Intro:

Welcome to CleanLaw from the Environmental and Energy Law Program at Harvard Law School. In this episode, EELP's Founding Director and Harvard Law Professor, Jody Freeman, speaks with Harvard Law Professor, Richard Lazarus and Solomon Hsiang, Professor of Global Environmental Policy at the Stanford Doerr School of Sustainability. They speak about EPA's recent proposal to repeal the agency's 2009 Endangerment Finding, and dig into the legal and scientific arguments offered by EPA. They discuss whether the Supreme Court decision in *Massachusetts v. EPA* already answers some of these legal questions. And the state of the science on climate change, what we knew in 2009 when EPA first made its Endangerment Finding and how our understanding has continued to improve. We hope you enjoy this podcast.

Jody Freeman:

Welcome to CleanLaw. I'm Jody Freeman, Professor at Harvard Law School. And I am delighted today to be hosting a special episode on the EPA's new proposal to rescind the 2009 Endangerment Finding for greenhouse gases. We'll talk about the implications of that rescission. And to do that, we have two fantastic guests, our own Richard Lazarus, whom every listener already knows. Richard is a professor here at Harvard Law School with me. He's a leading national expert on environmental law and the Supreme Court. And we're also joined today by Stanford Professor Sol Hsiang. Sol is both a scientist and an economist. He's a Professor of Global Environmental Policy at the Stanford Doerr School of Sustainability. And he's a co-founder and co-director at the Climate Impact Lab at Stanford. It's just a delight to have Sol join us so we can do really a big picture analysis of not just the law, but also the science behind EPA's proposed rescission. Richard, welcome.

Richard Lazarus:

Thank you, Jody. Great to be here. I'm looking forward to the conversation.

Jody Freeman:

And Sol, welcome.

Sol Hsiang:

Thanks for having me.

Jody Freeman:

So, let's get started by talking a little bit of law. Let me give the briefest overview of the proposal. And then Richard, I'm going to turn to you and ask you to fill in some of the detail here so that listeners understand it. The proposal consists, I would say, of two main arguments. The first argument claims that greenhouse gases aren't pollutants, at least for purposes of the provision we're talking about of the Clean Air Act, section 202. And that is the provision that authorizes the EPA to set standards for the transportation sector, for cars and trucks. This is what the Clean Air Act says about how EPA should proceed to make this Endangerment Finding. This is section 202, "EPA shall prescribe standards," so, set standards, "for any air pollutant from any class of new motor vehicles, which in the Administrator's judgment cause or contribute to air pollution reasonably anticipated to endanger health or welfare."

And EPA's main argument is, "We can't regulate greenhouse gases under the law, because greenhouse gases are global pollutants and we don't have authority to regulate them." There's some other components to that main argument, including that emissions from cars and trucks don't contribute to an endangerment of health or welfare, which is required under the Clean Air Act. They don't contribute, because in the view of the EPA, these emissions are too small a share of global emissions. And then another component of this main claim is that in

addition to not being pollutants and in addition to not contributing, there's also a causation problem. Because the pollution from cars and trucks is too remote, it's too attenuated in terms of its connection, to the harms caused by global warming.

And for all these reasons, the main argument says, "We don't have the authority in the Clean Air Act to set these standards." The backup argument is really that the science behind this Endangerment Finding from 2009, is no longer reliable. And that we ought to rescind the finding, because new studies, new observations, new empirical evidence, tells us that the earlier projections about climate change were too pessimistic, too negative, and on net, climate change may in fact be beneficial. Richard?

Richard Lazarus:

So, Jody, this proposal is what we call a big wow. It's what the first Trump administration declined to do. They talked about it. They threatened to try to repeal the Endangerment Finding. They didn't do it. This is a new administration, we know. It's no holds barred. And they've done it. Not coincidentally, a few months ago the administrator of EPA, Lee Zeldin promised to put a dagger through the heart of climate change regulation. Well, they followed now through on that promise with this proposal. The Endangerment Finding is the premise of all EPA Clean Air Act authority to regulate greenhouse gases. If the Endangerment Finding is withdrawn, all the regulation fails. Cars, trucks, power plants, landfills, airplanes, the entire framework falls. Now, EPA, as you pointed out before, has two main arguments. The first is that greenhouse gas emissions do not cause or contribute to air pollution that endangers public health. They say it's not air pollution, because air pollution is limited to threats through local and regional exposures and not global. They say air pollution has to be local and regional, it's not global. Air pollution must endanger public health and welfare through the ambient air and not indirectly based on global contributions of greenhouse gases. The pollutant must itself be harmful, a contaminant, or has to interact with others to cause that harm at a local and regional level. And the problem with greenhouse gases is they produce this harm through air pollution, which basically itself then causes global changes in temperature and precipitation. And they say that's an extra layer of causation. And *Mass. v. EPA* didn't address that issue. And "we think that's the first reason why the Endangerment Finding is flawed."

The second argument they make for why it's flawed here is because while EPA making the Endangerment Finding in December 2009, concluded that greenhouse gases from all worldwide emissions cause endangerment to public health and welfare, they did not find to sufficient particularity according to the new EPA, that greenhouse gases in particular categories of source in the United States were enough to cause or contribute to that. They said "EPA has to make a finding with respect that every single category and the greenhouse gases it puts out and say that's enough to cause or contribute."

Jody Freeman:

So, Richard, you're saying that EPA basically is taking each step and saying these cars and trucks don't clear the threshold. They don't contribute enough. And there's a causation problem. And the air pollution you say they're contributing to, we only have authority to regulate local air pollution.

Richard Lazarus:

That's right. There're two parts. One is this is not air pollution, because it's not local or regional. And the second is, even if it is air pollution, EPA has to make that findings with respect to every little category. And they haven't, or at least haven't sufficiently persuasively concluded it causes or contributes to the endangerment. They say it's too small. Each of these sources worldwide is too small and it's too spread out over time and space, that you can't pinpoint any one thing like new motor vehicles in the United States and say that is enough to cause or contribute to endangerment. That's the gist of their first argument, those two parts.

Jody Freeman:

So, the way I've described this is the EPA is saying we have a methodology for how to determine whether these pollutants contribute to a public health risk, to an endangerment of public health and well-being. And our methodology shrinks the numerator, shrinks the amount of US emissions from what we're regulating, so low to so small that when compared to the global denominator, it just looks like it's infinitesimally small and irrelevant. And it's not worth our while to regulate in any event, because we won't make a dent in the problem of global climate change. And this is where I want to say to Sol, is there an economist or scientific response to that argument, that the shares are just too small to make a difference to the problem?

Sol Hsiang:

Yeah. That's a really interesting question. I'll say that historically for very small types of environmental disturbances, it was incredibly hard to quantify or measure the effect. Now, that's an old problem. We've actually gotten very good at measuring these emissions. We've gotten very good at measuring their harms. And so, we can actually quantify and measure very small incremental harms caused by very small incremental emissions. And so, from a legal standpoint, I obviously can't speak to it. But one example that I think is really useful is there's a recent paper by my colleague, Christoph Semken. He's at University of Toronto now. He was at Stanford recently. And he tried to estimate for every ton of CO2, exactly what the harms were today. And so, his estimate is like one ton of CO2 actually today shortens someone's life on the planet by about six hours. And so, you can draw a direct linkage to emissions and you can even convert that into miles driven.

So, if you are to take a single car, say my car that I drive to work every day, and every mile you drive in a car that gets about 40 miles per gallon is reducing someone's life by about six seconds per mile. And we can quantify all the steps in that linkage and it's very clear. And so, if you could convert that car from a gas car to a electric car, you'd be saving from that incremental harm. So, we can quantify those things. Whether or not it's enough to make a difference, can you solve the problem? It's like saying we shouldn't do anything about carcinogens, because we can't cure all of cancer. To me that seems like nonsensical, but I'm not a lawyer.

Jody Freeman:

I mean, this is the problem, Richard, with looking at global climate change as if there's a sort of *de minimis* share below which we shouldn't regulate. If every country in the world took that approach, nobody would do anything to control their emissions, right, Richard?

Richard Lazarus:

That's right. I mean at one level it's sort of a laughable threshold proposition that greenhouse gases don't endanger public health and welfare. Obviously, they do on a global scale, but it's sort of giving law a bad name. They're trying to take a few words and say, "Well, you've got to make that determination not globally. You've got to make the decision by every individual greenhouse gas. You've got to do it by every different category of source." And you're right, if you break it down enough by source, by country, by greenhouse gas, you can probably try to argue that no one by itself will eliminate the problem. That they're trying to make, obviously, a lawyer's argument. And I'm hoping as we'll talk later, the courts won't buy it. But that's what they're trying to do.

Jody Freeman:

I mean this is so interesting, because pieces of this argument seem to already have been decided in *Massachusetts versus EPA*. So, for example, it was in the standing part of the decision. However, Justice Stevens writing for the majority did explicitly say the harm from climate change is remediable. In other words, the Court

rejected the idea that small shares, incremental improvements are not enough to make a difference. And yet here they're making that argument and they did it in the standing section.

Richard Lazarus:

They rejected it for standing. And so, it is, of course, theoretically possible that the argument of a statute violation is harder than standing today. But here when the language of the statute is "cause or contribute." And that's actually the same question the Court was asking about causal nexus before and redressability. It's hard to square them, but technically it's a different question.

Jody Freeman:

Right. I just wanted underscore that so we can come back to it later. There are pieces of this argument that resonate, that echo *Mass. versus EPA* and feel like they've already been decided. But it seems like they're being presented or teed up for the Court again to say, "Maybe you want to take another look at this." Let's turn to the second argument.

Richard Lazarus:

Yeah. So, the backup argument is the Endangerment Finding is flawed, because EPA and their scientists in 2009 unreasonably relied on the then existing scientific information. They misinterpreted it. And there've been new developments in climate science since then, which cast doubt on their earlier conclusions. So, here's some examples. They say the 2009 predictions of increase in greenhouse gases and their consequences were too pessimistic. They were too pessimistic about the health effects of heat waves. It was too pessimistic on how much sea level rise would occur. It was too pessimistic on how much extreme weather events would increase. They're saying none of the things happened to the extent that EPA said they would. They also say, look, EPA failed to account for how much harm is caused to public health from cold weather. And since greenhouse gases would have warming in many places, they should've taken into account the increases in health by getting rid of so much cold.

Related to that one, and you hinted at this before, they said EPA in finding endangerment, inadequately considered the benefits from increased greenhouse gases. And by here what I mean by benefits is how much the economy grows from energy consumption. And how that itself, a growing economy leads to advances in science. And it leads to better health and welfare. And EPA should've taken that into account. So, that's how EPA, they're saying EPA blew it in 2009. Then the second half of that is they say, and there's new information. And the new information argument is really dependent upon this one very new study done by the Department of Energy.

And that study says we're very critical of the climate scientists who made those decisions before. And the information we now see does not suggest the kind of degrees of threat that they thought. And the scientists who basically wrote this study, which commissioned by DOE, who are historically very critical of the mainstream view of climate scientists. EPA again at the same time terminated the longstanding National Climate Assessment.

Jody Freeman:

So, I want to just underscore the last piece of what you said before turning to Sol now to talk about those claims. Trump disbanded the National Climate Assessment, as Richard mentioned, which is the most authoritative statement of the United States government on the risks of climate change, which since 2000, they filed almost every five years a report that 15 to 18 agencies contribute to and hundreds and hundreds of scientists contribute to. The National Climate Assessment is a project that is very transparently done, involving all these government agencies, many, many scientists, and it's congressionally mandated, and yet Trump has disbanded it. So, the most authoritative document that we have about the domestic impacts of climate change now no

longer is being performed. And instead, EPA seems to be relying quite heavily on a commissioned product of the Department of Energy, as you said, Richard, five handpicked scientists who are known for their outlier views.

Sol Hsiang:

I think that there's a huge amount of confusion emerging from this process, because there's layer upon layer of efforts to dismantle how science builds our knowledge base about what we're doing. And science, there's not a single answer for science, which is I think both its tremendous power, but also its vulnerability. Science comes from lots of individuals coming together, following a certain process. And about how they derive conclusions, making all of that process and the conclusions transparent, sharing them with one another. And then checking each other's work and replicating these things. And only do we think something is true once others can replicate it. Now, what's concerning is that the direction that both the discussion in the EPA's proposed rule and in the energy report, is that the interpretation of that new evidence base is just completely false. There's no accurate depiction of what has actually occurred in the field, particularly on the impacts of climate.

There are snippets of statements that are sort of accurate-ish or true-ish and generally lifted out of context in a way that misrepresents those findings. And then there's lots of statements that are just outright false or wrong or highly misleading. These are ideas that you see running through both reports. So, for example, there's a lot of discussion about CO2 enrichment, which is this idea that you have more CO2 in the atmosphere. That's good for plants and crops. And so, the previous studies didn't fully consider that. Now, it is true that in the past it was not always considered by all analyses on agricultural impacts, in part because it's been hard to study, but there have been a lot of new advances. We now have pretty clear understanding on how much carbon enrichment improves crop yields. And we actually published a study in Nature just two months ago, looking at the global impacts on agriculture due to climate change.

And what happens is we see that in the climate change scenario, US crop production actually is expected to decline maybe 40% among major staple crop yields. That's a really big number. That's actually very similar to what we saw during the dust bowl, in terms of US productivity decline. So, that's a 40% reduction. If you reintroduce CO2 into those models and say how much does enrichment help, it adds back maybe five percentage points. So, we're talking about five percentage points versus 40 percentage points. So, it is true that it's important to account for the CO2 enrichment. It does not in any way change our conclusion about whether or not this is good or bad for US agriculture.

Jody Freeman:

So, Sol, I just want to put a fine point on this, because a lot of people have been reading the DOE draft report and then also EPA's analysis in this proposal, which again relies heavily on it, but not exclusively on it. And they're reading it and saying, well, that point seems right or that point seems right. And what you're explaining here is, well, there might be a small point to the point they're making. In other words, it may at least in a narrow sense be right. Yes, we should look at enrichment, yes, that matters. But then the next inference they're making is wrong. That it doesn't disturb the primary conclusion that climate changes creates a lot of risks, and costs, and harms. I want to just understand what's going on here. Is there sort of an initially correct point, but then the implication is not correct or the conclusion they're making from it is not correct? Is that fair?

Sol Hsiang:

The DOE report is all over the map. It's got chapter after chapter about lots of complaints about the scientific literature that these guys have published about in the past couple decades. In some cases, like in the CO2 case, what they have done is correctly identified something that was not fully appreciated back when the Endangerment Finding was first published, but was understood pretty well and actually addressed well in the Endangerment Finding. And now we understand much better. And the original conclusions of the Endangerment

Finding still stand. And it seems to be this tactic of setting up a straw man. And these guys say there's a problem here. They didn't do something. And it's got this gotchya flavor. And then that translates into saying, well, we're going to dismiss all of the research that we haven't cited here or described or was summarized in the NCA.

Science is all about finding errors in our work, criticizing one another. No one in science thinks everything we do is perfect. The whole scientific process is all about refining these ideas. It's very different from law in some of these ways. And so, the idea that you found something that was a little bit off about a prior study is both unsurprising, uninteresting, and it's not a reason to discard the primary idea. What it is, is it's to go do some more work and figure out the answer to that question. And in many of these cases that actually has been done, but the response... Someone went and solved the question about CO2 enrichment or someone was looking at coral reefs and why they're recovering in the Great Barrier Reef, but then those answers are being ignored by the DOE report. So, there is a lot of follow-up that is just being ignored.

There's a lot of reference to very old studies. Ironically, a lot of the claim is that the EPA has not updated what its view is based on intervening science. But actually, that is the exact function of the National Climate Assessment. The goal of the National Climate Assessment is to say, every five years, what have we learned since the last National Climate Assessment? And now what has happened here in this report is you see that many of the citations, much of the science stops around 2008. And these guys just are totally outdated. So, in another example, there's a whole section of the DOE report on these economic models that are used to evaluate the social cost of carbon. This is actually where I live. This is where my work is.

And what is stunning is that in 2023, the EPA under the Biden administration updated the social cost of carbon based on the best available science. They published everything they did, the EPA. They integrated two fully new models called the GIVE model and the DSCIM model. And my team at the Climate Impact Lab actually developed the DSCIM model. And these are based on decades of new research, lots of data. And that was the foundation of the new social cost of carbon. This report says we don't like the social cost of carbon. They start attacking economic models that they claim represent the field of economics.

And nowhere in the report do they discuss anything about DSCIM or the GIVE model. Actually, they talk about older models that have been retired, which is very weird. It's like they're talking about models that no one's using anywhere, in the report, and criticizing those, and then claiming and extrapolating that idea towards the entire field of economics, and how it thinks about climate change, which is just kind of bizarre.

Jody Freeman:

So, there are a few things here I just want to flag in the DOE report. And we don't have time to go through every single claim. But they claim things like the global climate models generally run hot. They claim that most extreme weather events in the US do not show long-term trends. There's a line that says, "Claims of increased frequency or intensity of hurricanes, tornadoes, floods and droughts are not supported by US historical data." There's another claim that says, "Both models and experience suggest that CO2-induced warming might be less damaging economically than commonly believed," and so on. So, there are various claims that I suspect scientists either have debunked, as you've suggested many of these have been debunked, or would now say are not fully fleshed out here with sufficient context or don't take account of counter evidence. Is that right?

Sol Hsiang:

Yeah. So, those points are I think very carefully chosen to align with certain very careful scientific statements that people have made, but then here are being grossly abused. So, for example, AR6, which is the latest round of the climate models, people will say they run hot in the sense that they indicate that emissions will cause more warming than previous models. Now, one way to interpret that is to say, well, those models can't be right, because they're not the same as our older, less sophisticated models. An alternative is to say we actually learn something new about the world and actually things will get hotter than we expected. And so, when you're

benchmarking against what you used to know, of course, every new thing looks different. And so, they are hotter. And I think one thing that the report tries to argue is that these models are too hot to be realistic.

That's not really looking at the data the right way. The way that the scientific field looks at the data is to say, can we explain the temperatures we see in the United States and around the world, if we were to hold out all information about human activity from the models? So, turn off humans and then just let the world operate and ask whether or not natural solar variability, like the sun getting a little hotter, that was raised in the report, and natural systems in the ocean can explain what we've actually experienced. And what has been true now for almost a decade is that we can actually reject the hypothesis that this is happening naturally. If there were no humans, we could not explain what we have seen in the world.

Jody Freeman:
But the nuance here gets lost in the DOE report. I mean, there is, is they're not, very solid evidence that heat waves become more intense as a result of climate change, right?

Sol Hsiang:
Absolutely, and temperatures have been going up.

Jody Freeman:

And that that has an impact on human health and welfare?

Sol Hsiang:

And not just that, we can see it very clearly in a lot of the data. There's lots of ways to measure the climate. So, one way we see a lot of changes in the climate are nighttime temperatures. Those are some of actually the clearest early indicators. And so, natural disasters, things like hurricanes, they happen very infrequently. Those are the noisiest signals. Those are the hardest things to detect these effects in. If you look at almost anything else, you see it very clearly, whether it's the time of year in which plants are flowering, whether it's looking at nighttime temperatures. You can actually measure climate change by digging a hole in the ground and looking at how the temperature in that profile changes.

When you dig for oil, you actually see the history of the climate changing, just as the temperature from the surface slowly propagates down into the soil. So, we see it everywhere. And what they're doing in the report is pointing out that there's a lot of noise in some of the most difficult indicators, but that doesn't mean that we don't see it happening. It just means we know that that's not a good way to measure it.

Jody Freeman:

One more thing, before I turn back to Richard and to the legal implications of this. I read the DOE paper and I read the EPA's reliance on it as essentially an argument that there's just too much we got wrong in 2009. We were overly pessimistic. Things are not so bad. That is to me the impulse behind all the... Things are not so bad and don't warrant a finding that greenhouse gases really have these risks and harms that are being attributed to them. And I just want to be really clear, I believe that is false. Am I right about that?

Sol Hsiang:

You are completely correct. It's not just false, it's backwards. There's been a tremendous amount of new science that has happened since the Endangerment Finding. And there are ways in which we have intensively chased down questions like, will making cold places warmer offset the harm from hot places getting hotter? That's a very famous question that economists highlighted 20 years ago. And we've looked at that in great detail to exactly address this type of question and we've learned a lot. And the answer is it looks like it's going to be really

harmful and it's going to endanger the American public. That is very clear. We can now articulate it through great detail. We see how it affects violence, it affects suicide, it affects miscarriage, it affects crime, it affects domestic violence, child abuse.

These are just measures of how it affects our local communities, not even getting into the economy or disasters or other things. So, we have so much granular information now that the evidence is very strongly in one direction. That was all very clearly summarized in the National Climate Assessment. The National Climate Assessment also did present some of the evidence for why warming is helpful to some communities. It can increase agricultural yields in very cold locations. That was also treated in the National Climate Assessment very carefully, so it was not ignored.

Richard Lazarus:

My question to Sol is, has anyone gone through their studies, and gone through what they've said in their data and said it's wrong because of this, it's wrong because of that?

Sol Hsiang:

Yeah. So, the work of these individuals, they're all coming from a scientific background. They are trained as scientists and they have all written peer-reviewed publications at some point in their career. Most of these authors have written things where the basic findings have been challenged, questioned, or dismantled. They're not providing insights or cutting-edge findings that are moving the conversation forward since the Endangerment Finding. There's been nothing that I've been aware of that has come from any of this group that has been published in peer-reviewed findings, that would cause you to question any of the new research that's come out through the Endangerment Finding.

What they have done is they have ignored the vast bulk of the new research that has come out since the Endangerment Finding. Now, whether or not that is because they didn't read it or because it's deliberately not being presented, I can't say. I don't know their intentions, but they are through their summarization of what we've learned demonstrating vast gaps in their articulation of what we've learned. It's not an accurate reflection of what we've learned since the Endangerment Finding by any means. You would read sections of this and think that, oh, things are not nearly as bad as we thought or we've learned all these new things that demonstrate how much we're going to adapt and how that's going to make us safer.

Now, it is true that the original Endangerment Finding was written at a time when we didn't understand how to study adaptation that well. And one thing we've done since the Endangerment Finding is we've developed a lot of new techniques to study it much better to quantify how much it matters. And what we found is it is real. It's a real thing. It does matter. It needs to be studied. It does not cause us to backtrack on any of the original claims of the Endangerment Finding. It's not going to save us. Adaptation is in some ways protective. It's extremely expensive and there's enormous gaps. We still see people today dying from heat waves, from exposure to hurricanes. All sorts of things that one might theoretically think we should adapt to, turns out it's not as easy as we've thought.

So, the way in which the science is presented in the DOE report is not faithful to the science, I think. I have not yet encountered anyone in the field who feels that way. And I know many, many, many people in the scientific community who are stepping up, writing letters, writing comments, and trying to articulate the way in which their work was misrepresented.

Jody Freeman:

Well, this will be very interesting to see how this unfolds, because the scientific community is clearly responding to this proposal and to the DOE report. And we saw an announcement from the National Academies of Science that they're going to do a fast track update on the 2009 scientific assessment themselves. They're going to do

this in order for it to be ready in time for EPA to consider it. Meaning, they're going to have to finish it by the time the comment period closes September 15th. Richard, let's get back to law for a moment, because the science feeds into the legal conclusions in the EPA's proposal. And they will ultimately be assessed by the courts. How do you think the courts would receive those arguments if it turns out that they remain the same in the final version of this proposal?

Richard Lazarus:

Okay. First, let me just discuss a related issue, which is a lot of people talk about, is what they're doing asking for *Massachusetts versus EPA* to be overruled? The landmark Supreme Court decision on greenhouse gases clean up and climate change. The answer is they're not asking for it to be overruled, but they're making a lot of arguments which are really hard to square with *Massachusetts versus EPA*. Most important one has to remember what did *Massachusetts versus EPA* hold and not hold. It held two things. Greenhouse gases are Clean Air Act pollutants. And second, the reasons EPA gave back then for not making an Endangerment Finding were arbitrary capricious. The Court did not rule that EPA had to find that greenhouse gases endanger public health and welfare. They did not even rule that EPA had to make an Endangerment Finding.

They left open the possibility that EPA could go back and give other reasons, which might be legal for not deciding. So, why is it still hard to square *Massachusetts versus EPA* with what they're now doing? The first is the reasons they're giving for arguing for why it's not air pollution, they're exactly the same reasons that the EPA gave for why it wasn't an air pollutant. You can't pretend it's a different issue. Air pollutant, air pollution, it's the same issue. So, I don't think they can legitimately make that distinction, but that's what they're trying to do, to avoid saying we're overruling *Mass. versus EPA*. But in *Mass. versus EPA*, the Supreme Court did not decide any of those science issues, causation, contribution, whether or not you have to consider the benefits of climate change, any of those. But the D.C. Circuit did. The D.C. Circuit, US Court of Appeals, District of Columbia, they did address all those issues. The Supreme Court hasn't. This case is going back to that court. And that court addressed them all and upheld the Endangerment Finding.

Jody Freeman:

In the 2012 cases?

Richard Lazarus:

In 2012, they rejected the cause, contribute. They rejected the remoteness. They rejected all of those arguments. Now, that's the D.C. Circuit. Presumably, if they stuck to their precedent, they would do the same. That raised the question, what about the US Supreme Court? Will they get this case and then what would they rule? And here's where there's much more uncertainty. From the majority of Massachusetts versus EPA, back then there were five Justices. I think you know the answer to this question. Jody, how many of those five Justices are still in the Court?

Jody Freeman:

How about zero?

Richard Lazarus:

Zero. That's a bad start for those who want to find this repeal invalid. There are three dissenters left from the *Massachusetts v. EPA* case. And now we have three Trump appointees. So, the math would seem to say not the conclusion is, but it's clearly vulnerable in the Supreme Court. It shouldn't be vulnerable in the D.C. Circuit. I would say of the issues, the standing one, whether or not you have standing to bring this, the Supreme Court, *Massachusetts versus EPA* held that states have standing, with a brand new standing test. That's vulnerable. The

Chief Justice wrote the dissent. That's a question of constitutional law. And the Supreme Court in several cases since then has cast some doubt on to what extent it thinks that standing ruling is persuasive.

Jody Freeman:

So, let me just make a couple points here. The way I read this proposal is that they are trying to take a run at many of the things from *Massachusetts versus EPA* without actually asking to overturn it. And as you say, because the Supreme Court didn't address the fine points of the methodology that EPA might use to make the finding of endangerment, that what counts as a contribution, the causation and so on. Because the Court didn't reach that level of granularity in *Mass. versus EPA*, it's imaginable that one or more of the arguments that EPA is now making might attract five votes, even if the Supreme Court were to say we're not overturning *Mass. versus EPA*, we're just addressing something we never addressed. Yes, that's a fair possibility?

Richard Lazarus:

Yeah. It's not a done deal, but it certainly is.

Jody Freeman:

A fair possibility?

Richard Lazarus:

If you read the Chief Justice's dissent, he thinks it's not enough to say there's causal nexus for standing. He says it's spinning conjecture upon conjecture.

Jody Freeman:

But now we get into the standing point you made. So, I just want to separate it out. I mean that's where all the marbles are, to say nobody has demonstrated the injury in fact, the causation and the redressability, to even challenge an agency's refusal to regulate. So, that's a justiciability argument that comes before any of the arguments EPA is making here about its discretion to make the Endangerment Finding. Yes?

Richard Lazarus:

That is right. We have to think now maybe though I think what they reasoned in 2007 might not only be persuasive. But maybe there's some other parties now. Now that we've had regulation for a long time, it's settled into the economy, there may well be some economic interest and some state interests now that could be invoked that didn't exist back in 2007.

Jody Freeman:

Okay. So, there's the standing threat and then we get to the backup argument that we've been talking about with Sol, which is based on this largely erroneous update of the science. If the agency relies on that, what will courts do with that? I have a view of this. I think the attack on the science as a backup argument is a political gesture. I think it's meant to placate ideological constituency that is anti-climate change, anti-science and so on. I don't think the administration is seriously going to rely on that and try to get that past a reviewing court. I could be wrong about that, but I'm curious, Richard, what you think. What would happen to these kinds of scientific debates in front of a reviewing court like the D.C. Circuit?

Richard Lazarus:

Yeah. I think on that one, if they make it from the D.C. Circuit, which they will, I think they'll likely lose even on arbitrary capricious, which is very deferential to EPA. But the arguments that can be made based on settled science, everything needs to be put on the record by climate scientists and now by the National Academy of Science they're going to get ready. I think the court will find its arbitrary and capricious. And I don't think that's going to be a cert-worthy issue. I can't promise. I think a good chance if the Court grants that case, they won't even grant the arbitrary capricious question. They're going to stick to pure questions of law. We've seen the last several years, the Court is pretty aggressive. And they take cases and issues that they never should take. This is one of those. I hope they have the sense not to take it. And if they take it at all, they take it on the pure questions of law.

Jody Freeman:

So, another couple of points on this and then I'll turn back to Sol. But in terms of the intervening cases, Richard, that the Supreme Court has decided, like *West Virginia versus EPA*, that cut back on EPA's authority to set power plant standards under the Clean Air Act, rejecting the method they used, the approach they used. And announcing that that violated the "major questions doctrine." The more recent case called *Loper Bright*, which rejected the idea of deferring to agency legal interpretations when agencies interpret ambiguous provisions and statutes. Another one called *UR, Utility Air Regulatory Group*. All these cases that I'm rattling off seem to shrink EPA's authority, seem to pull away from *Mass. versus EPA*, if you will, directionally, seem to limit EPA's room to maneuver. And so, it's interesting that the administration is relying very heavily on these cases, trying to argue that the law has changed since 2009's Endangerment Finding. And that the agency is now mandated to read its statute in a narrower way, giving it less authority. What do you make of that, relying on these intervening cases?

Richard Lazarus:

Yeah. I think most of them really are beside the point and then we'll see the Justices do. EPA lost *Massachusetts versus EPA* on the plain meaning of the statute. It wasn't one in which anyone relied on discretion at all. It was plain meaning. So, the major question doctrine, which says if it's ambiguous, it's got to be clearly off. It has nothing to do with it. *Loper Bright*, *Chevron* has nothing to do with it. So, in theory, it shouldn't change the statutory interpretation of air pollutant. And I think that shouldn't change the interpretation of air pollution. If the Court draws that distinction, I think that's disingenuous. So, I think most of those decisions certainly show where the Court's preference lie, but I don't think they answer this question about whether or not it's air pollution. Now, whether or not there's some discretion in cause or contribute, whether that's sort of a mixed question of law and fact, which the Court has more recently said the agency might be entitled discretion to, that's a different ballgame.

Jody Freeman:

So, the way I understand this, the way I think about it is, look, if you go back to *Mass. versus EPA* in 2007. As you say, Justice Stevens in his majority opinion says unambiguously the definition of air pollutant covers greenhouse gases. This is a pure question of law. This is the best and only interpretation of the statute. So, like you say, there's no moment for deference or no deference. They read it one way. And secondly, they rebutted. They just rejected the major questions argument of the day. In fact, George W. Bush's EPA, the government at the time said, this is a major question. Like in the tobacco case, there was a *Brown and Williamson* decision that said, for big important questions, we ought to read statutes narrowly, not to reach these huge matters of economic importance. Climate change is one of those, so you shouldn't reach it.

And the Court rejected it and said that was a different case with different implications. This doesn't fall on major questions grounds. Your point about the contribution idea, I think that's really interesting because this is very

nerdy, but after this *Loper Bright* case, you could say, well, the question, does assessing what contributes to air pollution, is that a legal determination or is that something different? The Court might say, well, whether you can include a threshold in that is a legal question. And we're going to answer it. And we're going to say, yes. There's the *de minimis* threshold. You don't have to conclude there's a contribution. We, the Court are determining thresholds are okay. Now, you, agency, get to set it and we'll defer to you on where you set it.

I could imagine that being the post-*Loper Bright* way a Court handles something like that and that gives you some discretion for the agency to say, okay, thanks. We're setting the threshold here. We think below that threshold, car and truck emissions, power plant emissions, oil and gas emissions. None of it reaches our threshold and therefore we don't set any standards. Does that sound plausible to you?

Richard Lazarus:

That's where I'm a little worried, particularly because the Court just decided a few weeks ago a case called *Seven County Infrastructure Coalition v. Eagle County* in the NEPA context. And they decided in deciding whether or not an environmental impact statement was detailed enough. They said, well, that's sort of not just a question of law. That's also sort of a question of fact. And there we give the agency a lot of discretion. I can imagine, I'm not rooting for it, but I can imagine a Court hellbent on finding some way to uphold this repeal might I think, unpersuasively to me, rely on that.

Jody Freeman:

I mean, I think what's happening here is the EPA in the Trump administration can count how many Justices might be open to the arguments they're making and is basically trying everything they possibly can. And it looks like some weak ones, some medium strength, some stronger ones, some with potential, some not, none of which would succeed with the Court that decided *Mass. versus EPA*. But as Richard's saying, different moment, different audience. I want to talk about implications a little bit more before I let you guys go. Some people are saying, well, if ultimately the Supreme Court were to overrule *Mass. versus EPA* implicitly or explicitly, if it were to grant the government what it wants here, it would open up all kinds of other avenues for legal action. Like, bring back federal common law nuisance suits against the big polluters, oil and gas companies, power sector and so on. I'm not sure that's right, because it really depends on how the Court decides this.

Richard Lazarus:

No. I think in the case where they held that you couldn't bring federal common law suit of nuisance based on climate change, there was a threshold standing argument. And the Court actually affirmed the lower court's decision that there was standing by four to four. And that means they almost held, there wasn't standing. If there's no standing, then you can't bring a federal common law suit.

Jody Freeman:

Oh, so then no standing would apply to the federal common law suits as well. Got it. Got it. Got it. Yeah, very interesting. Okay. And the biggest implication, just to make sure we all understand it, is if the EPA wins on one argument or another for whatever reason, one way or another, what their winning is the entitlement to say, no, we are not going to make an Endangerment Finding. And therefore, we do not have either the scientific or the legal basis, the predicate on which to rest all of the climate rules for any sector. They all have to follow, as Richard said, at the outset.

Richard Lazarus:

Right. And the trick here in the first order is they want to win on the question whether the first one was flawed in some technical way so they can get rid of it. That's very different than actually making a no Endangerment

Finding. They can win a lot, almost everything by getting rid of the existing one. They don't actually have to then make a formal finding of no endangerment. If there is no Endangerment Finding, because the first one of 2009 is gone, the regs are gone.

Jody Freeman:

So, the bottom line in all this is going to take several years, Richard, to work its way through the courts. First of all, this proposal isn't even final. It will take a couple months now until we get comments in September. The agency has to consider those comments. That takes usually several months. A final rule I would expect in 2026 reasonably. And then Richard, we see litigation pretty immediately goes to the D.C. Circuit because the Clean Air Act says so. Litigation over climate rules, and the Endangerment Finding would go there. Richard, that would take what a year?

Richard Lazarus:

Yeah. So basically following that timetable, you assume a D.C. Circuit decision on the merits. Forget stays for a moment. On the merits will come out in the spring or summer of 2027. A Supreme Court decision to grant or not will come out in the fall of 2027, if they grant it you have a Supreme Court ruling in the spring or summer of 2028.

Jody Freeman:

An election year. The election.

Richard Lazarus:

Now, if there's an emergency docket and a stay, that would be cited sooner, but that wouldn't be a decision on the merits.

Jody Freeman:

Right. So, what all this means is we're not going to see climate regulation from the United States government in this administration. And even if this administration's views were rejected by the D.C. Circuit and there was no *cert* grant, or even if the Supreme Court sided with the challengers and the government loses. Even in that scenario, a new government would have to come and revive climate regulation, and that would take a little time. So, the bottom line picture is this action by the Trump EPA essentially puts the United States government out of the climate regulation business for several years, right?

Richard Lazarus:

That's right. And that's one reason why it's a completely irresponsible action they've taken, given the threat of climate change. And as Sol knows better than anyone, how time is not neutral. There's a clock ticking. And the longer we take to address it, the harder it will be to avoid its worst consequences.

Jody Freeman:

Sol, I want to give you the last word on this. I'm really curious about how the scientific community is reacting at the moment to the EPA's proposal, but also more generally cuts for scientific research and funding it, at not just universities, but also in the federal government.

Sol Hsiang:

Yeah. I think that the various cuts, the various closure of research offices at NOAA and elsewhere will have a huge effect for the production of new science, the execution of basic functions. There's a lot of concerns that forecasting will deteriorate. I mean, the public gets a tremendous amount of value from a lot of the climate research that has occurred. A lot of the weather research. And I think we're at a place where people just take it for granted, and so they think things can be cut and there will be no ramifications. I think for people who are in the field, it is a big challenge, because you have graduate students who are graduating looking for jobs. And at the same time, other people are losing jobs. So, people make long-term career choices that are going to then last for decades. So, I think this is going to set back research at these agencies for a very long time, even if the next administration reopens some of these offices.

I think there was a very large demoralizing effect that was probably part of the intention of some of these actions for people in the field. What's interesting is I think actually these publications seem to be firing people up, getting a lot of people activated to take action. People seeing their own research taken and twisted in a way for the exact opposite sort of policy claims from what they've been dedicating their entire life to is very energizing for some. And so, I think there's a lot of resurgence of activism here. And so, I don't know, maybe there will be, like you were sort of saying that the attack on the science seems like it was just red meat for a certain audience. But I think it's also in the exact same way, going to trigger a response from a different audience, in a way that maybe wouldn't have happened had it been just focused on the legal questions.

Jody Freeman:

Well, I hope there will be a strong reaction from the scientific community, like you're saying, sign of a vigorous defense of the best science. And Richard, I hope there will be a strong legal reaction too, to test these, what I think are quite inventive or stretchy theories of how to read the statute. That I think, Richard, even though you're saying there's reason to be concerned and they might be successful, there's also reason to think they're not obvious wins at all for the administration, right?

Richard Lazarus:

That's right. And also, there are ways to lose well and have them win little. You want this to be a ruling if it is going to be a loss. And I think it shouldn't be on any of the issues. But if it is, you don't want to lose on something which requires Congress to amend the statute. You want to lose on something if you're going to lose where it's based on agency discretion, in which case, another agency without congressional legislation, which I would welcome, by the way, that actually authorized all these actions, without it though, we'd have an EPA could act again.

Jody Freeman:

Right. So, a different government, a different EPA could exercise their discretion to rebuild climate regulation. Well, guys, thank you so much for this terrific extended conversation. It's been detailed, and nuanced, and nerdy in all the best ways. Sol, it's just been a pleasure to have you as a guest. Thank you for being here.

Sol Hsiang:

Thanks so much for having me. I've learned a tremendous amount.

Jody Freeman:

And Richard, as always, my partner in all good things, thank you for being part of this discussion today.

Richard Lazarus:

Thanks, Jody, and it was a pleasure meeting Sol.