



## Transcript of CleanLaw: Hana Vizcarra Interviews Erik Landry about Corporate Climate Scenarios and Strategic Resilience, December 9, 2019

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Robin Just: Welcome to this episode of CleanLaw from the Environmental and Energy Law Program at Harvard Law School. In this episode, our staff attorney Hana Vizcarra speaks with Erik Landry, a researcher at MIT about energy companies use of scenarios in climate related financial disclosure and discuss his new paper which we've linked to on our website. We hope you enjoy this podcast.

Hana: So Erik, welcome to CleanLaw and thank you for coming all the way over to the other side of Cambridge to speak with us. You and I have been meeting to chat about energy company climate disclosures off and on for almost a year now and I'm glad to finally be able to get you into our offices to talk a little bit about what you guys are doing over at MIT and what we've learned in this time frame.

Erik: Yeah, it's a pleasure to be here. Thank you for having me. And excited to see what we can talk about today.

Hana: So last November, our program here at Harvard hosted a round table with energy companies, investors, academics, some orgs around the issue of corporate disclosure of climate related risks and opportunities. And you all did something similar. Why don't you tell our listeners a little bit about what you did? I think you and I might've been two of just a few people who were in both of those rooms.

Erik: That's correct. I guess I'll back up and start from the beginning where basically this whole kind of effort, at least on MIT side, started from the MIT Plan for Action on Climate Change. With this, one of the kind of key elements of that plan was to engage with industry to help find solutions to the whole problem of climate change. So with that and the release of kind of the task force on climate related financial disclosures, final report in 2017, MIT started thinking, "Well, how can we contribute to this field?" And at MIT we may not know as much about kind of financial disclosures. What we do know a lot about are climate scenarios, something that we've been developing and building for... Well, not me personally, but the institution has been quite involved in for decades and decades. So this is an area that we thought we could provide some guidance to the different stakeholders in this field and help move the field of climate related disclosures forward.



Hana: So let's take a second and just sort of explain a little bit of the background here. So the task force on climate related financial disclosures was set up by the FSB and it's essentially a voluntary process to bring people together to discuss what types of disclosures companies and others and also financial entities should be making in the realm of climate. They were started in 2015 but as you mentioned, their recommendations came out in 2017. This was a conversation that was already happening. It was a conversation already happening amongst NGOs and investors who are actively engaging companies on improving their disclosures on climate and consideration of climate.

Hana: Companies were sort of grappling with how to do this. Investors were demanding more and more and these recommendations at least I felt, I don't know if this was your impression as well, kind of helped focus that discussion a bit and at least bring everybody on the same page and talk about the same lingo and these sort of major buckets of areas. And one of those was what you mentioned, scenario analysis. So you want to talk a little bit about sort of what TCFD said about scenario analysis and why this needed so much more work.

Erik: Right. So the TCFD was really trying to promote a common understanding across how companies can disclose in a very material fashion in their financial disclosures, climate related risks to company businesses so that investors could have that kind of information when they're making their allocation decisions. So the TCFD set out a number of guidelines and recommendations, one of which in their strategy section had to do with scenario analysis as you said. So the actual recommendation itself is to describe the resilience of the organization's strategy, taking into consideration different climate related scenarios, including a two degree scenario.

Erik: Basically, companies took a look at this recommendation and were like... Well, a lot of them didn't necessarily know what climate related scenarios were. So they've been having a jolly good time trying to figure out what that means and how to implement it in a way that would be useful for investors.

Hana: Useful for investors and, something that we've been talking quite a bit about over the last year, not misleading, right? Which is this idea of sort of what is material? What could potentially be misleading either through what they say or through what they don't say. And so you, in your effort at MIT, one of the... You kind of kicked this off with a round table, right?

Erik: Right.

Hana: And then used that to build into this paper that you all are releasing right now. So tell us a little bit about that process and what you've been working on over the last year.



Erik: Yeah, so the MIT Plan for Action on Climate Change is run out of our Office of the Vice President for Research. And they went ahead and put together a working group with an MIT. So we call it the MIT working group on climate related scenarios. This working group consists of myself and other experts across the Office of the Vice President for Research, the Sloan School of Management, MIT Energy Initiative and the Joint Program on the Science and Policy of Global Change. And so I've really been able to draw upon the expertise of these different actors in those different departments.

Erik: So what we did to kind of kick off our efforts in this area was to convene a workshop, again almost the same time as your worst shop last year in November. And basically we brought together different types of investors, credit rating agencies, sovereign wealth funds together with oil and gas companies, and then also the people who actually produced these climate scenarios. So people from the International Energy Agency or PNNL, which is National Laboratory. The people who actually use the modeling techniques in order to project out these scenarios for the future.

Erik: One thing that we can say right off the bat is when we say scenarios, we're not talking about predictions per se. These scenarios are actually just hypothetical futures, which are used to kind of explore the realm of possibility and different plausible ways that future developments can unfold. In exploring these different scenarios, you can kind of strategize and say, "What would I do under this scenario? What would I do under that scenario?" And hopefully make your business more resilient as a result.

Hana: So one of the things you might've learned in that room was that the investor side has a lot of desire for more information, but their understanding of what exists and what it is meant for may not match with what the modelers think they're doing when they're creating these scenarios. Right?

Erik: Exactly. A lot of these climate models and the resulting climate related scenarios were not designed for kind of corporate risk analysis. A lot of them primarily were designed to study different policies. And if you put in a carbon price or if you put in a renewable energy standard, if you put in a CAFE standard or efficiency standard, what would it do to the global marketplace? And so these scenarios often run out to the end of the century so that you're able to link them to some sort of climate or temperature goal. But what that means is, they're not necessarily tailored to the near term kind of financial risks that companies are really interested in. So part of our effort was trying to translate I guess some of these longer term dynamics into what that means for the near term companies.



- Hana: Yeah. And I think you know your paper does a pretty good job. It serves also I think an educational purpose for the different groups involved in these discussions because one of the first sections is discussing the difference between scenarios, climate economy models and scenario analysis. Can you explain that? You've talked a little bit about that, but these are really three distinct buckets, all of which are talked about together in this area.
- Erik: So scenarios kind of sit in between, are kind of the middle step in between the climate economy models, then the scenarios and then scenario analysis that offshoot from that. A lot of the discussion in this area so far has been on the scenario analysis and the scenarios themselves without so much discussion of the climate economy models that actually produce the scenarios. So what we do in our papers, we break down these three different steps and show basically and educate the different stakeholders on what the key aspects of each of these steps are. So there are many different types of climate economy models, whether they're integrated assessment models or they're energy system models that are kind of attached to an emissions trajectory pathway that was created by a separate climate model.
- Erik: So there are a lot of dynamics in there that would be helpful for investors to understand, "Well, when we take such and such scenario from such and such a scenario producer and they're using this type of model, what does that actually mean for the construction of the model and the resulting implications of that scenario that we're using?" They don't have to become modeling experts, but they should at least be aware about some of the longterm assumptions that are made in modeling some of these scenarios.
- Hana: So how the scenarios and analysis of those scenarios are used that investors want to see in disclosures really depends on who the investors are. And much of the time the diversity of investors sometimes can get lost in this discussion where there's essentially a setup as shareholders want to see more, energy companies are struggling to figure out how to produce more and what to produce, but it's really not that simple is it? And I think you do a pretty good job in this paper of talking about that diversity and what that means for the information that could be produced.
- Erik: So a lot of times in this area, the entire financial community is lumped together and just called investors. But as you pointed out, there's a lot of diversity in the financial community, whether they're insurers, re-insurers, banks, sovereign wealth funds, pensions, and they all have different interests. They all have different timeframes. They all have different mandates. They're all subject to different regulatory regimes. And so understanding what each financial actor really needs to get out of scenarios can help the scenario producers and then



also the companies that are reporting tailor their analysis to really give the different types of financial actors what they want.

Hana: So we've been talking a little bit about that diversity in the financial community, what about the diversity and the information they're looking at? You tell us a little bit about the different types of information that they're hoping to see and glean from these disclosures.

Erik: As you mentioned, the different analysis processes of the different financial actors really plays into what information they want to see. So for instance, one financial actor might care more about the vulnerability of such and such company with relation to their exposure or sensitivity to different climate change related risk drivers. And the elements related to vulnerability are generally more backward looking in relation to where the company's assets currently stand and how they're situated with regard to climate related risk. On the other hand, some actors in the financial community would rather have more description and information related to the forward looking aspects of a company's plans, an idea of preparedness, which includes elements of strategic planning and adaptive capacity.

Erik: So it really depends on what the financial actor really wants to see and their preferences for whether they want kind of quantitative hard numbers on a lot of where these assets are exposed or whether they want a little more qualitative understanding of how the company thinks about these strategic risk processes.

Hana: And that forward looking discussion. It's really thinking through how company considers new information over time, right? And how they are looking at incoming information related to climate and incorporate it into their potential to change tactically and strategically how they approach their planning. Another topic we briefly discussed in preparation for this was strategy resilience. Is that where that comes into play? Can you talk a little bit about what that is and how that fits into this scenario analysis, disclosure discussion?

Erik: So the TCFD talked about this resilience of an organization strategy and so they call this strategy resilience and they don't actually define what that specifically means for companies. They actually just say there are many different definitions. You can use this in any number of different ways, but it should include kind of these basic elements. So what we try and do is create a framework for how to look at strategy resilience and what kind of elements, again, backward looking in terms of vulnerability and forward looking in terms of preparedness that companies can use to try and not check the boxes but at least have a complete kind of overview of when they talk about strategic resilience, what that means for what investors want.



- Hana: So it's making sure that they are covering all their bases, essentially.
- Erik: Exactly.
- Hana: They're not leaving out a big chunk of important considerations that should be worked into their process. Whether it's their risk analysis, whether it's their strategic planning, when it comes to being prepared and resilient in response to climate issues.
- Erik: Exactly.
- Hana: So the other thing, I think this paper, one of the biggest values of it, besides it's education, the educational aspect and helping to educate investors and stakeholders and even some companies both on how modeling works to some extent, how scenarios are produced, what scenario analysis is versus those two things. But then on the flip side, sort of what is of use to investors and help have that as we were discussing the diversity of interests there, help have that guide companies and how they approach disclosure and scenario production for the purpose of disclosure. But then you also actually present some recommendations and I think there's six or so. We don't necessarily have to go through all of them, but if you want to quickly sort of highlight what they are, what they cover or a couple of particularly important ones. Tell us a bit about that and then we can give everybody the link to the paper to get more info.
- Erik: Sure. We have six recommendations, two per group that we focus on. So the three groups that we try and give guidance to are the oil and gas companies themselves, the financial community and the producers of these scenarios. So for example, for our recommendations for the oil and gas company, one of the recommendations is... Oil and gas companies oftentimes have their own kind of modeling paradigms and resulting scenarios from these that they like to use in their reports. But if they're using a customized scenario, it's oftentimes very hard to figure out all the assumptions that are kind of hidden within those scenarios and what that means for the investment community.
- Erik: So one of our recommendations is if they're going to use a custom scenario in their disclosures to make sure to go ahead and link specific risk drivers to what we call reference scenarios. So these reference scenarios are widely used, publicly available, kind of well understood scenarios where investors already know the main assumptions in terms of energy growth or adoption of electric vehicles or these other big policy movements. So when oil and gas companies connect their custom scenarios to these reference scenarios, it gives investors a little bit more in terms of compatibility so that they can understand how the specific oil and gas company scenario falls in relation to other scenarios that they're familiar with.



Hana: So this is essentially about transparency. It's about explaining what assumptions they're making in this process and sort of how their particular unique, customized process differs from those that others are more familiar with that they can evaluate that decision making as well as the outcome of it.

Erik: That's right. A lot of the oil and gas companies are hesitant to only use reference scenarios to basically describe their strategic resilience. Because they'll say, well, "As we discussed before, this global scenario wasn't designed for this purpose, so we needed to make another scenario that was more relevant to our sector." But again, when they create their own specific scenario, investors have to work a little harder to understand what goes into that. So if you connect these two exactly, it adds the transparency and then when you know at least kind of the major risk drivers that underlie the scenario allows the investors to have a little more intuition in terms of how that lines up to other companies scenarios.

Hana: So the discussion around disclosures and improving of disclosures related to climate issues has really progressed the fastest with regards to energy companies. And both your event and last November and ours actually focused primarily on the oil and gas sector and the financial industry's interest in disclosures from them. Talk a little bit about why you all chose to then continue that focus and in your paper from the corporate perspective, you're looking specifically at oil and gas.

Erik: Climate related risks can be broadly divided up into two major categories. One is physical risks, which are the risk implications to infrastructural assets and company operations from things like severe weather events, floods, droughts, heat waves, storms and the like. And the other main category of risk are what we call transition risks. These are the risks that companies face with regards to changing technological environments, changing policy environments and different market ramifications with regard to different policy and technological evolutions. So oil and gas companies are arguably the most vulnerable or one of the most vulnerable sectors to transition risks, especially in so far as the world kind of targets transition to a low carbon economy and what that means for the demand for their product and then also for their operations. The first reason being they're kind of most vulnerable to this.

Erik: The second reason that we focus on the oil and gas industry, would be because well, they use scenario analysis within their internal risk management processes and they are at the forefront of basically how to use scenarios in disclosures. So they're already kind of familiar with the technique itself. And so now we're really just focusing on how we can translate their internal risk processes into a way that is useful to investors.



- Hana: Scenario analysis has long been part of, at least in some of the larger companies in the majors, part of what they do for their own internal planning processes. And it's interesting to see how well that translates when you start having the conversation about disclosure or where there are major gaps there that these internal processes were designed for a different purpose and so when you're trying to move companies over into disclosure, they need a little extra guidance, which I think is what you all are trying to do. But really the paper has a broader applicability. It's not just about oil and gas companies, it is about the use of scenarios and disclosure across the board.
- Erik: Right. Basically any company could pick up this report and probably they learn something about how these climate scenarios are constructed and what it might mean for how they look at the strategic resilience of their own businesses. Although all of the examples that we use are from the oil and gas industry, a lot of the concepts and principles that we describe in the paper are much more applicable to other industries as well.
- Hana: And of course for the financial community, it's certainly not only tailored to the community that it is interested in or has assets in the oil and gas industry. The recommendations and the education you provide through this paper. It's broadly applicable to the financial community as well as I think your recommendations for scenario producers.
- Erik: Yeah.
- Hana: So in addition to your recommendations to oil and gas companies that you described, you put forth some recommendations for scenario producers as well, and this is sort of a sweet spot for MIT because you guys certainly know a lot of producers and have many of them working with you directly. What are your recommendations in this space for producers?
- Erik: Well, one of the recommendations that we have for scenario producers are to develop suites of distinct policy pathways. So there's a distinction that we kind of draw out in our paper, the difference between scenario pathways and scenario outcomes. Even in the TCFDs recommendation, they mentioned this two degree scenario. And one of the things that we want to point out is that there's no such thing as a single two degrees scenario, there's in fact almost infinite ways to get to a two degree outcome. Whether you cut emissions right up front or if you waited a little longer and continue on business as usual and then have a steeper reduction in emissions later on. There's many ways in order to have the temperature stabilize at two degrees celsius by the end of the century.





- Erik: Again, that's not easy and that's not saying that any road would get you there, but certainly there are many roads there and if a company was only to describe their resilience to one of these pathways, they could be left vulnerable or exposed to any number of the other pathways that get there. So for scenario producers to develop a distinct set of policy pathways with regard to many pathways that could lead to even the same outcome.
- Hana: Essentially, you're talking about giving them a broader range of tools. Right? So that they have a broader range of tools to assess their vulnerability and their resilience to, as you mentioned, the many different roads that they could go down that we could go down as a society to get to that two degrees. Is that right?
- Erik: Yeah, I would say that's correct.
- Hana: So you have oil and gas companies, you have the scenario producers, and what do you tell the financial community?
- Erik: So one of our recommendations to the financial community would be to just continue to make the case for more useful and informative scenario analysis and disclosure. They've been calling for more transparency and more compatibility. And even if there's not a specific path forward or even a very defined understanding of what that is, still the pressure on oil and gas companies and other companies, whether it's manufacturing or utilities or anything, the pressure that these companies are feeling from the financial community in order to create these scenarios is having them think more deeply about how they can use the scenarios and then also how these scenarios can actually affect their kind of strategic planning. So really just to keep the pressure on.
- Hana: And that's really the goal, right? To improve their decision making over time. This isn't just disclosure of scenarios for disclosure's sake, the idea is to have this process and this ongoing discussion with the financial community, improve how companies incorporate these considerations into their decision making, improve how the financial community is using information to make its investment decisions. And I think one of the things that your paper does a good job of is serve as sort of an educational tool for all of these stakeholders. All of the people engaged in this communication. Do you have any sort of final goals of where you're hoping this goes as far as what this paper can do for that discussion?
- Erik: This certainly isn't the end-all be-all, if companies institute these recommendations, then the whole disclosure field around scenario analysis will be solved. Certainly not that, but we do believe that will give a sort of a



common vocabulary and a common understanding of kind of the most important issues within the models, within the scenarios, within scenario analysis, that can serve as the basis and the foundation for continued conversations between scenario producers, the oil and gas companies and the investors that eventually use these disclosures. So it serves as a common set of principles and understanding around these issues that then they can use to drive the whole field forward together.

Hana: Well, thank you Erik. I think this is an incredible resource that you've created here. So much of this discussion has been at the broader level and being able to really sort of focus in on the scenario piece itself. Is something that most of those involved aren't really as well suited to do as you all are at MIT. So it's a nice thing that you've been able to do it for us. I know for me personally, it's now giving me the basis to be able to look at... I think I've been talking to you almost an entire year about wanting to do something around the legal issues involved with trying to move forward with a more expansive disclosure of scenarios, but I didn't have the right lingo or full understanding of how this really breaks down to be able to identify and work from those issues. And this definitely helps get me there. So I just want to thank you all for what you're doing and for coming and talking to us and look forward to seeing what comes of this.

Erik: Thank you so much.

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