

The Climate Show – Episode 30

Transcript

00:00:04 Linnéa Nordlander

Hi and welcome to the Climate Show, a podcast that explores the law and politics of climate change. This podcast is brought to you by the University of Copenhagen.

00:00:16 Beatriz Martinez Romera

Hi. We are Beatriz Martinez,

00:00:18 Linnéa Nordlander

And Linnéa Nordlander

00:00:19 Beatriz Martinez Romera

And we are your host at the Climate Show.

00:00:26 Beatriz Martinez Romera

Welcome to the Climate Show where we explore the link between climate change and plastic pollution.

00:00:32 Linnéa Nordlander

Plastics have become ubiquitous across the globe, with production and waste levels rising at an alarming rate. Their life cycle from fossil fuel extraction to production, transport and disposal contributes significantly to greenhouse gas emissions, making plastics a key but often overlooked driver of climate change.

00:00:48 Beatriz Martinez Romera

The Global Plastics Treaty currently under negotiation presents an opportunity to address plastic pollution comprehensively, including its climate dimension.

00:00:58 Beatriz Martinez Romera

In today's episode, we speak with associate professor Aleke Stöfen-O'Brien about these topics, plastic and climate change. Enjoy the show.

00:01:13 Federica Catonini

We are here today with Aleke Stöfen-O'Brien, associate professor in ocean sustainability governance and management at the World Maritime University, Sasakawa Global Ocean Institute. Aleke is a renowned expert of the law of the sea, marine environmental protection and ocean governance.

00:01:31 Federica Catonini

At the heart of her research interests are plastic pollution, equity and ocean governance and interaction between different legal regimes. Among other things, Aleke is a principal investigator in the WMU the Nippon Foundation Future Ocean program.

00:01:47 Federica Catonini

Today we are going to talk about regime interactions and particularly the international climate change regime and plastics treaty nexus.

00:01:55 Federica Catonini

The latter is currently under negotiation, and we are privileged to have Aleke with us who, as an expert and observer of this process from its inception, will tell us more about this important law-making process.

00:02:09 Federica Catonini

This is a topic relevant to my PhD project and research interests, which revolve around interactions between different regimes and ocean and environmental governance.

00:02:19 Federica Catonini

Welcome Aleke. It is a tremendous pleasure to have you here with us today at the Climate Show.

00:02:25 Aleke Stöfen-O'Brien

Thank you so much, Federica, for your kind invitation and your time to invite me and we have already had many discussions on this topic. And I really do hope that our discussion can help you also and other listeners and to thinking about climate regimes and this, the interactions with other maybe not so clear links within the architecture of public international law and we are looking forward to today's discussion.

00:02:53 Federica Catonini

Me too. Thank you so much Aleke.

00:02:55 Federica Catonini

To start off with today's interview, could you explain to our audience what is the connection between climate change and plastics?

00:03:05 Aleke Stöfen-O'Brien

So first of all, maybe some people do not know that, but most plastics that are currently produced are from fossil fuels. So, 93% of all plastic that we have on this planet comes from fossil fuel.

00:03:20 Aleke Stöfen-O'Brien

And so as every single piece of plastic essentially comes from fossil fuel, there's a strong link to the greenhouse gas that are emitted in the entire life cycle of plastics, and there are

notably sort of four areas where we look at the nexus between the scientific nexus between plastic and climate change.

00:03:41 Aleke Stöfen-O'Brien

And that starts with the extraction and refining phase of plastics. So, we extraction of oil and then the further processing from oil into this kind of basic material that can be then used in the plastic production. We have a huge amount of greenhouse gas emission and CO₂ out of these two steps.

00:04:04 Aleke Stöfen-O'Brien

Then in terms of manufacturing, so just having these kinds of very basic plastic items and then it's gone. Sort of combined together with chemicals to make all kinds of different types of plastic. We know that we have single use items, plastic for food, we have it for water transportation, for use in hospitals, for use in constructions shipping, I mean aviation. The entire world is using plastic essentially, and we have so many types of plastics, so the CO₂ emission, the greenhouse gas used in this kind of phase is also quite strong.

00:04:40 Aleke Stöfen-O'Brien

And then the third one is the use of plastics. And actually, we have a lot of knowledge gaps where we do not know how much the use of plastic in terms of greenhouse gas emissions can be accounted for. There's a Chinese paper from Zheng og Suh from 2019 that have tried to account a little bit for the scientific evidence between the climate change and nexus, the greenhouse gas emission and the plastic production use. But they couldn't quantify essentially the use phase for climate change and plastic nexus.

00:05:15 Aleke Stöfen-O'Brien

So, we have a huge knowledge gap in this regard where we don't have a knowledge gap actually is the end of life of the plastic life cycle that would be either incineration, recycling, landfill and these items we know are a lot of countries still incinerate household waste, some hospital waste, for example, needs to be incinerated due to hygienic reasons.

Then we know that only globally 6% of plastic waste is being recycled and also recycling is quite actually sealed greenhouse gas intensive.

00:05:50 Aleke Stöfen-O'Brien

So that's also not an in essence an ideal world in terms of greenhouse gas emission. And so, there's another correlation that we have of, and it has the consequences. So, recycling might be good for the pollution load, but not necessarily it depends on a little bit how it's done for the CO₂ emissions and the load in that regard.

00:06:10 Aleke Stöfen-O'Brien

And then of course, landfilling is when you have plastics, they just put onto area, mainly on land where you just essentially dig a hole and put plastic in there and that also emits a lot of CO₂ simply because the fossil fuels CO₂ that's within the plastic, just lies somewhere for I don't know 500-600 hundred years, depending on the heat and the condition of the landfill. So that's not so ideal. These are very linear ideas of what to do with plastic, whereas recycling is of course, the idea that we have more circularity.

00:06:46 Aleke Stöfen-O'Brien

And then the last one is the mismanaged waste that we have, the waste that is released into the environment and we actually do not know what the CO₂ quantifications are of that either, but we do know that the plastic that's fragmenting in the terrestrial environment and then the marine environment releases CO₂ as well. But we do not know how much currently.

00:07:08 Aleke Stöfen-O'Brien

But what is also added is that we have a negative feedback loop in this regard is that the CO₂ emissions, the greenhouse gas emissions that we have from all other sectors, including plastic production leads of course to extreme weather events.

00:07:23 Aleke Stöfen-O'Brien

Our former PhD student doctor, Roxanne Graham, she comes from Grenada. She found in her body of research that these extreme weather events actually add to the pollution load of plastic from her home country, the island of Grenada in the Caribbean. These extreme weather events caused flooding, rain and storms that actually take different kinds of material plastic from the island, including from landfills, houses, coastal infrastructure against climate change, back into the ocean. So, she provided evidence for the correlation between extreme weather events and plastic pollution.

00:08:02 Aleke Stöfen-O'Brien

Which actually also impacts the capabilities of the receiving environment to address the impacts of climate change and biodiversity loss. So, the nexus is not only on the entire production range and life cycle of plastic, but also more systematically, as we can see at the moment.

00:08:20 Federica Catonini

Well, thank you so much Aleke for this very thorough explanation and introduction to the connection between climate change and plastics.

00:08:28 Federica Catonini

So as many of the listeners might know, there's a plastic treaty that is currently under negotiation. Could you tell us a bit more about what this plastic treaty is and why it is important in the context of climate change?

00:08:43 Aleke Stöfen-O'Brien

Well, the plastic treaty is an endeavor that we established in 2022 in March.

00:08:50 Aleke Stöfen-O'Brien

And it's a negotiation that takes place under the framework of the United Nations Environment Program, UNEP, and within the United Nations Environment Assembly in March 2022, a resolution 5.2 was adopted that set out the mandate of an

intergovernmental negotiating committee towards the development of an international legally binding instrument on plastic pollution.

00:09:14 Aleke Stöfen-O'Brien

And what is really special that in the beginning I mean not in the resolution itself, but at the beginning it was more of a marine litter, marine debris, sort of linear idea of addressing plastic, but then the countries agreed that it would be much more useful in addressing the planetary triple planetary crisis, if we look at the entire life cycle of plastics, which makes it really relevant for the climate change regime because the entire life cycle of plastic that I mentioned already before is the extraction phase the manufacturing the use in the end of life as well?

00:09:49 Aleke Stöfen-O'Brien

So, it's quite a comprehensive idea what we're trying to achieve. However, in the near 5.2 resolution itself, there was a reference to climate change, the climate change regime and other auxiliary regimes. Only in the preambular, but they made at least a reference to the relevance of climate change regime.

00:10:11 Aleke Stöfen-O'Brien

But then if we move down or further into the negotiations, there are not really direct references in a different draft that have been proposed, so it seems at the moment that it's quite maybe a really distant thought of negotiators that we have.

00:10:30 Aleke Stöfen-O'Brien

And if we look at it from the other direction and from the UNFCCC direction we actually see also like the climate change regime in itself. We see also very little reference to potential, including plastics in it. Of course, these are more global agreements, but there are for example, in the Kyoto Protocol is limitations and reduction of methane emissions through recovery and using waste management.

00:10:54 Aleke Stöfen-O'Brien

As well in the production transport and distribution of energy, so the plastic climate change next is also from the other side of the approach needs to be really constructed and outlined in this regard what and I will talk a little bit about further on exactly the different items that I think are relevant for the plastic treaty.

00:11:21 Aleke Stöfen-O'Brien

But from a legal point of view right now, it seems to be an auxiliary and an afterthought. Even though of course, some negotiators, and particularly as observers, raised the awareness of having a very strong correlation between the plastic treaty regime and the climate change regime, but it's not really found. It's grounding in the Treaty text that we have right now. I forgot to say, of course that the plastic treaty was supposed to be negotiated by the end of 2024 in December.

00:11:54 Aleke Stöfen-O'Brien

We have met five times since the inception and I'm so sorry that it comes now. I forgot I went into the substantive discussions and the countries and the members of the Committee were not able to agree on the fully adoption of the treaty text and the main problems that we have are both in substantive but also procedural, so procedurally there are some discussions around voting rights, and substantively, one of the main aspects is how do we define the life cycle of plastics?

00:12:27 Aleke Stöfen-O'Brien

Do we start at the extraction phase? Do we look at waste management. Where do we start and where do we end and this is exactly where the relevance for the climate change nexus is, because there are some countries in this treaty process that have lower ambition than other countries, I would say that.

00:12:47 Aleke Stöfen-O'Brien

And some countries can be considered major oil and gas producers, or major petrochemical producers. Uhm, and that have invested quite heavily in building up their petrochemical industry and that are thriving on the projected demand for plastic that we have for 2015.

00:13:04 Aleke Stöfen-O'Brien

They are opting to have a more effective waste management to have maybe some recycling targets, so really shifting the focus from the entire life cycle and including the manufacturing and the extraction which has the highest amount of CO₂ emissions of greenhouse gas emissions back to the end of life.

00:13:24 Aleke Stöfen-O'Brien

There're huge discussions around this item in the classic treaty negotiations that are essentially heavily influencing everything that is, we are going to write down in text and we're going to have the next meeting now in August and it's the second meeting of the fifth session. This treaty process is not concluded yet, but we were trying to have another meeting now to hopefully finalize a treaty text that hopefully will also have very strong reference to the entire life cycle. And then also the climate change regime. But let's see how this goes.

00:14:01 Aleke Stöfen-O'Brien

Hopefully Yunak and Nice now has created some change and some motivation to really address this item.

00:14:09 Federica Catonini

I want to move to something, maybe a little bit more technical now. When we talk about plastics and climate change, there often seems to be a focus on end-of-life issues like pollution or recycling, as you also said before. But the emissions begin much earlier with fossil fuel extraction and also plastic production itself, for instance.

00:14:29 Federica Catonini

Can you walk us through how each stage of the plastic life cycle contributes to greenhouse gas emissions and where you think the legal system is currently falling short in addressing those emissions holistically?

00:14:42 Aleke Stöfen-O'Brien

If we look at the amount of CO₂ that's being emitted by the different steps, the extraction and refining is the biggest amount that we can correlate to greenhouse gas emissions.

00:14:58 Aleke Stöfen-O'Brien

And we know that not all countries include this specific item in their greenhouse gas regimes, for example, the reasons are quite different. There might be technical reasons for that or capacity reasons, but also simply understanding that these are huge sources of greenhouse gas emissions.

00:15:18 Aleke Stöfen-O'Brien

If we look at plastic processing that has been to some degree already suggested by some countries and that then found also the way in several well, we call them 0 drafts and draft texts. Uh, where there were some countries that asked for an exclusion or phasing out of plastics made from fracking, for example.

00:15:43 Aleke Stöfen-O'Brien

So not necessarily addressing the core, but I'm trying to address the auxiliary techniques that might increase this kind of CO₂ gases. And right now, that is off the table. But what could help us in this regard is in the within the UNFCCC regime, we would have a very clear reference towards the extraction of plastics within the energy. They had energy, which I think would be a really relevant aspect, but also in relation to just trying to cover every single source of greenhouse gas in countries sort of a budget for accounting and for acknowledging that there might be greenhouse gases.

00:16:37 Aleke Stöfen-O'Brien

And what is really also important in this regard is the reference to sustainable production. And I will talk about in a second about economic instruments and I would talk about what kind of ideas are tabled and that are very much missing in the regulation right now, our economic instruments and how we can create accountability and transparency in this regard.

00:17:00 Aleke Stöfen-O'Brien

The same way goes, then definitely for manufacturing and use of plastics, where we need to think about how we can create relevance for reducing the amount of plastics we are using. How can we reduce the probability that plastic might be leaking into the environment or that we actually produce plastics that we do not need. This comes to the aspects of material design which starts. Which would permeate everything, including the manufacturing and the refining and the use phase, and definitely also what comes after.

00:17:40 Aleke Stöfen-O'Brien

And in this regard, one could think about the smarter production, so it comes with sustainable production consumption. Having plastic that might be more smarter used, you know, in the European Union we have some aspects in this regard for our single use items companies and producers need to prove now that the plastic they put on the market is really needed and not just something that's an add-on on to their products. Material design is very important also in regard to the recyclability of plastic products. Right now it's very much difficult to create some clarity for some countries globally speaking on the composition of the plastic.

00:18:23 Aleke Stöfen-O'Brien

We have multilayer packaging where you have all kinds of different plastics in specific product, but then you would move towards mono material packaging to actually minimize emissions and to increase the chance that they can be easily recycled.

00:18:38 Aleke Stöfen-O'Brien

And then there need to be a connection between the design for recycling, for example, or for use with the back end recycling technologies, and what you do with that after as well. So, connecting the midstream of plastic, the plastic life cycle they use to what we do with it after and in this regard, there could be a lot of potential ISO standards.

00:19:00 Aleke Stöfen-O'Brien

That is the international standard organization for the entire plastic life cycle. And there are already some ideas to address this in regard to ban or rank certain products that pose a threat to the environment and to have very strong plastic product design aspects in this regard.

00:19:21 Aleke Stöfen-O'Brien

And then I'd like to move to economic instruments that will permeate the entire life cycle of plastic, and one of them is the implement the extended producer responsibility EPR.

00:19:34 Aleke Stöfen-O'Brien

Where a lot of countries say, well, we need to have a global EPR scheme for certain plastic products on that that we are putting on the table. Other countries and this are really I mean this is really out of the blue skies thinking in terms of plastic would actually to increase and use taxation for certain plastics from certain countries. Where they do not have very sustainable extraction practices, for example, including fracking.

00:20:01 Aleke Stöfen-O'Brien

Then to have subsidies and certain funding mechanisms or circular economy incentives such as carbon pricing on plastics, and these all need to be in accordance with UNFCCC provisions, which the UNFCCC's provisions are very basic right now in this regard. So there needs to be so much more work and correlation between using these instruments from the UNFCCC regime into the plastic treaty.

00:20:27 Aleke Stöfen-O'Brien

And something that is very important is the idea of waste management, where at the moment there's a lot of coherence within countries that for waste management, there should be an extended producer responsibility approach.

00:20:42 Aleke Stöfen-O'Brien

Then if we move on further and I'd like to just highlight some aspects that have been reported and raised are the conflict of interest and the engagement of industry in this

regard, and this is in relation to ensuring accountability and transparency. And whereas we do not have that in the Treaty right now.

00:21:04 Aleke Stöfen-O'Brien

But I believe that it's a very strong mandate of reporting, tracking, monitoring and labeling different plastics. There's CO₂ emissions over the entire life cycle that we do not have right now.

00:21:17 Aleke Stöfen-O'Brien

It sounds super null, but just having the numbers out would be so important to actually put and pinpoint the right steps within the life approach. And what I'd just like to just finish this point is that we need to have our stronger system thinking that comes the reference to the regime interactions that we mentioned in the beginning.

00:21:42 Aleke Stöfen-O'Brien

And this is in regard to the plastic treaty must not in some way undermine whatever is being developed in the climate change regime and that there needs to be a very strong correlation between the proposed. National action plans that are supposed to be adopted and implemented under the plastic treaty with that work and attack, and even UNFCCC.

00:22:05 Aleke Stöfen-O'Brien

If you are reporting on the same CO₂ emissions and greenhouse gas emissions, you must not do it in a separate way, but you need to have coherence between these two different regimes.

00:22:14 Aleke Stöfen-O'Brien

And last but not least, there needs to be in my opinion, reduction targets for plastic reduction, conversion and end of life and that are correlating to emission reduction targets under UNFCCC and vice versa. So just system thinking on the most global goals, but also the nitty gritty that people think might be boring is reporting and just monitoring.

00:22:38 Federica Catonini

Well as it's clear also from our interview, you've been following the plastics treaty negotiations very closely and from the start. So, you really are the expert of this. I wanna ask you, what were the silent moments that you've been witnessing in this negotiation. Is there anything particularly interesting that that you've seen there happening?

00:23:01 Aleke Stöfen-O'Brien

Yeah. Thank you. I think that it might not be new for UNFCCC followers or climate change really in general. But what has been really interesting is the way the industry has been positioned itself. I've been working on plastic and all kinds of different flora, but this time there was a lot of discussion about non-state actors, and I would like to maybe outline that.

00:23:28 Aleke Stöfen-O'Brien

I would visualize this process like an onion. In the beginning you think, oh, it's shiny, it's brown and then you just peel 1 little bit of the onion off, and it reels another layer that you didn't think was there. Of course, we all knew it's going to be very complex and highly political.

00:23:46 Aleke Stöfen-O'Brien

The more you peel off, the more you know that you do not know it, that that is vested interest, that there's a really geopolitical tensions and you know, when you work with onions, you cry a little bit and you suffer as well, a little bit, even though they are needed for anything that you want to make tasty, right.

00:24:03 Aleke Stöfen-O'Brien

I think we are going through a process right now, where we as a maybe plastic, I don't know plastic community, and we are much more than just plastic of climate change, biodiversity of course, is also part of this negotiation.

00:24:17 Aleke Stöfen-O'Brien

We are seeing now that we have these many layers of complexity that are quite uncomfortable, and, in this regard, the involvement of industry has been so difficult because some observers even want to have industry excluded. They say there are conflicts of interest, but I would say that we need to be quite careful how we engage also with industry, because who will implement then potential reduction targets any recycling targets or whatever will be tabled. And I said we do not know exactly where we are going.

00:24:50 Aleke Stöfen-O'Brien

In this regard and the engagement that we could have could be very different. It could be just simply as participation voicing their opinions, providing resources and evidence and also potentially technical collaboration that we know what kind of plastics we're dealing with. That we know what kind of plastics are being traded, for example.

00:25:14 Aleke Stöfen-O'Brien

We are in some ways dependent on the industry, but it needs to be in a very transparent way. The World Health Organization has a framework of engagement with non-state actors, and I think that's quite a good way forward to categorize how we are dealing with these different industries? Are they providing evidence that is maybe biased? What kind of plastic are they looking at? What is their interest in engaging with this?

00:25:39 Aleke Stöfen-O'Brien

We have learned we have a lot to learn, on how to engage with non-state actors and it's something that I will also take forward in my research and I'd like to just highlight the importance of the concept of just transition that has been really highly pushed in the in the negotiations and that is in regard to the just transitions of people who are marginalized, vulnerable communities to the plastic pollution laborers and so forth. Where I think that we need to maybe broaden this idea of making it only about this kind of individuals.

00:26:16 Aleke Stöfen-O'Brien

But have a just transition for societies as well because they are so highly plastic dependent that we need to think about how we can we break this dependency. This kind of

convenience that we have for plastics and this is a little bit where I think that's what we need to think in the future about.

00:26:32 Federica Catonini

To round up, I would also like to ask you something a bit more generous. In your opinion, and based also on our previous discussion, what is the development of this new instrument and the Connected Treaty regime? So, the plastic treaty regime, we could call it, teaches us about the interaction of plastics and climate change governance.

00:26:55 Aleke Stöfen-O'Brien

First of all, I'm sorry that I'm the negative but I have learned that we are incredibly fragmented as researchers, practitioners as well. Because simply climate change, the climate change process is so strong, so quickly evolving. There are so many meetings, so it's quite a complex area, even to over to have an oversight and plastic as well. The research coming out, the work that we have been doing.

00:27:20 Aleke Stöfen-O'Brien

And what I would like to just learn from that is that we as a community we need to be able to really pinpoint the most important nexus points, and those are in my regard, the most threatening ones and have a risk-based approach to our regime interactions.

00:27:38 Aleke Stöfen-O'Brien

Because otherwise you will end up in this conglomerate of different demands of different needs and that we maybe even come up with principles of how we can incorporate plastics into climate commitments. For example, very simple statements that are developed and maybe even supported by lots of countries and you know there have been some countries that developed sort of some bottom line for the plastic change regime.

00:28:05 Aleke Stöfen-O'Brien

That includes also the connection with the climate change regime, is that what are the key areas that we need from the UNFCCC regime in terms of practicalities? And then in terms

of research, what is really important is to understand what kind of principles can we learn from other engagement and from other regimes and how they are addressing say non-state actors and how they are addressing these equity injustice problems that we see in the plastic treaty negotiations right now.

00:28:36 Aleke Stöfen-O'Brien

I would make a difference between research, academia and practicalities. And how can we actually implement an agreement that's readable, understandable by everyone? Yeah. It's quite a complex answer now, but I would separate these two items very strongly.

00:28:54 Federica Catonini

Well, thank you so much, Aleke, for all your precious insights. Just before we say goodbye to our listeners. Is there anything else that you wish to add or any message that you wish to send to the audience?

00:29:07 Aleke Stöfen-O'Brien

Thank you. I think I would like to close by just saying that I would like to send a message of hope and after the third meeting or session of the Intergovernmental Negotiating committee, I thought I had a burn out of negotiating and thinking where are we going with this? I've got children. Where are we going with this? But then I realized what we are doing here today and we come so far is because we stand on the shoulders of giants of researchers of activists, but also government officials that just have been using the evidence, the research to push forward and to not be standing still with what we have achieved so far and understanding that plastics is so much more than just, well plastic in the ocean that you have in your face when you're swimming.

00:29:59 Aleke Stöfen-O'Brien

I would like to highlight these brave people and these very strong thinkers that came before us and those who have helped and continue to help people like me overcome the exhaustion having so much information coming in every day of so much terrible news that come from also the toxicity of plastic, also for humans, especially for women and children. I would like to focus on that and hope that we can overcome this very fragmented architecture of international law by creating convergence and very clear points of

connections that we are missing right now because we are really in the nitty gritty of things, in my opinion.

00:30:43 Aleke Stöfen-O'Brien

And I wish that we can move forward with the clear vision of what we would like to achieve without getting stuck in geopolitics. That is what I would like to wish for everyone, and I think us researchers, we have a very privileged position in creating these kinds of contact points between different regimes.

00:31:04 Federica Catonini

Thank you for leaving us with such an important and beautiful message and well, thank you so, so much for spending this time with me and with our audience today to discuss the plastics treaty and climate change. It was a great pleasure to have you here with us. And I'm sure that it was a pleasure for me to listen to everything you had to say and I'm sure the listeners will enjoy it very much as well.

00:31:28 Federica Catonini

And as CLIMA, we're also very much looking forward to continuing our conversation on this and hopefully to further collaborate on this topic with you right now for the listeners who might not know this, we are on zoom, but we are just separated by a bridge. I hope that I will see you in person in Copenhagen soon or even in Malmö.

00:31:49 Federica Catonini

And well to our listeners, we hope you enjoyed this episode of the Climate Show. Stay tuned for more.

00:31:56 Aleke Stöfen-O'Brien

Thank you so much.

00:31:58 Linnéa Nordlander

Thank you for listening to this episode of the Climate Show. If you would like to read more about associate Professor Aleke Stöfen-O'Briens work, check out the link in the show notes. Stay tuned for our next episode.