not to bring consulting work. It's really to bring research.

Tkacik: I don't think I have an answer. I mean, I agree with everything that's been said thus far. Not every university has this advantage, but some do have the advantage of having connections in DC and knowing a few months down the pike of what's coming up gives them a little head start in terms of that timeline. But again, not everyone has that privilege. So, yeah. Any other questions?

Audience question 1: Do you have an office in DC?

Tkacik: We do have an office in DC. Any other questions?

Audience question 2: Thank you. Hi, thank you so much. My name is Asma [?], from Tunisia. And my question is what kind of collaboration do you have with universities in the Global South? Especially because in our countries, unfortunately, the approach of different universities is to focus on one specific discipline, and not have this multidisciplinary approach. I personally had a summer program in the US with the California State University at Chico, and I got the chance to see how interdisciplinary academia could be. And we really hope to see this in our home countries. So my question is, how do you collaborate, or maybe in the future do you plan

to collaborate with universities in the Global South and bring the best practices that you have in US and Canada to those countries? Thank you.

Tkacik: I'll just be very brief. But if you'd love to learn more about what I'm about to say, the person holding the microphone could talk a lot more about our collaboration. She gets rid of the microphone. Carnegie Mellon has a campus in Rwanda. And so we have a campus there and a close collaboration with the government there, and trying to understand the needs of Africa, and trying to make sure that what we are developing here in Pittsburgh, and the bright minds, we're collaborating with the Global South and trying to understand the societal needs and contributing there. But Paulina Jaramillo here in the audience, she has close collaborations with them. So if you want to learn more about that specific collaboration, I'm going to volun-tell her to talk to you about that.

Stanislaus: So after I go, I'll invite Scott, if you want, Scott Cooper, who's from the Academy of Natural Science. He has some engagement with the Global South. I mean, it is definitely something we're working on. We're building out a partnership with the University of Botswana around an alternative framework to bring a Global South-led authentication program around natural carbon sequestration. Still at proof-of-concept level.

I brought in, based on my former role, through the world bank system— still early stage, but collaborating with South Africa in terms of energy access, you know. But I think there's a real interest, personal but also in terms of having the impact we all want to have, is creating a North-South— an authentic North-South exchange. In some ways, it's bringing the best practice from the South to the North, right? And there's a real bias that it could only flow one way, right? So, really kind of— I think the holy grail from the UN system, the COPs, was about this technology and information exchange. Which is— I don't think anyone can say that's successful, right? And so if we're really going to scale solutions, I think your question is right on. I think it's really important that we do it, and we need to figure that out.

Colijn: I'm good. Do you have some thoughts? I mean, I can just say that Penn does not have any satellite campuses anywhere, and we're an incredibly decentralized university, which means that across our 12 schools there's a lot of presence in the Global South, but it is not organized in the way that some other universities might be. But I would actually encourage you to talk to Thabo here, who's sitting here in the green shirt, because she's done a lot of interesting work in the Global South, but especially through the practice of studio, which is a really interesting pedagogy that's part of the school that I'm in, the School of Design, that really does authentic work across the world, but including the Global South.

Tkacik: Unless there are any other last questions, please join me in thanking our distinguished panelists, and thank you for joining us today.

END OF TRANSCRIPT