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Episode 12
Future of Carbon Credits: Growth, Risks, and the Role of Insurance in Net Zero Finance

Sarah Baldys:
Welcome to Powered, where we talk with experts on the front lines of the energy transition to understand what's changing, what's at stake, and what boards and executives need to know now. From emerging technologies to evolving liability exposures, our guests bring sharp insight into how companies can lead confidently through the energy transition. I'm Sarah Baldys, US power and renewables leader at Marsh's financial and professional liability practice, and I am thrilled to hand things over to your host, Grace Brighter.

Grace Brighter:
Today we are happy to welcome Mauricio Manrique, Lara Whitmore and Alex Phillips to the Powered Podcast. Mauricio is a member of Marsh's Carbon Credit Center of Excellence. He has four years of broking experience across executive and professional lines, directors and officers liability. Before broking, he spent 12 years of D&O underwriting practice covering European markets. Lara has been with Marsh for five years, bringing experience from her work in the London real estate specialty practice to her current role. Much of her work over the past three years has focused on increasing business understanding of risks associated with the global carbon credit markets and scaling related insurance solutions for carbon credits. Alex brings over 24 years of experience in the insurance industry with a strong focus in financial lines. Since joining Marsh in 2020, he's been at the forefront of innovative and alternative solutions for clients. In the last 18 months, he has worked in establishing our Carbon Credit Center of Excellence alongside Lara and Mauricio. We are so happy to have them all here today.

Grace Brighter:
Thank you all for being here today. We are super excited to speak with you about the carbon credit market. So, let's just start with the basics. The carbon credit market can seem very complex to many. So, Lara, could you give us an overview of where the market stands today, how big is it and how has it really evolved over recent years?

Lara Whitmore:
Thanks, Grace. Yeah, of course. So, I think we know that here we're predominantly talking about what's called the voluntary carbon market in this conversation. But just to level set, I'd like to talk for a moment about compliance markets as well. So, there are two markets in which carbon offsets are traded. The compliance markets are those that are regulated at a national or regional or even an international level, and they're usually aimed at the energy intensive sectors. So iron, steel, oil refineries, power generation. The compliance markets are aimed to establish carbon pricing using laws or regulations which could control the supply of carbon allowances. And then there are also carbon tax or cap and trade schemes, which are intended to shift the economic incentives by making it actually more expensive to pollute. So thereby incentivize people to emit less. So, although there is some overlap, we are seeing increasingly as well between the two spheres of compliance markets and voluntary markets, which we also call project-based markets. We are not focusing on compliance today and we'll be focusing on that project-based slash voluntary market. I just wanted to make that clear because that's where the insurance solutions that my colleagues will be talking about were born from, but the compliance markets operate side by side to the voluntary.

And I think just to talk about both markets together for a second, the 2025 figures estimate a market size of around 2.4 billion US dollars as a market price, which is really astounding, especially given that in 2024 the market price was 2 billion and it was only 2.7 billion in 2023. So it's on par to keep growing and we see forecasts that go as high as a trillion-dollar market by 2050. And then the insurance market itself around carbon credits just to touch on it at this point, that is expected to be at least 1 billion in gross written premium by 2030, so only in four years' time. And so, it's expected to be pretty significant growth and a massive opportunity for those in the carbon market and massive amounts of growth potential for the insurance industry as well.

Grace Brighter:
That's really helpful context, Lara. Thank you. It's definitely fascinating to see how the market has grown and really diversified. Now maybe we can shift into speaking about who's really getting involved in carbon credits. Is it mostly governments or are there private companies playing a bigger role here?

Lara Whitmore:
So, there are a lot of corporates looking to do good in this space, purchasing carbon credits to try and meet their net zero targets and looking to buy and use credits

to offset their emissions. Essentially, that's the base use case. And what we thought that when we started with insurance and looking at solutions and risks, what we thought was the main opportunity to be frank in this market. But actually, and you'll know from your experience in the industry, there are many other businesses we speak to about risk and insurance who are going beyond just that purchasing. Increasingly, not just banks or institutional investors, but corporate lenders are getting involved in financing projects or expanding as well into the development of carbon credits themselves or trading and exchanging credits. And this is really because many across the markets expect, as I said, just a little bit before carbon prices to keep on rising as we get closer to those net zero deadlines now until 2030 and then again until 2050.

So prices are projected to keep increasing as supply of high quality credits tightens, and obviously that creates an incentive for investors and lenders to essentially front load capital into these projects today and capture that future price appreciation and at the same time secure cheaper credits for their own portfolios now. And then added to that, I think the expansion of financial tools such as carbon specific insurance is really reducing that perceived risk, not just for lenders who might be looking to deploy capital into natural capital projects, but also for developers and off takers. So, it's just making the opportunity to get involved more accessible for any of these stakeholders. I think in particular though, where we see real movement in the market at the moment is large banks, for example. So, it is those institutional investors who are starting to think about structuring hugely significant deals.

So we're talking multi-hundred million dollar credit facilities that are backed by long-term offtake agreements. So, we see a lot of those offtake agreements cropping up the market. And although there is that concentration there, it's doing amazing things because of the diversification of where they're spreading their investment. So yeah, we see a move to treating carbon removal projects not just as philanthropy, which of course it is. And it's very important for that as we as we get closer to those net zero targets but treating it also as commercial assets and commercial opportunities as well.

Grace Brighter:

That's interesting. So based on what you've been speaking to, it sounds like it's not just about buying credits anymore. It sounds like companies are becoming much more active participants in the market, but with that growth definitely comes some complexity. We often hear about the importance of integrity and verification and transparency in carbon markets. So, what are some of the challenges markets face today in ensuring the quality and credibility of these credits?

Lara Whitmore:

So, I think this is again another very key factor in the growth of market activity as we've seen it and as you said, it's been a really interesting time in the voluntary carbon market over the past few years. And what we've seen is what some people in the market talk about as the V CM 2.0 in inverted commerce, which really is the drive for quality since really in the post COVID era where people suffered businesses suffered reputational damages after aspects of fraud, aspects of not tight enough regulation and standardization essentially became clear in the market in those years post COVID and the market suffered, suffered a huge shock, rightly so because of it, because things needed to change. One of the benefits from that time has been the establishment of robust financial structures like insurance.

But just to take a step back for a second, what we've also seen in parallel is the development of many standards and guidelines to help this market growth and increase people's confidence in the voluntary market because where there's no obligation or regulation mandating players to get involved, the currency is confidence. So, it's absolutely essential to have this market trust embedded at every stage. And so, we've seen bodies like the Integrity Council for the voluntary carbon market, the I-C-V-C-M, and their development of their core carbon principles, CCPs. They have really helped stakeholders, especially buyers in the market, determine what truly is high quality and they're meant to act as a guide to buyers to help them understand essentially what to buy and what not to buy.

And we really see that now in the data as well. I spoke a bit before about 2025 data, and I think purchase of credits aligned to that CCP methodology has gone up by 300%, 2025 versus 2024. So, people are really getting behind that and looking at that as a flag for quality. And at the same time, you have groups like the Science-Based Targets Initiative who have come out with guidelines that state that you can't only focus on reducing emissions, you also have to be looking at your offsetting. So, what they're saying is one's not enough, it has to be both. And so, you must be focusing on reducing your emissions to net zero over the long term, and you also must compensate for those unabated emissions that along the way. And that's where carbon markets come in. So, you want those investments and purchases to stand true and do what they say that they're going to do. We've seen 2025 really as a record year in the market, and that's what we've been waiting for, quite frankly, for some time now. And so, it's on pace to keep going that way. But yeah, there's still some way to go in terms of standardization, but I think when we have the conversation now about integrity verification and that you mentioned Grace, it's a vastly different environment than it was a year ago even.

Grace Brighter:

You spoke a bit about increasing confidence and building market trust, which I agree with you is definitely critical, especially in a market that's still relatively young and evolving like this one. So, I think now we can transition and talk a little bit about risk. What are the key risks that buyers and project developers face when they participate in carbon markets?

Lara Whitmore:

Yeah, so I think it's a great question, and with any asset, especially one in a market that we want to scale, we have to address those risks and something that's going to be omnipresent for stakeholders, it's always there and it needs to be managed. So, I think it's important to acknowledge firstly that risks are present throughout the timeline of a carbon credit. So, we're talking about a physical asset, carbon dioxide in most cases being stored, sequestered, avoided physically from the atmosphere stored underground or in biomass or whatever it is. That process is a very physical one, one that insurance is typically quite well adapted and knowledgeable about. And then we have a sort of metamorphosis of that physical process into a much more of a transactional one where the credit is made a credit, it's tokenized, it's transacted, it's traded in some aspects, and then it takes on this intangible form bringing with it a whole new roster of different risks.

I think probably to outline a couple of simple examples, because many of the projects that we see in the market when we speak to our clients are still nature-based. So, we can take forestry projects as an example, and the development of carbon credits that way. So, if we take a reforestation project, at the beginning of that project and when it's being operationalized and developed, you can have what's called an under delivery of carbon credits. And in this instance, the amount or quantity of carbon credits that you're intending to sell as a developer or supplier are no longer available because the CO2 that was sequestered into the biomass of the tree of the material of the tree itself has been released back into the atmosphere. And you can also have a complete non-delivery of carbon credits. So, if the wildfire completely absorbed all of the biomass of your carbon project, then you might not be able to deliver any carbon credits at all.

And then above all that are operational risks that are common to any project. So as a developer, you could suffer insolvency or need to abandon your project or really just have challenges in running that project, which makes delivery no longer feasible. And then there's also other weather conditions and external hazards that threaten the life of the project. So obviously this has a significant economic impact on these projects, and this is where we seek to stabilize things with solutions like insurance to try and make sure that the road is less rocky and actually the under deliveries don't happen. And if they do happen, then they are compensated for in the form of repayments financial or in the form of credits.

And then on the other side of the spectrum as well, when credits themselves have already been generated and potentially passed on to their end buyer, that offtaker, the main concern is really about durability of those credits. So, there are certain things as well that can threaten that durability. And we think about physical reversals, which is essentially where the previously stored or sequestered carbon dioxide is released back into the atmosphere potentially because of a damage incident is probably the most frequent or invalidation. So, something on that more registry level on the accounting level has gone wrong. There might be an instance of fraud, an instance of double counting, an error in the methodology, an error in the auditing. That means that however many and what type of carbon credits have previously been issued as valid need to be invalidated for one of those reasons. So, all that's to say from a very high level, there are quite a few risks that can absolutely change the economics of a carbon credit project for both people on the buy side and the demand, the sell side as well.

Grace Brighter:

That's great. Thanks Lara. Those risks really highlight why this market needs specialized support for sure. As confidence and participation in the carbon markets grow, like you mentioned, insurance definitely has begun to play a vital role in managing some of these risks, which is something we will explore in more detail in the next part of our podcast. So, thank you.

So, Alex, maybe you can start us off here. Let's jump right in. We heard in part one of this podcast that there are various risks involved with carbon credits. So many listening might be wondering now, aren't these risks already covered under certain existing insurance policies? Why is there really a need for dedicated insurance solutions specifically for carbon credits?

Alex Phillips:

Yeah, thanks Grace, and thanks for having us today. So absolutely, it's a really good question. So, when you're first thinking about this as an insurance person, you may think, right, okay, well we've bought political risk insurance for a long period of time. We've got nat/cat, we've got property damage type insurances in place, and remembering we are covering the carbon projects themselves, not necessarily just the carbon credits. When Lara's at the end of the last podcast in part one, she's explaining that actually there's a lot of risks in these projects that might not be covered by those kind of policies. So i.e., you could have a situation where there is a change in political circumstances and the land was seized, and that might be covered under some aspects of a political risk policy, but there is no policy available for some of the risks Lara's talking about, for example, the reversal risk that such as our forest that we've claimed all these nice carbon credits from now burns down and once it's burned down again we have to reverse the credits and you've lost them.

There is no insurance policy in place right now that you could buy unless you go for these kind of things. And as Maurizio will come onto, then they can be more manuscripted and formed around the risks you want. But what we're seeing in the market right now is that clients actually want to buy something that's going to cover all risks arising from the carbon projects, so that almost for whatever head of or peril they're faced, if that resulted in under delivery or under use of carbon credits for the developer or for the person retiring the credits, that there's dedicated insurance in place. And that's why we see this as a real big growth area for the

insurance industry and for everything to do with carbon credits.

Grace Brighter:
Thanks, Alex. That's a great explanation. It sounds like a lot of these diverse risks in carbon markets definitely required a more tailored approach.

So, what types of insurance solutions are currently available to address some of these risks that we just learned about?

Alex Phillips:
Okay, so essentially when we're talking to people and we're trying to educate, they fall into two buckets. So, it's very simply in the life cycle of a carbon credit, there will be the developers who are financing a project to produce carbon credits. And if they fail to produce those carbon credits, that's what we call delivery insurance. So i.e., that they've the number of carbon credits to the corporate or as it's known, the offtaker. And the other side of it is the risk that goes for the corporate or the offtaker once they've received those credits, whether those credits could be canceled and that could be almost for any reason. So, as we were saying, I was saying before, if the forest burns down and then releases all the CO2 back into the atmosphere, the agency will have to come through and say, I know you've bought these credits, but now they're worthless or worth still.

Now you need to go back and buy more credits to reverse back the retiring of the credits and the offsetting of your carbon emissions as a corporate. So, I think within those products, there are ways, and we might not be able to cover it all on this podcast, but as I mentioned in the previous answer, there are ways to then tailor the insurance to cover any certain parts of cover. So, one question we always get asked is, why is this not in the actual credit insurance market? For example, like words credit, why is it not there? And so, you can buy absolutely insurance for under delivery because the project becomes insolvent, but then you might want to buy that but no cover for political risk or you might not want any nat/cat cover within it. And so, there is ability for clients to adapt the cover to exactly what they'd want and they'd see fit. But usually when the underwriters is looking at it, they're looking at the entire picture and putting it into those two buckets, either problem with the delivery at the start, as I say. So, the developers doing that or the offtaker and the cancellation cover.

Grace Brighter:
Great. Thanks, Alex, for breaking down all those solutions for us. I guess another question for you. Why do stakeholders really purchase these insurance products you just outlined? Curious to know what benefits they see in making these purchases?

Alex Phillips:
Yeah, so I think we've all been on a bit of a journey on this. So, when we first started thinking about carbon credits insurance, you try and think of the companies that would have the most exposure to needing to buy carbon credits. So, we are probably rushing off to speak to big airlines, big power company, energy and power companies, and maybe even the biggest users of carbon credits, which are the big tech companies in the US. The issue sometimes with those kind of companies is that ultimately their balance sheet is so vast and their risk tolerance is actually a lot higher than many other companies. That the idea of basically having to go out and buy a few more carbon credits is not quite the risk that smaller companies would have. So, where carbon credit insurance has been really good recently is on that delivery side.

So you'll have developers who are trying to build a forest and be able to issue carbon credits from the back of it. They need funding and they are much smaller, so it could be almost two use cases. One is they actually need it to obtain funding from the banks to start the project. And that has been our best source of deals has been for people directly using that. So, using it as something to reassure the bank that there is value in this project. The other part that developers are looking at is that will a project that is actually insured for the carbon credit delivery be worth more for people to buy carbon credits from that because ultimately if there's a wrap that there's insurance behind it rather than no insurance behind it, people may be able to pay a higher price for the insurance, sorry for the carbon credit when it comes with insurance and it's actually got a rated insurer behind it rather than just no cover whatsoever.

So it does give some credibility to the project. The other area where we're definitely going to start seeing inquiries as we go into ‘26 and certainly into ‘27 is that airlines will need to buy carbon credits when mandatory CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation) legislation comes into force next year. And so that's really driving a lot of fresh buyer demand from airlines. And I think as Lara is saying, there's been an exponential increase in the amount of money spent on carbon credit projects in the last year. So, I think in 2024 it's about 2 billion, and in 2025 it was 10 billion and then even more expected in ‘26 and ‘27. So as we get up to these 2013 and 2050 goals, so in short, we really expect that the idea of the insurance, it's going to be able to unlock more and more carbon credit projects because the credits will be more respected and also will start liquidity into the market to get people to invest.

Grace Brighter:
Great, thank you. I do have a quick follow up just on that last note, the CORSIA coming into effect. Obviously, it sounds like you are expecting significant uptick in demand for some of these insurance products. Do you know or do you have any idea how insurers are really preparing for this uptick?

Alex Phillips:

I think insurers, I think insurers want to have use cases like CORSIA to come in to give it much more of a straightforward way to, there's actually a proper need to buy this kind of insurance because essentially CORSIA is an agency that's going in and rating these credits and if they're happy with them, that basically makes them more insurable because there are many different rating agencies for these credits. And knowing that they've been through that and knowing that only those can be bought by airlines increases the values of those and then makes it much more of an insurable risk the people are willing to cover.

Grace Brighter:

Great. Well thanks Alex. That was wonderful. I believe this is now a question for Mauricio. It's clear that insurance is becoming a key enabler for growth and confidence in the carbon market. So, looking ahead, what do you see the carbon credit insurance market looking like in five to 10 years and what really needs to happen for it to scale sustainability and truly kind of support net zero finance, which we referred to a little bit earlier?

Mauricio Manrique:

Yeah, thanks Grace. I'm happy to take this. There are two elements in your question, and I will do my best to answer comprehensively. So please, at some point not clear, just stop me. The first part is where are we going to be in 10 years? And the second is, what do we need to do to operate at scale? Well, 10 years perhaps is too long to predict, but in five years' time, as Lara made reference, the gross written premium for carbon credits should reach the 1 billion US dollars. That is the target. And there are quite a few things that must or should happen to get into that number. The first is on the demand side. So, interest from developers, lenders, and off takers to transfer the risk to the insurance market should continue to rise. It is for now, for us, evident that risk awareness is increasing across the board and submission flow is also ramping up.

So we are confident that in the next five years, the risk transfer will become a priority for all parties involved in the carbon ecosystem. I personally believe that this is just a matter of time. The second is the insurance capacity, which must increase from today's 70 million to a more sizable market, able to ensure larger deals and do it be able to ensure a higher volume of transactions. And the third and perhaps the most important is the product. If you think about it, we are at the beginning of the journey. So, carbon credits as a market has less than two years work. However, the product offering is quite broad, multiline and written in all risk spaces. So, wordings will continue to evolve hopefully to a more widely accepted language, which will help broaden participation from Lloyd syndicates and also company market. Wordings will also likely to evolve to cover the entire project life cycle hopefully rather than pre issuance and post issuance and move away from annual renewable policies to multi-year policy periods.

The reason for that is that what buyers really want is the confidence that credits will remain valid for the life of their net zero goal. But what we find very often in the market is that cover is provided for one, two-, or three-years policy periods. Therefore, to get to the 1 billion gross, which in premium it should be a combination of higher volume of transaction, that is number one, a stronger insurance market and streamlined underwriting process. This is more capacity and shorter placement period or underwriting period, what you want to call it. That's number two. And number three is the right product at the right price to also secure profitable growth for insurers to make capital credits more appealing for insurers. And the second part of your question was about scale. What do we need to do to operate at scale?

One of the main strategic goals for us, for Marsh, is to play a relevant role in the risk carbon assets and unlock climate finance. Great progress has been made since then, but I think we need to collectively continue to improve in three areas. Number one is produce quality, so better projects and therefore ensure quality. Insurers must believe the capital credits are real, are permanent, and deliver the climate benefits they promise. This is in short increase the underwriting appetite. Number two is remove and if we cannot remove, at least reduce the question mark about the verification agencies and registries moving into a more standardized verification process. And the third is more regulatory clarity. So if we ensure quality projects, if we work with more consistent standards and regulation, we should be able to create a space for lower interest rates from banks and investors back in carbon assets, but also create a space for a more tolerable insurance premium, which is going to lead us into a dynamic carbon credit insurance market, which moves away from the niche instrument that it is today into a more reliable, larger scale component of the net zero funds.

Grace Brighter:

Great. Well thank you Mauricio. It definitely sounds like the carbon credit market has a bright future and really excited to see sort of what the future brings. Before we wrap up here, this question can be for really anyone to kind of tackle, but just curious for companies and maybe investors who are listening and they're wanting to know a little bit more about carbon risk coverage and they're ready to secure protection, who should they be reaching out to? What should they be thinking about and what information should they really have on hand to make conversations as effective as possible?

Alex Phillips:

Okay. Yeah, look, we've set up this center of excellence in Marsh and London and the reason we've set up the center of excellence in London is that the vast majority of the insurers that offer these specialist products are based in London. When it comes to what kind of information they should bring, honestly, every single projects quite different. And it would probably be best to come to us and have a conversation first and we can go through the risks, what's available, what they want to cover, because as I mentioned in the question earlier,

you can turn on an awful lot of coverage and it's not quite like a one size fits all coverage. And as Mauricio was saying, it's all about demonstrating how good the projects are and why they deserve the best insurance terms. And the best way to do that is just to come to us and have a conversation.

Grace Brighter:

Fantastic. Well, thank you all for sharing your insights today. This has been a fascinating look at how the carbon market is evolving and the critical role insurance is playing in managing risk and enabling the growth that we talked about today. So really appreciate your time with us.

That's all for this edition of Powered by Marsh FINPRO. We hope you enjoyed our discussion and thank you for listening. You can rate, review and subscribe to Powered by Marsh FINPRO on Spotify, apple Podcasts, or any other app you're using. You can also follow Marsh on LinkedIn or X. In addition to your podcast feed, you can find more episodes of Powered by Marsh FINPRO at www.marsh.com/poweredbypod and more insights from Marsh on our website, Marsh.com. Until next time, thanks for listening.