

# Vanadium market expert Darcie Ladd of Largo on pricing, demand and batteries

June 29, 2015 – In a special **InvestorIntel** interview, Publisher Tracy Weslosky speaks with Darcie Ladd, VP of Investor Relations of Largo Resources Ltd. (TSXV: LGO), the only ‘pure-play’ vanadium producer on the overall market demand and associated rising prices. They also discuss how vanadium use is vital for steelmaking and the increasing interest and development of vanadium for the future of the battery market.

**Tracy Weslosky:** We’re going to do something very fun today. I’m going to talk to a vanadium expert and would like you to start by asking: what is vanadium?

**Darcie Ladd:** Well, it’s actually simpler than it sounds. Most people aren’t familiar with vanadium at all, but it’s very simple. It goes into steel and it makes steel stronger and stronger and better. A very small component of vanadium added to a ton of steel significantly increases its tensile strength.

**Tracy Weslosky:** Of course, we’re always marketing vanadium as a technology metal. Can you tell us what technology metals that vanadium is utilized in, in addition to steel, which of course is a huge growth market?

**Darcie Ladd:** Right. Steel is the biggest market, but there is a lot of interest and a lot of attention has been paid to this vanadium redox battery and the lithium-ion vanadium battery. It’s still a very small nascent market and in terms of vanadium demand. It’s less than 1% currently, but it is something that could be very exciting in the future. The

biggest problem with renewable energy is storage of the energy produced. When the wind is not generating energy and when the sun is not shining, what do you do with the energy that you stored during those periods and when you need them the most. I think you will see renewable batteries, like the vanadium redox battery, take off and it's just a matter of time. At this point it's still a small area for vanadium.

**Tracy Weslosky:** Of course, vanadium prices went down for a little while this last year, but right now they seem to be rising again. Can you tell us about the price of vanadium?

**Darcie Ladd:** Well, it's actually an interesting situation that we found ourselves in, particularly at Largo Resources. We, sort of, found ourselves in an unprecedented low in the vanadium price. Typically you have a pretty solid floor and you can see this visually on a long-term price chart for vanadium. \$5.00 is a very solid floor for the price. We've seen it go below that in the past 6 months, which is very unusual. After this unprecedented low in the price of vanadium we have seen the market do what it typically does in a situation like this and it has begun a correction path. Typically when the price goes below \$5.00 you see supply coming off stream because the average price for most producers is at or above the \$5.00 mark. We have seen it begin to correct up. We have seen as well, we've seen supply coming offline. There's three suppliers in South Africa as well as an Austrian who have all reported that they've had to cut production or they are going bankrupt in reaction to the low prices. We're certainly seeing the market do what you expect it to do. We're extremely hopeful that we'll see...to access the rest of this interview, [click here](#)

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