



An Insider's Guide to the Carbon Markets:  
Interview with  
Pedro Carvalho of EcoSecurities Ltd.

Bonus Material to *Sustainable Oil and Gas with Blockchain*

## Inside Carbon Markets

*Pedro Carvalho is a Carbon Portfolio Manager of EcoSecurities Ltd. of Geneva, Switzerland. Founded in 1997, EcoSecurities registered the first Clean Development Mechanism (CDM) carbon credits project and is now involved in a variety of conservation and reforestation projects, blue carbon, and community-based projects. In this interview from June 8, 2022, he shares with us some of his insights on the carbon markets.*

Si Chen: Since we last talked COP 26 happened and the Paris Agreement Article 6. What is your reaction to that?

Pedro Carvalho: I think it was a good outcome, a realistic outcome. We got some guidance on how our projects can move forward. The scientific body meeting in Bonn at the headquarters of the UNFCCC is taking place as we speak, where we expect that a lot of the work to operationalize Article 6 will be implemented. So in the end I thought the outcome was interesting. I was expecting a bit more stringent rules to be honest, especially the transition from CDM to the new scheme. But this is not to say that the system in a broader sense is flawed. It's just opening the chance that more stringent regulations take place on the infra-legal side, in the sense that this could be decided by some cut-off date and transition rules. I'm happy, but it's very hard to get any material or concrete indication from what was decided at COP 26.

Si Chen: So you're still waiting to see where it all falls out.

Pedro Carvalho: Exactly. From a project developer's perspective we had a lot of signs on how corresponding adjustments would be implemented and what will be demanded. But we still don't have any indication of how they will be implemented or what will be demanded from countries to give the corresponding adjustments. We know that we have to face the corresponding adjustments, but at the moment it's quite impossible to get them, and that's because the governments don't know what is a correspondingly adjusted credit.

Funnily enough, you do have market players that are getting letters signed by governments saying that they will give the corresponding adjustments. But I have my doubts on how material those letters are or whether those letters are just empty words, because a lot of governments, especially governments of small countries, are giving those letters just to attract attention. But they're not sure of corresponding adjustments for each kind of project. Now that all the countries need to implement their decarbonization strategies, as time passes countries will start to realize that most of the carbon projects that are developed today, especially conservation ones, are the cheap emission reductions to achieve. So why would a government give to private initiatives the cheap things and stay with the hard to abate sectors? That's something that I think that as governments start to understand this element, they will be a bit more restrictive on giving the corresponding adjustments. So we have to see how the rules are enacted so that's why I'm going to Bonn next week to try to get a grasp on those.

## Inside Carbon Markets

Si Chen: One of the interesting new products from the oil majors is the carbon neutral LNG, where they are shipping LNG with carbon offsets. Have you seen that driving the market at all or is it still too early?

Pedro Carvalho: I think that Japanese players are doing a bit more of those operations, but there was a lot of criticism of greenwashing based on those transactions. There was even a report that was published scrutinizing ten LNG shipments and saying who bought, who did not buy and what kind of credits they used. Speaking with some brokers here in Geneva, I got the information that this scared the interest of buying offsets, because using the offsets attracted public scrutiny. So they're not wanting to pay more to try to be aligned with ESG, if in the end it's backfiring on me.

Speaking on carbon neutrality, one thing that I saw that was very interesting: Now more than ever people are trying to deliver biomethane. They produce biomethane out of their own processes, and then they have an agreement for biomethane with another person in the market. If they were not able to produce the full amount of biomethane, they can also provide part of the methane with fossil fuel natural gas. Then the portion of the natural gas that they're providing, they're providing with carbon offsets, so they can deliver the whole shipment as carbon neutral, because there's no emissions from biomethane and the other part because it's already compensated. So from the buyer's perspective there's no GHG effects in their inventory.

For those specific cases, the buyers will go with something that is connected with their activities, for example credits out of methane capture, so very connected with their activities.

Si Chen: In the next five years, what do you think will be the biggest developments for the carbon markets?

Pedro Carvalho: I think corresponding adjustments, because corresponding adjustments have several implications, not only in the voluntary market but also in the compliance markets. If you have the corresponding adjustment, then for instance, there's a real case that's happening today in Indonesia. They imposed a suspension on the issuance of 2021 onward credit vintages, because they're saying that they are deciding what they want to do internally with their carbon. There is some "corridor information" saying that the landing area for the regulation in Indonesia is that they will demand that 30 percent of the credits that are already in the country will need to stay in the country. So if you need to trade 30 percent of the credits in the country in Indonesia, which is a country with a lot of projects, you could expect that this portion that you need to trade domestically will have a discount on the price of the carbon that you'll be trading internationally.

## Inside Carbon Markets

On international credits you could experience that the prices are going up for the same reasons. Verra, Gold Standard, and also the UNFCCC are discussing shortening the crediting period of the credits. This would also drive the prices up because the time to repay your investment on the carbon is reduced.

Also Verra, Gold Standard, UNFCCC are discussing how to review additionality on a rolling basis. So let's say that today and that's the point: Carbon market and carbon projects will be very connected to the countries' NDCs. The message here is if a country says today in 2022, "My NDC, my nationally determined contribution, is I will reduce the emissions from my power sector 40 percent." Great.

Then in 2025, we do the revision, take stock. Then the country says, "I reduced 40 percent of my emissions from the electric power sector," or maybe not, but you know what, I'm changing my rules. I'm changing my objectives. Instead of reducing my emissions from the electric sector, I'm also reducing from my forestry, because I have a lot of deforestation. So now I'm also reducing from deforestation. And then what would happen with the REDD+ projects conservation projects that were developed in this country?

Let's put a name: Brazil. Let's say we have a lot of projects in Brazil today, and today my project is not overlapping with the country's NDC, but let's say that this is the case in five years time. So today my project is additional because the government wouldn't be doing that, but let's say in five years time the government says I'm investing one billion dollars per year on deforestation activities then my project all of a sudden is not additional anymore.

So you have those things and I think that all of this is connected at some level -- directly or indirectly -- to the NDC, and thus also with the corresponding adjustments. So the biggest single change that we have in the current markets from the regulatory perspective will be the corresponding adjustments. Not only the corresponding adjustments as in the metrics, but also the costs and financial effects that it will have in the market.

Si Chen: In both the compliance and the voluntary markets?

Pedro Carvalho: Exactly. Because even in the voluntary market, you already have players saying "I want my credits with corresponding adjustments." Then my answer is, "but what are you using those credits for"? They're saying, "I'm using it for voluntary purposes but I want to ensure the highest levels of integrity" Then I'll tell you, "okay so that's a premium of 30 percent or 50 percent." The level of the premium still has to be decided, but it's something that would need to be agreed.

## Inside Carbon Markets

We were discussing in the beginning of the interview about Article 6. One of the things that is evident already is that if you want to develop a carbon project under the UN rules it will be more expensive, because to start off you'll have a seven percent withholding. Two percent for the overall mitigation goals to ensure that the project is indeed additional, and the other five percent is as SOP, or share of proceeds. With every credit that you issue, they would get five percent to resell to the market at another stage. With the revenues from the project from that sale, they would implement adaptation initiatives, so that's the share of proceeds to the adaptation fund. So if you're developing a project under CDM, you already have a five percent reduction on your credit, so you could also expect that the price for CDM or like the UN system will be higher than the price from the voluntary standards. People will buy credits with and without corresponding adjustments for voluntary purposes. Again, it would depend on the buyer.

Si Chen: The last question that I have is: Have you thought about the effect of these web3 or blockchain projects in carbon credits, carbon offsets? What do you think of them and their effect on the market so far?

Pedro Carvalho: Based on the initiatives that we have in the market, I mean it might be a bit of ignorance or maybe the role that I play in the market, but I don't see a lot of added value from all the things that they're doing. As a matter of fact, they say that they're increasing security and transparency in the market, but to the contrary I think that there is another flaw in the system. Because they undergo the whole process with the analog system that we have today, and after the credit is issued, then you retire at the registry like Verra, Gold Standard, and then they tokenize that. Who is the one ensuring that this process from the registry to the tokenization is the right way? I don't know. It stays in the registry, it's a token, it's like Moss, it's any other player engaged in the market.

But what I think is interesting is before the issuance, in the upstream, so the blockchain can be embedded into the monitoring and the project development. Today the project cycle is still grounded on the rules and the assumptions that were established in 1997 together with the Kyoto protocol. So today I still develop a report, prepare a PDD, and engage the auditor. He prepares another PDD, and it's like a very analog process. So for instance, we can have satellite images feeding an API system based on blockchain and ensuring automatic monitoring. Then you can see by the day, by the minute, how much carbon your forest is absorbing. That's amazing, that reduces transaction costs, that increases the gains of the project, and also ensures more stringency in the process.

So the blockchain as an additional layer after the product is issued -- I don't see a lot of added value because today. If you look at the Verra registry, it's already a stringent registry. You might have some IT problems if someone has a system, but still if you would ask a secondary market

## Inside Carbon Markets

player -- and that's a very important thing to say, I only operate on the primary market, I do not take positions in the market -- maybe they'll say it's better to trade with Toucan or like a tokenized credit because I can ensure higher levels of stringency. But for me as a project developer, I think it's not adding a lot of value. But they do have a lot of potential.

Si Chen: But if the project development cycle is done on the blockchain, for example, all this data is on the blockchain, then- do you still see a place for these entities like Verra or gold standard? Or like if all the data is already on the blockchain, could some other entity just issue credits off of those and be credible?

Pedro Carvalho: Their role will change. Instead of being standard setters and registered operators, they will be only standard setters. So what kind of deforestation rates, how to implement a conservation project -- this will still be done by Verra for instance. But then I'll get all this information and I would just dump it into a blockchain system, maybe a third party and so on to ensure that this is done in the right way.

Si Chen: So you see a hierarchy where there's these core carbon principles, and then below that specific standards would say this is exactly how we interpret it. These are the deforestation rates, and this is how much leakage protection, all the different terms that need to be precise parameters that implement the core carbon principles. Then somebody could then take that standard and then operate the issuance of the project and a registry for it. For example, using the blockchain.

Pedro Carvalho: I think so. It would take a couple of years, I don't think that's near that, but yeah I think that's very feasible and it would make everybody's life much easier.

