

Podcast Interview Transcript

*Guest: **Jocelyn Douh  ret**, Director of Mining Policies, Minist  re des Ressources naturelles et des For  ts du Qu  bec*

*Host: **Pascale Massot**, Co-Founder of APF Canada's Canada-Indo-Pacific Critical Minerals Hub*

Topic: Quebec's critical minerals strategy and rare earth supply chain resilience

Introduction

Pascale: Hi everyone, I'm Pascale Massot, Asia Pacific Foundation of Canada's John H. MacArthur Research Fellow and Associate Professor at the University of Ottawa. Welcome to this edition of *Minerals Matter*. Our guest today is Monsieur Jocelyn Douh  ret, Director of Mining Policies at Quebec's Ministry of Natural Resources and Forests. He joined the ministry in 2023 after a long career in the mining sector, including a stint at the Soci  t   du Plan Nord. Monsieur Douh  ret, thank you for your availability and your time. It's a real pleasure to have you with us.

Jocelyn: Merci, Pascale. Thank you for the invitation.

Quebec's Mineral Endowment

Pascale: To get us started, for listeners who aren't familiar with Quebec's geological endowment, can you give us the broad picture? What were Quebec's past strengths, and what are its current and future strengths in terms of mineral reserves?

Jocelyn: Of course. Mining in Quebec started about 150 years ago, mainly with gold and iron. Most of the gold is in northwestern Quebec near Val-d'Or, the "Golden Valley," which is still where most of Quebec's gold is mined. Iron has been mined for at least fifty years on the North Shore, around Fermont.

Other substances followed, such as nickel in Nunavik, far up north, and copper in the Chibougamau area. Over time, we've seen more and more new substances. Graphite arrived about 30 years ago, with the first mine located not far from Montreal. Through private-sector activity, we've also seen huge potential for lithium, rare earths, vanadium and niobium. We have the only niobium mine in the Northern Hemisphere. So today there is strong potential for critical minerals, and we also have the only lithium mine in operation in North America today.

The Origins of Quebec's 2020 Strategy

Pascale: If I'm not mistaken, Quebec was the first province in Canada to launch a critical minerals strategy, back in 2020. That was before Ottawa released the Canadian Critical Minerals Strategy in 2022, and before critical minerals became the major geopolitical issue they are today. What was the impetus behind that first strategy?

Jocelyn: That's right. I was there in 2020, and even in 2019. In 2019, we saw more and more projects developing in Quebec, mostly in lithium and rare earths. In other parts of the world, there was a race to find the minerals needed for the energy transition. That was really the trend in 2019. We made our first visit to Washington that year to meet with the USGS, and we also made contacts in Europe. We strongly believed that Quebec could have a specific place in the critical minerals world.

So the question was how to stimulate and foster the development of the critical minerals sector, given the interest we were seeing. How could we, as a province, take advantage of this opportunity? Everything started from an observation of the market and its trends, along with a strong will to be part of the energy transition. We also saw that we had the same minerals identified by the International Energy Agency. That was an opportunity for us. The idea was to organize this development with the whole government behind it.

Defining Critical and Strategic Minerals

Pascale: One thing I've been personally interested in is how different governments define criticality. The Canadian federal definition has evolved between 2022 and today, adding a strategic partnership angle. Quebec's approach is quite unique because it defines critical minerals and strategic minerals differently. Can you tell us the history behind this, and why it's useful for policy planning?

Jocelyn: At that time, we saw two categories, although honestly, some minerals fall into both. Critical minerals were defined as those of great importance to the economy, playing an essential role in critical sectors, where a lack of supply would ultimately be an issue for the economy.

Strategic minerals, in our case, were those needed for government policies. For example, the energy transition was a government orientation, and following it required specific minerals such as lithium and graphite, which we called strategic minerals. Today, most people talk about critical minerals in general. But we still believe some of them are necessary for Quebec's own strategies, including our industrial strategies. Those are the strategic ones.

Lessons from the First Plan (2020–2025)

Pascale: Quebec has now completed its first five-year critical minerals plan, covering 2020 to 2025. Looking back, what were the biggest achievements, the difficulties you encountered, and the lessons learned?

Jocelyn: In the first plan, we started with financial tools: mainly subsidies and grants to develop processes, plus tax incentives and tax credits. The first goal was to increase investment in critical minerals, and I believe we succeeded. Between 2020 and 2025, investment in critical minerals development increased by 274%. Over those five years, \$1.7 billion was invested in exploration alone. For the first time in Quebec's history, exploration spending on critical minerals exceeded spending on gold.

We also wanted to process minerals in Quebec, especially for the battery industry. Like any other country or province, we put specific tools in place, and some of the projects that emerged are still going today. We also worked on integrating the circular economy into mining, especially in critical minerals,

and we've seen an increase in mining waste reuse and recycling. Those were some of our great successes.

As for lessons learned, we saw that we still have to work more with local communities, with First Nations and with the Inuit. At the end of the day, local communities are where mining activity takes place. That's something we need to work on more.

Securitization and the New Strategy

Pascale: Doing this right can add strong value to the Quebec and Canadian proposition. When the first strategy came out, the discussion centred on the green shift, the circular economy and the energy transition. Over the past five years, we've seen the increasing securitization of this space, and defence procurement has grown in importance. Has this affected the Quebec government's thinking? Does it show up in the new strategy released earlier this year?

Jocelyn: Yes, for sure. The new strategy puts the emphasis on processing critical minerals and on developing midstream and downstream supply chains. We're still pursuing batteries and energy transition technologies, such as large-scale battery storage. But some specific minerals could serve very specific sectors, such as photonics, optics, semiconductors, and of course aerospace and defence.

Ultimately, the idea is to process those critical minerals, and we will adapt our financial tools to the different supply chains. What hasn't changed is that we need to work on the first steps: geometallurgy, better processes at the mine, and first transformation. Whatever the end use or end user, we still have to work on the primary steps of flotation, concentration and first processing. The difference is that we will work on different minerals, because supplying the defence and aerospace sectors requires different minerals.

Core Objectives and the Circular Economy

Pascale: I want to pick up on a couple of things here. You've mentioned what's shaping the strategy differently, but also a mainstay: electrification and the green shift. How do you define the core objectives of the new strategy, and how does the circular economy fit in? I think that's pretty distinctive in the Quebec government's approach.

Jocelyn: It is, yes. The core objective of the strategy is really to create wealth in Quebec by processing minerals, whatever their final destination. We know Quebec can't do everything in a supply chain. The idea is to know what we can do and where we can make a difference in processing. Sometimes it's better to handle the first steps here and then integrate into supply chains elsewhere in the world. But we want to go as far as we can in processing different products in Quebec.

Why integrate the circular economy into critical minerals? First, efficiency. It's about competitiveness. If we can reuse and recycle, and design new products that use less energy and less water, the impact is huge. The idea is to create an advantage in how we do things in Quebec: to be more competitive, reduce our costs, and improve our greenhouse gas and environmental footprint. Specific parameters will determine access to new markets. Europe, for example, will need to see the production footprint of any component entering its battery sector. If we want to be competitive and meet those criteria, we have to work on it.

It's also important from a social point of view. During our first consultation in 2020, people said: "Good, you want to increase critical minerals production. But why not use what's already in technologies, and in tailings storage facilities?" So the idea was to look first at what has already been extracted and processed. In 2024, Quebec amended its Mining Act to include the circular economy, covering minerals from primary extraction as well as from recycling. That's an important mindset shift, and I think it makes us leaders in this area.

The Realism of Recycling

Pascale: In my mind, there are two different things happening here. One is improving existing processes to make them more sustainable. But the circular economy is also about recycling, as you just said. How realistic is the recycling piece of the puzzle? How much of it do you expect will really happen?

Jocelyn: In terms of recycling, Quebec has developed technologies that can recycle batteries at a rate of about 95%. That's really significant. We've also seen projects in Quebec to recycle permanent magnets and recover rare earths. Given the size of the market and the needs, we know we must work on recycling as much as on developing new mines, because we need a lot.

The beauty of the energy transition is that most of the technologies involved are recyclable. Wind turbines, batteries, solar panels: everything can be recycled. We're moving from an economy based on hydrocarbons to a new economy based on the electron. The electron needs critical minerals to be transmitted, used and stored, and with these new technologies, we can recycle most of it. So building the new sector with recycling and the circular economy included was a no-brainer for us.

Prioritizing the Midstream

Pascale: You've said one of the main areas of focus of the current plan is the midstream, one of the clearest gaps in critical minerals value chains in Western economies. You've also said we can't invest equally in every supply chain. So how do you approach this midstream objective? How do you prioritize, and how do you think about integration with existing industries? Quebec is strong in aerospace, for example. Are you trying to connect different parts of Quebec's industrial ecosystem?

Jocelyn: Yes. We started with studies of Quebec's potential in optics, photonics and semiconductors, and that study was released last year. We now have a picture of what the ecosystem is today and what it could be, and how to connect manufacturing and startups to raw material supply.

There are still some missing links. We know we can produce and refine specific minerals, but sometimes there is a gap between what we can do today and the next step, which is also in Quebec, but the two don't yet match. So we mapped what is possible. The idea is to connect the dots between semiconductor production at one end and the raw production of specific minerals at the other.

We did the same with aeronautics. Montreal is definitely one of Canada's real strengths: many manufacturers and subcontractors are located in or around the city, and the Quebec government has designated an innovation zone there. The question is how to connect that industrial expertise and capacity with the minerals produced in Quebec, and who can bridge one phase to the next. We work closely with Investissement Québec, the Ministry of the Economy and other partners. The aim, once again, is to find opportunities to create wealth in Quebec's regions.

Financing Tools

Pascale: That's really interesting. Connecting the various parts of supply chains and industrial ecosystems is one of Japan's strengths, and something sometimes lacking in Western economies. A related difficulty in developing the sector is finding the right financing tools. What's your view of the tools out there: offtakes, price floors? This is really a coordination problem among all the players you've mentioned: the private sector, federal and provincial governments, and international partners.

Jocelyn: That's right, it's not an easy one. Since 2015, Investissement Québec, the government's financial arm, has had a fund dedicated to investing in natural resources. It was originally funded at \$1 billion, and as of last March it stands at \$2.5 billion. As a public investor, we can de-risk projects, and we've already made some of those investments. Some worked well and some didn't, but when you operate a risk capital fund, you have to take risks.

We also have tools to support exploration, and the Ministry of Finance has developed many tax incentives that help projects move forward. Still, offtakes remain an issue. Last year, the Government of Canada innovated by offering an offtake to the Nouveau Monde Graphite project, which is really interesting. The idea is to work more and more with institutional funds.

We're also very interested in what the G7 is working on. Last May in France, the G7 said it would develop new mechanisms to support supply chain development, including offtakes and pricing. We're following that closely and would like to know more, and we will work closely with all our partners to develop tools that support the development of markets and mines.

Permitting, Standards and Communities

Pascale: One last question on the current plan before we turn to the international side. One of the biggest challenges in mining is maintaining high environmental standards while building trust and engagement with Indigenous and local communities, as you mentioned. How do you see the current situation, and what lessons or best practices do you take forward?

Jocelyn: In the new strategy, we decided to work on two levels. The first is how to accelerate permitting without compromising on standards, and that's already under way. We work closely with the Ministry of the Environment, with more communication between project proponents and the government. It's really a question of communication and making processes more efficient. We hope to cut timelines by 20 to 30%. We'll see.

The second is helping communities better understand mining and how they can benefit from it. We're developing tools that will help municipalities take advantage of mining development. We'll work more and more with First Nations and communities to give them the tools, the knowledge and the opportunity to develop new economic activities and jobs, and above all, to be part of mining development. It's an ambitious goal, but we're working on it, and it came directly from our discussions with stakeholders.

The International Environment

Pascale: Moving to the last section, I'd like you to reflect on the international environment. The second Trump administration came in with different views on the environmental crisis and on the urgency around the battery and EV sectors. This has had a huge impact on North American supply chains, especially in the auto industry and beyond. How is the government weighing international trends against the North American context?

Jocelyn: Again, the impact was on two levels. The first answer was industrial diversification, meaning different supply chains. We're fortunate that our minerals can be used for different applications. At first they were dedicated to the battery industry, but now we know the same minerals can, more or less, serve other industries.

The second answer was geographical diversification. We were already in contact with European countries, South Korea and Japan, but given the geopolitical context, we've developed more and more relationships, starting with Europe. We signed an agreement with France in 2023, then with the Netherlands in 2025, another with the United Kingdom, and most recently with Germany. Developing relationships with European countries is key to geographical diversification, but we've also gone to Japan and South Korea. So those were our two answers: industrial diversification and geographical diversification.

The China Challenge

Pascale: At the international level, the other elephant in the room is China. The securitization of this space is largely a response to what is perceived as China's dominance of many international supply chains. How does your team think about the China challenge, in the short and long term?

Jocelyn: We acknowledge that China is far ahead. Its position today is very significant, almost monopolistic, honestly. Of course, Quebec won't replace China. That's not the goal. The idea is to offer a different way of doing things and a different way of processing, including the circular economy.

That's where we see innovation and the circular economy as strategies to offer something different, perhaps closer to what some countries expect in terms of environmental footprint, values and greenhouse gas emissions. The idea is to find a niche for Quebec with new technologies and new approaches, and to be seen as a potential part of other countries' sourcing. For most of the critical minerals we're talking about, Quebec holds more than 50% of Canada's reserves. So we can play a role, in a niche market and with our own way of doing things. And once again, traceability will be key to showing what we can offer.

Pascale: What you present is the pitch for a Canadian or Quebec offer. But China's place in these supply chains will remain. We can recalibrate and try to rebalance, but Chinese batteries are already in Quebec, and Chinese technology is already in the mining sector. We have EVs coming into the Canadian market, so this will keep evolving, and we can't block it out entirely. Is this something you actively reflect on, thinking in nuanced ways about China's place?

Jocelyn: For sure. As you know, with the Critical Raw Materials Act, Europe set diversification targets: no more than a certain share of what comes into Europe should come from a single country. It's still a large

share. In our case, we think we can help other countries diversify their supply. China has a prominent position today, and it will continue to play a big role. But any industry in the world faces risk when it depends on a single supplier. The idea is for all of us to work together to reduce that risk by diversifying supply chains.

Indo-Pacific Partnerships

Pascale: Fair. Thinking about Indo-Pacific markets and relationships more broadly, can you give us a few good examples of collaborations in Quebec? You mentioned the Nouveau Monde Graphite project, which has a Japanese partner. What's working about it, and what other partners from the region are involved?

Jocelyn: I'll start with Nouveau Monde Graphite, since it's public. They began with partnerships with Panasonic and GM, and now they also have an Italian partner, Eni. That shows how attractive it can be for foreign partners to join Quebec's mining journey, especially in graphite, where we have strong potential. We also see Japan investing directly in mining projects, and some Japanese companies now own exploration projects in Quebec. Japan takes a really long view on developing natural resources and securing supply from Quebec, which is very interesting.

Australia is a real surprise. Ten years ago, Australian capital in Quebec was about \$100 million. Today it's about \$1 billion. That shows strong interest from Australian companies and investors, and it works well. Japan is involved at different stages, even exploration, while South Korea is mostly involved in financing midstream capacity. This year, South Korea will be the guest of honour at our Québec Mines event in November. We led a first trade mission there in 2025, and now a Korean mission is coming to Quebec.

What most of our partners like, whether from Australia, Japan, Korea or Europe, is the way business is done in Quebec and our approach to ESG criteria and environmental issues. That makes them really interesting partners to work with.

Final Thoughts

Pascale: For my final question, I'd ask you to look ahead over the next decade. Having worked in the sector for so many years and living this moment, how do you see things evolving? What will be the number one challenge for Quebec, or the number one opportunity, given the current context?

Jocelyn: As we set out in the new strategy, the vision is to be part of international supply chains and to play a big role in the world of critical minerals. To reach that goal, we believe the diversity of minerals we can offer is key. We're fortunate. We didn't choose the geology; it came with the territory. The geology is there and we know the potential. The ministry is also building knowledge of what the territory has to offer, and we promote that potential.

The challenge, of course, is maintaining the balance between industrial development, mining development, regional development and communities. We have to keep working with local communities and, at the provincial level, make sure the whole population ultimately benefits from this development. That's the real challenge: balancing these developments with the benefits communities can get from them.

Pascale: I think that's a good note to end our conversation on. We'll certainly be following this closely in the coming years. Thank you so much again for your time. I look forward to keeping up with the Quebec strategy.

Jocelyn: Thank you. Thank you again.