The Natural Resources Podcast

The Lithium Triangle

With Florencia Heredia

Åsa Borssén:
¡Hola a todos! And welcome to this Highgrade podcast in Spanish. For this, I will leave you in the hands of Nic Di Boscio. If Spanish is not your thing, there is of course an English transcript waiting for you in our website at www.highgrade.media

And without further ado: over to you, Nic.

Nicolas Di Boscio:
The Stone Age. The Bronze Age. The Iron Age. The way we use minerals has gone hand in hand with human development. Today, humanity contemplates a future beyond fossil fuels, and so the demand for new minerals is growing.

Lithium appears as a potential winner, with opportunities and challenges for lithium producing countries.

I'm Nic Di Boscio, and this is Highgrade.

Welcome to Highgrade. Our guest today is a lawyer, a specialist in natural resources, Florencia Heredia is a partner of the law firm Allende & Brea and heads the Energy and Natural Resources division. If you don't know her, she is one of those characters that cannot be missed in seminars or conferences and one of those mandatory references in mining in Latin America.

Nicolas Di Boscio:
Florencia, it is a pleasure to have you with us.

Florencia Heredia:
Thank you very much, Nicolas.

Nicolas Di Boscio:
A lawyer by profession. How did you end up specializing in natural resources?

Florencia Heredia:
Well, the truth is, as many things happen in life, quite by chance. That's the truth.

I was a very young lawyer in Beccar Varela Law Firm, the law firm where I started as a lawyer. One day, the partner I was working on a mining matter with came to me. It was the 90's, year 92, and that's when it all started. In other words, it was merely a combination of being in the right place, at the right time, and with the right issue. And from then on, I started working on one mining issue after the other. At that time, it was the bidding for the Bajo de la Alumbrera project, which today is a copper project that is beginning its closure in Argentina. So, we are talking about twenty-eight years ago, more or less, right? 1992, yes.

Nicolas Di Boscio:
Now that you've mentioned it, you grew up in Argentina, typically better known for agriculture than mining. What real potential would you say the country has in extractives?

Florencia Heredia:
Well, I believe that Argentina has a very interesting potential. Undoubtedly, it is a geological potential to be developed that goes hand in hand with or is also linked to other country resources.

And as you rightly say, Argentina is typically an agricultural, livestock country. Regardless of that, I think we have a very interesting geological potential, as it has been demonstrated in the last 25 years with the development of projects, but that competes with other productive areas of the country as well.

Nicolas Di Boscio:
Let's think about production volumes in countries such as Brazil, Chile, or Peru, for example. Why would you say that Argentina is running behind several of its neighbours?

Florencia Heredia:
Well, I think a little bit because we have many things. In other words, mineral wealth is not the only thing Argentina has. But also because our neighbouring countries, especially Chile and Peru, have clearly consolidated, not to mention Chile, which is a good producer, number one of copper in the world, but a country with a mining trajectory of several decades, and Peru has also been consolidating in recent times. In other words, both countries have maintained a solid, constant, and, I would say, strong mining policy. Argentina still has some work to do in this regard. These are policies that must be maintained in the long term.

Nicolas Di Boscio:
If you don't know Latin America, you might imagine a relatively homogeneous continent. Obviously, history and geography have much, much weight, but I believe that the differences are as great as the similarities. If you think, for example, of the extremes such as the cases of Chile and Venezuela in governance. I would like to ask, from a legal framework point of view, how do you see the different realities in the continent today?

Florencia Heredia:
In mining law, I would say that Latin America has a fairly homogeneous legal framework, because in what is the core of the mining regime, that is, all our countries have a Spanish tradition and colonial law in terms of the mining regime itself, of course, and codes of long -let us say- which have a very long history. But of course, all this has been adapted with the times and with the dynamics of the industry. There is a common base, but I think that what distinguishes the legal frameworks has been the complementation of state policies in each country, which have been complementing the regulation with promotion tools to develop the sector. There are some differences that have more to do with political and economic issues in each country.

Nicolas Di Boscio:
Chile and Peru are the world's first and second-largest copper producers and are generally seen as successful mining jurisdictions. Is this a reflection of the geology or the legal framework?

Florencia Heredia:
But there are also other factors that will make an investor choose one country or the other. If, for example, we have copper in both countries, these factors are more related to legal security. Clearly with political and economic stability.

Nicolas Di Boscio:
Let us now turn to a more specific topic. Energy transition is a common topic of discussion at Highgrade, and we often find ourselves talking about lithium as well. So, before we go any further, could you explain to our listeners the link between energy transition and lithium?

Florencia Heredia:
I believe that there is no doubt that the energy transition is an issue that is already on the international agenda, and increasingly on the agenda of each country, and it encompasses or impacts on several aspects and factors, but without a doubt, everything related to electric mobility and the development of electric cars has been and continues to be the key. And in that, the role of what the batteries are going to play a crucial role. And as regards battery components, although there is much to be discovered and much to innovate, lithium seems to be, according to experts, the element that will always be necessary, so the relationship is, let's say, to the most initial resource in this new production chain that will mark, let's say, the milestone towards the energy transition.

Nicolas Di Boscio:
Is lithium the new copper of Latin America?

Florencia Heredia:
Copper will also play a very important role. Today, we talk about technological minerals, critical minerals, minerals linked to batteries, and other minerals. Still, lithium clearly seems to have a preponderant place considering all the others, but it is not the only one. And I want to emphasize that, although its presence seems to be the most essential.

Nicolas Di Boscio:
You recently published, along with other authors, an article that analyses the commercial potential and the development potential in general of the so-called Lithium Triangle. Tell us what it is about.

Florencia Heredia:
Well, what we tried to achieve with this article was to give a very general overview of the Battery Minerals sector, and particularly the countries in Latin America called the Lithium Triangle, made up of Chile, Argentina and Bolivia. In a very general way, this is an article that starts a series of articles, and aims to give, as I say, this initial overview from an international perspective, but let's say, noting the elements or challenges that the three countries are facing and will face. Chile has a long trajectory in this, the extraction of lithium. This will continue later with a more particular focus on Argentina, Chile, and Bolivia, with authors from Bolivia and Chile. And then also with experiences, for example, from the United States, where the State of Nevada also has lithium in a quite similar composition to that of the Lithium Triangle. So, it is very interesting to compare and see the development in these different jurisdictions.

Nicolas Di Boscio:
You talk about lithium and you talk about countries like Argentina, Bolivia, Chile. For those who don't know it, what is the Lithium Triangle?

Florencia Heredia:
In other words, there is lithium in these three countries and in, let's say, the conjunction of these three countries' borders. But in the case of Argentina, basically in the provinces of Salta, Jujuy, and Catamarca. In Chile, we are talking mostly about the Atacama Desert. In Bolivia, the famous Salar de Uyuni. In other words, lithium concentrations in salt flats in what is called not in-rock lithium, but in salt flats. And these reserves, let's say, have a different way of being exploited and extracted than what is in the rock or in practice.

The three countries have these deposits in this way, and therefore, of course, in some ways, there are hydrogeological and geological interconnections in the formation of these salt flats.

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Nicolas Di Boscio:
This is Highgrade. Today we are talking to Florencia Heredia, a specialist in Mining Law in Latin America, specifically about the growing demand for lithium and the development of the so-called Lithium Triangle in Argentina, Bolivia, and Chile.

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Florencia Heredia:
These three countries are positioned in this triangle as very interesting producers, with the ever-increasing development in demand for this mineral, precisely because of the energy transition and electric cars' development. Chile is a country that has been exploiting this resource for many years, and the reserves of Bolivia and Argentina seem extremely attractive to complete, or complement, the increasing demand; that is the idea. So to speak, it is to be blessed with a resource that in the next few years will be increasingly in demand.

Nicolas Di Boscio:
How do we make this new geological resource a fact, a reality?

Florencia Heredia:
Well, Argentina actually has two projects underway with production, in addition to many others that are in the advanced exploration stage, which will clearly continue. I believe that what is lacking more than anything else is technical development; in other words, the extraction of this mineral is not so simple. It is necessary, in some way, and to put it crudely, let us remember that I am a lawyer, to clean the impurities in the extraction. And well, different companies have different technologies, and all this has had a very interesting development and dynamics in the last years and there are more and more efficient processes to achieve this extraction in a faster and more economical way.

Nicolas Di Boscio:
Is this somehow a competition between countries to see who gets there first? Or is it a collaboration between jurisdictions?

Florencia Heredia:
Well, in reality, the salt flats are quite identified and individualized within each country. There may be some formations that perhaps transcend some borders, but not in general terms. And I would say that the countries compete for resources in the sense of how to attract the best investment for faster development. The truth is that when comparing the three countries, Chile is far ahead of us because the company SQM, for example, has been exploiting and developing these resources for many years. In other words, Chile has a, let's say, a potential that has been developing for a long time. In the case of Bolivia, I believe that the Salar de Uyuni may also be a great surprise for the future, but due to history and political events in Bolivia it has not been developed so far, but it may change shortly. And Argentina has resources coming up in several provinces. Like I say, at least there are projects in advanced exploration, and two that are underway. But I would say it's more a competence of the countries.

Nicolas Di Boscio:
And what do you think the role of the State should be in the development of this resource, in the development of lithium?

Florencia Heredia:
Well, I believe that the role of the State must always be to control, clearly the State issues the regulation and must be the true authority and controller for the peace of mind of all, of the companies and of the communities. Of course, the State also has to be very attentive to international dynamics, because it is the State that represents the country in the international evolution. In this, I believe that there has to be a role of greater training and formation, to be able to control better. But clearly it has to be the role of accompanying, formulating policies, implementing them and controlling the proper execution of the legal regime. This is very dynamic. There are states that have a more interventionist vision, while others do not. There is also a lot of discussion about the strategic nature of these resources. And well, I believe that this also merits a debate with civil society.

Nicolas Di Boscio:
Now, in a development of this scale there are other factors, other dimensions to take into account, in addition to the extraction of the mineral. We know, for example, that the water issue is crucial in the region. From your point of view, what are the environmental and social considerations to be taken into account in the Lithium Triangle?

Florencia Heredia:
What I would say here is that, well, each jurisdiction, each country and in the case of Argentina, each province has its own agenda and its own stamp and special characteristics that make, let's say, the local aspect very relevant to the projects. That is why companies need to understand the context and the environment in which they have to develop the project.

For example, the province of Jujuy has a very high component of indigenous communities, and in many of the lithium projects and surrounding areas there are communities that have been living there for many years. So, well, the approach and the subject matter may be different from other places, where we may be talking about salt flats in remote areas where there are practically no inhabitants. But, well, this is a little bit the ABC of mining. Challenges. I believe that the extraction of water is undoubtedly a challenge, although I also believe that here again, we have to look at each project in particular and analyse the hydrogeological and hydrochemical situation, because the geochemistry of these projects and how they can be altered or not, is what can make the difference in terms of impact, right? It is not only a matter of water extraction, it's also that the hydrogeological and hydrochemical conditions are maintained or that they can be restored in the salt flats.

Nicolas Di Boscio:
And speaking of challenges and opportunities, one issue that always seems to be of obvious importance to the mining jurisdiction is the question of local processing. That is, what potential exists in the extracted resource and the regional economies' structure to somehow process the resource in the jurisdictions themselves. What real potential do you think there is in this case?

Florencia Heredia:
For example, if we refer to what could be, let's say, the manufacture of batteries near the production sites, initially I think it would be difficult. We would also have to put into the equation where these resources will be exported to and look at the costs. But clearly I think that in a little bit, in the horizon and the projections of the companies, this is always considered.

Nicolas Di Boscio:
Florencia, a successful natural resources lawyer, if we may, let's end this with some free legal advice, courtesy of Highgrade: What would you say, what would you advise a government and an investor looking to develop the Lithium Triangle?

Florencia Heredia:
Well, almost like solving everyone's riddles, right?

Well, I think that what I have been repeating in some questions, in some answers, is clearly to maintain long-term policies. I believe that establishing an adequate framework, which I think Argentina has–of course, is improvable and of course, it has to be adjusted to the dynamics of the industry. And here there is something very important to highlight: in this sector, more than ever, innovation and technology play a very important role, which is becoming faster and faster. Everything is accelerating in an awe-inspiring way in the world, and I believe that regulators must be flexible enough to ensure that legal frameworks are adaptable, or that a certain flexibility is allowed as times change. But at the same time maintain the policy of promoting and strengthening the sector for several years. It does not matter which government changes, but this should be a state policy. I believe that this is key for governments.

And for investors. Well, investors look at this a lot, but I would say that in addition to the general consideration of the elements in the country that make legal security, stability, the resource, the issues, also let's say social and environmental issues that today are key in the decision of any investor. It is also the local aspect. In other words, we should not think of projects from an Australian, Canadian, American or English point of view. Of course, yes, from the head offices, but with very local involvement, they are going to impact in the community. But also, in the local environment and the local management they will have to rely on, which is crucial for the development of any project. And even more so today in these projects where so many issues of innovation, technology and that make our world's future converge alongside the energy transition.

Nicolas Di Boscio:
Florencia, I want to thank you again for being with us. It has been a great pleasure to talk with you.

Florencia Heredia:

Likewise, Nicolas, it is a pleasure for me. The truth is that I much admire the interviews you always do -very interesting for our sector- and I hope to have contributed with something in this aspect related to lithium.

Åsa Borssén:
Thank you, Florencia, for joining us. And thank you to Nic, Highgrade's Editor.

What I'm taking with me from this conversation.

The energy transition is redefining minerals demand, and lithium is emerging as the likely winner as a critical input into battery production. The so-called Lithium Triangle - Argentina, Bolivia, and Chile - has the potential to lead the charge. There are reasons to be cautious, however. The legal framework in these jurisdictions can ultimately determine success or failure.

This podcast was done with support from the German Federal Ministry for Economic Cooperation and Development, through BGR, and the Inter-American Development Bank. Make sure to subscribe to our channel on whichever podcast platform you are using. In our next podcast, early in the year, Highgrade will explore a trend to keep an eye on in 2021.

Until then, so long!