COBALT MARKET FORECAST AND COBALT STOCKS TO BUY

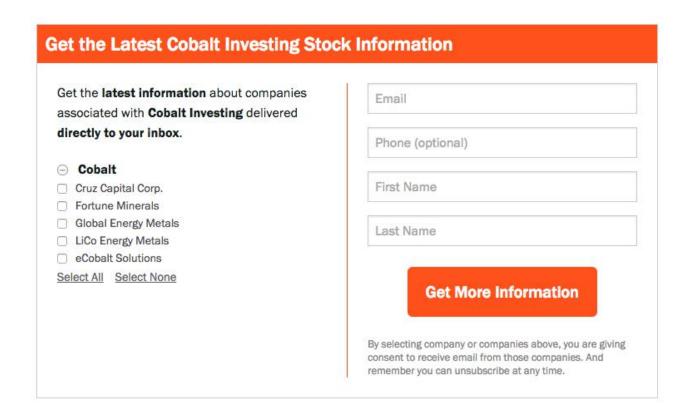


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Cobalt Trends 2017: Prices Spike as Supply Concerns Grow

What happened in the cobalt market this year? Here's a look at the major cobalt trends in 2017, from responsible sourcing to electric vehicle demand.



It has been a bright year for cobalt, a key metal in the <u>lithium</u>-ion batteries used to power electric vehicles (EVs).

Carmakers and governments shifting toward electric cars, as well as increasing supply worries, have made news headlines throughout the year.

As 2017 comes to a close, the Investing News Network is looking back at the main trends in the space this year, from rising EV demand to surging prices to responsible sourcing.

Read on to learn what happened in the cobalt market in 2017, including supply and demand dynamics and what market participants had to say during each quarter of the year.

Cobalt trends Q1: EV demand outlook boosts prices

At the beginning of the year, <u>cobalt prices received a boost</u> from increasing demand for electric cars, primarily from China. In Q1, consultants at CRU Group said electric car and plug-in hybrid vehicle sales could hit 4.4 million in 2021 and more than 6 million by 2025, up from 1.1 million last year.

As demand for electric cars increase, the need for cobalt is also expected to soar, as the metal is a key component in EV batteries. In total, surging demand for electric vehicles is expected to push demand for lithium-ion batteries above 400 GWh by 2025, Benchmark Mineral Intelligence says. Lithium-ion batteries contain about 11 kilograms of cobalt each.

"[W]e forecast battery demand for cobalt to go from 46,000 tonnes in 2016 to 76,000 tonnes by the end of 2020 and from a cobalt producers perspective supply needs to keep up with, or be close to, expanded demand," Benchmark Mineral Intelligence analyst Caspar Rawles said in February.

In terms of supply, the major news of the quarter came from top cobalt producer Glencore (LSE:GLEN), which upped its involvement in the market. The Swiss giant paid \$960 million to increase its stakes in two copper-cobalt operations in the Democratic Republic of Congo (DRC), Mutanda Mining and Katanga Mining (TSX:KAT). The latter is expected to become the world's largest cobalt producer when it restarts production at some point next year.

But while the move was a good one for Glencore, analysts don't expect it to help fill demand for cobalt. "Glencore already had a controlling interest in both of these projects prior to the deal and I don't forecast any increase in supply that isn't already anticipated in the market," Rawles explained at the time.

Also at the start of the year, Tesla (NASDAQ: TSLA) announced plans to open two to three EV gigafactories by the end of 2017, further spurring excitement among cobalt investors. Elon Musk's company started production at its Nevada facility in January, and by 2018 the gigafactory is expected to produce 35 GWh per year of lithium-ion battery cells.

During the first quarter of 2017, LME cobalt prices jumped more than 68 percent, trading between \$32,500 and \$54,750 per tonne.

Cobalt trends Q2: Gigafactories increase supply worries

During the second quarter of the year, LME cobalt prices, as well as prices for cobalt sulfate, the most common base chemical used as a <u>cathode</u> material in batteries, continued to increase.

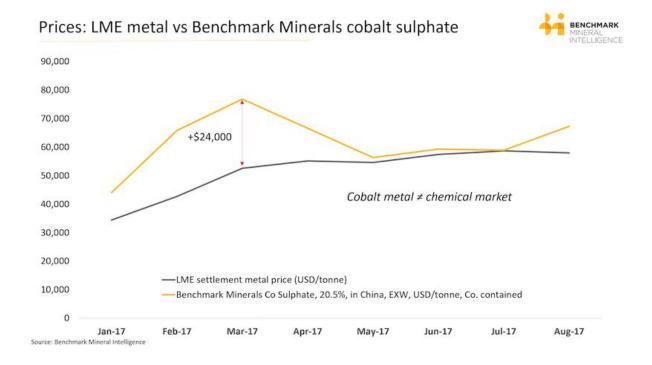


Chart via **Benchmark Mineral Intelligence**.

In Q2, the electric car story gained momentum, with analysts at UBS (NYSE: <u>UBS</u>) raising their forecast for global sales of EVs in 2021 to 3.1 million from 2.5 million, and to 14.2 million in 2025.

"Demand is remarkably strong," Eurasian Resources Group CEO Benedikt Sobotka said in June. He added that "[p]eople [were] inquiring about lifetime offtake contracts" for the company's \$1-billion Metalkol Roan tailings reclamation project in the DRC. The project is expected to produce 14,000 tons a year.

In terms of supply, concerns continued to increase during the second quarter of the year. "In the next few years only five new cobalt mines are due to come online and will add about 50,000 tons of cobalt per year. That is certainly not enough to support the demand in the market," Stephan Bogner of Rockstone Research said at the time.

<u>Concerns about existing cobalt supply</u> also started to increase. That's largely because the politically unstable DRC is the <u>world's top cobalt producer</u>, accounting for more than 50 percent of cobalt output; mining there is also linked to child labor.

In an April interview, <u>Rawles explained</u> that while there are some cobalt projects in more stable jurisdictions that may ultimately add to supply, it will not be possible to eliminate DRC cobalt. "There's no lithium-ion industry without DRC cobalt," he emphasized. That said, he also mentioned that even with DRC cobalt the market is headed for a deficit.

Major news impacting the market during the quarter came from Tesla's Musk, who hinted at "probably four" more gigafactories to be announced later in 2017. At the end of June, Tesla also announced that battery production for its upcoming Model 3 was underway.

LME cobalt was up 7 percent during the second quarter, trading between \$51,500 and \$59,500.

Cobalt trends Q3: Governments and carmakers shift to EVs

At the beginning of the second half of the year, announcements from major governments hit the cobalt market. France, the UK and potentially China outlined plans to ban all fossil fuel cars by 2040. Other countries have also set electric car sales targets or have hinted at bans on ICE cars in the coming years; those countries include Norway, Germany and the Netherlands.

In addition, several carmakers said they will electrify most of their models by mid-2020s, including Volvo (STO:<u>VOLV</u>), BMW (ETR:<u>BMW</u>), GM (NYSE:<u>GM</u>), Mercedes, Dyson and Ford (NYSE:<u>F</u>), among others.

Even so, China continued to lead the EV space, with the government pushing for allelectric battery cars and plug-in hybrids to account for at least one-fifth of its vehicle sales by 2025. Partnerships between major carmakers and local firms were another major trend during the quarter, with <u>Renault-Nissan</u>(EPA:<u>RNO</u>) and <u>Ford</u> fighting for a place in the surging EV market.

In the third quarter, <u>sales of electric vehicle and plug-in hybrid batteries</u> <u>exceeded</u> 287,000 units, up 63 percent compared to the same period last year on the back of strong Chinese demand. That number is expected to increase significantly as the electric car revolution continues to unfold.

As a result, carmakers and battery companies started to look for ways to secure the materials needed to make lithium-ion batteries, in particular cobalt. In July, mining giant Glencore signed a <u>large cobalt deal with Chinese producer</u> Contemporary Amperex Technology that could help Volkswagen (FWB:<u>VOW</u>) secure batteries for its electric cars.

Later in the quarter, Volkswagen announced it was seeking to invest \$60 billion in electric car content, including batteries, and was <u>looking to sign cobalt supply deals</u> by the end of the year.

LME cobalt remained neutral during the third quarter, trading between \$50,000 and \$62,000.

Cobalt trends Q4: All eyes on long-term supply security and responsible sourcing

In Q4, carmakers and battery companies continued to try to secure long-term cobalt supply. In November, China's Contemporary Amperex Technology outlined plans for a \$2-billion IPO to boost its lithium-ion battery production, and announced it was looking to invest in upstream companies.

Later in the month, Volkswagen was said to be <u>discussing supply contracts</u> with top cobalt producers, including Glencore, but the talks ultimately ended without success.

"We have requested different options for a hedge from the raw materials industry in the context of a tender ... We have already had constructive talks with the well-known suppliers and will continue those (discussions)," a Volkswagen spokesperson recently confirmed. "Besides supplies and costs, other topics in discussion include future capacity expansion, sustainability and transparency."

Indeed, transparency and responsible sourcing have been one of the main cobalt trends surrounding the market in the past few weeks. In November, Amnesty
International released a report warning that electric car companies are "not doing enough" to tackle human right abuses in their cobalt supply chains. Among carmakers,

the report shows that BMW has made the most improvements, while Renault and Daimler (ETR:DAI) "performed particularly badly."

After the study was published, the <u>LME launched an investigation</u> over concerns that cobalt traded on its exchange could be linked to child labor. In addition, a group of 10 carmakers announced that it will set up a Raw Materials Observatory to assess the risks posed in the auto sector by crucial materials like cobalt.

"Over time we will see a division in the market between those companies that will be able to demonstrate they are following responsible sourcing practises and those that are not, and that will have an impact on market demand from those companies," RCS
Global director Harrison Mitchell said earlier this year, explaining what the consequences will be for those who decide not to follow ethical and responsible practises in the cobalt industry.

"Producers will need to wake up to the fact that they will need to demonstrate that they are sourcing in a responsible way [and not just say that they are]," he also noted.

During the last quarter of the year, cobalt prices continued to increase, and the forecast for next year remains very optimistic. LME cobalt has been trading between \$59,000 and \$68,000. For investors interested in learning more about what's ahead for cobalt, keep an eye out for our upcoming cobalt outlook with commentary for analysts and companies.

Cobalt Outlook 2018: Another Strong Year Ahead?

Interest in the cobalt market continued to rise in 2017, but what is the cobalt outlook for the year ahead? Analysts share their thoughts here.



This time last year, cobalt, a key component of the <u>lithium</u>-ion batteries used to power electric vehicles (EVs), was expected to shine.

Now that 2017 is ending, it's impossible to deny that cobalt has been one of the biggest stories of the year. Interest in the battery metal has <u>increased exponentially</u>, and LME prices have surged more than 120 percent since the beginning of the year. What's more,

several <u>TSX</u>– and <u>TSXV</u>-listed cobalt stocks have gained over 100 percent year-to-date.

With 2017 drawing to a close, the Investing News Network reached out to cobalt experts to get more insight about the future of the metal. Read on to learn what analysts expect in terms of the cobalt outlook next year, from supply and demand to potential price catalysts.

Cobalt outlook 2018: Price performance review

Cobalt prices have been on an uptrend since the beginning of the year. In fact, LME cobalt prices are up almost 120 percent since January on the back of a strong EV demand outlook and supply worries.

As the chart below shows, LME cobalt prices started the year at \$32,500 per tonne, and have moved upward since then. The highest point of the year was reached last week, when prices hit \$75,000.

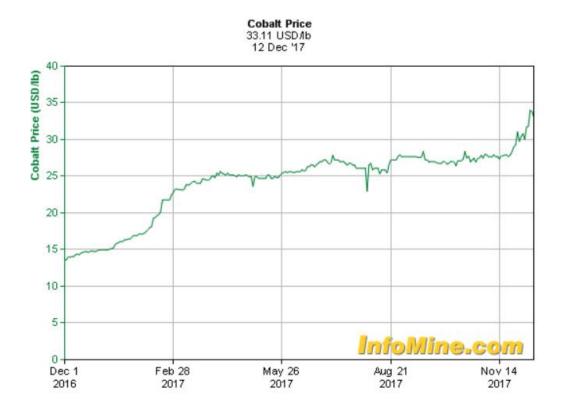


Chart via InfoMine.

"This 130-percent increase was likely due to both demand and speculation, but it's clear that investing in opportunities along the vehicle electrification supply chain is a theme all investors began taking seriously in 2017," said Chris Berry of House Mountain Partners and the Disruptive Discoveries Journal.

Berry added that one of this year's main trends was larger institutional funds taking the time to better understand the cobalt supply chain.

LME cobalt data is one of the ways investors can track prices, but it is important to understand that in a lithium-ion battery there is actually no cobalt metal. It is cobalt chemicals that appears in these batteries, with cobalt sulfate being one of the preferred feedstocks for cathode manufacturers.

"The prices are intrinsically linked, because if one was far cheaper than the other the industry would just buy that," said Benchmark Mineral Intelligence's Caspar Rawles. He noted that cobalt sulfate is "certainly something I think people should look at if they're trying to get specifically into the battery space."

As the chart below shows, cobalt sulfate prices have also increased significantly this year.

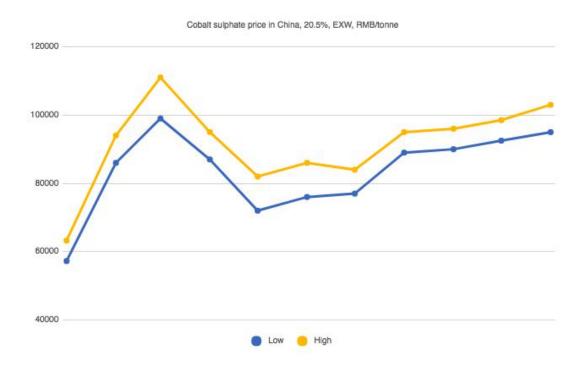


Chart via Benchmark Mineral Intelligence.

In 2017, lithium-ion batteries continued to be one of the main drivers for cobalt prices, as each battery contains approximately 15 kilograms of cobalt chemicals.

"What is important to realize is that China produced 80 percent of the world's cobalt chemicals and a lot of their feedstock for that comes from concentrates from the Democratic Republic of Congo (DRC)," said Rawles. He added that any change in the country can have a real impact on prices for cobalt chemicals.

Another trend seen this year has been "a growing awareness of the different cathode <u>technologies</u>, such as NMC (<u>nickel-manganese</u>-cobalt), moving towards a less 'cobalt-heavy' chemistry and replacing this with nickel," Berry explained. "While this likely means less cobalt per battery, the ramp up in gigafactory-scale capacity over the next five years likely means we'll use much more cobalt than was forecast even a couple of years ago," he added.

For investors interested in knowing what else happened in 2017, we've put together a cobalt 2017 trends article. <u>Click here</u> to read more.

Cobalt outlook 2018: Supply and demand

Looking ahead to 2018, the dynamics between an increasing demand forecast and supply constraints are set to continue. "The dominant trends in 2018 will be tight supply and increasing demand leading to higher prices, driven by rising demand primarily from the EV industry," Rawles said.

According to Benchmark Mineral Intelligence, the total supply needed to meet demand for all cobalt uses next year will be 105,000 tonnes. However, more than 50 percent of the world's supply comes from the DRC, a politically unstable country where mining has been linked to child labor.

Rawles said he sees the DRC becoming "a bigger portion of the cobalt supply pie," and said that there will be "no lithium-ion battery industry without growing DRC cobalt supply."

One of the main projects expected to bring new production into the market next year is located in the African country and run by Katanga Mining (TSX:<u>KAT</u>). Earlier this year, Glencore (LSE:<u>GLEN</u>) upped its stake in the project, which has been on care and maintenance since 2015.

The Swiss mining giant has recently announced that it is set to more than double production from the operation by 2019. CEO Ivan Glasenberg also confirmed that the company is in talks with Tesla (NASDAQ:<u>TSLA</u>), Apple (NASDAQ:<u>AAPL</u>) and VW (ETR:<u>VOW</u>) for cobalt supply deals, although he made it clear that the miner <u>will not sign fixed-price contracts</u>.

"We expect [Katanga] to return to production in the second quarter, with an expanded capacity of 22,000 tonnes per annum initially, although production will be brought on in stages and [it will] take some years to build up to this," Rawles said. He added that even though the market needs cobalt supply from the DRC, new supply outside the country has a "unique and strong position to gain auto battery market share while offering guaranteed 'clean' cobalt."

Looking over to demand, the electric car revolution will continue to drive prices as supply constraints also increase. In fact, Benchmark Mineral Intelligence forecasts that the cobalt market will reach a deficit in 2022/2023 as "this is when [it] estimate[s] the wider adoption of EVs will happen."

As demand for lithium-ion batteries increases, cobalt supply will need to reach 180,000 tonnes by 2026, according to the London-based firm.

"I still struggle to see where an ample supply of cobalt will come from to satisfy most EV demand projections," Berry said. "With the realization that additional mining capacity will be needed to satisfy EV demand, the eyes of the market have started to shift towards smaller-market-cap companies that are development stage and looking at funding opportunities," he added.

In terms of prices, Rawles doesn't expect them to rise as much in percentage terms as they have in the past 12 to 18 months. "[But] I do expect prices to continue to rise as supplies remain tight and more auto manufacturers look to secure long-term supplies of cobalt," he said.

Despite Glencore bringing new production to the market, which could help manage price increases, Rawles forecasts that the upward trend in prices will continue at a "more stable rate" over the year.

Cobalt outlook 2018: Key factors to watch

After a bright 2017, cobalt-focused investors are now wondering about key factors to watch next year. As mentioned above, one of the main catalysts in 2018 will be the much-expected restart of Katanga Mining. "If this is delayed in any way I would expect prices to rise more sharply," Rawles said.

Another key factor to watch next year will be whether car manufacturers "skip the whole supply chain" to directly source raw feedstock from miners, as was seen in the lithium space this year with the offtake agreement between Pilbara Minerals (ASX:PLS) and Great Wall (HKEX:2333).

"It will be interesting to see if this happens in the cobalt market in order for auto manufacturers to secure supply, and it could also bring new projects to market more quickly than expected," Rawles said. In addition, investors watch how the increasing scrutiny and work on the cobalt supply chain impacts pricing structures, and "if a differential will be more clear between 'clean' and 'untraceable' products."

Indeed, transparency and responsible sourcing have been one of the main cobalt trends surrounding the market in the past few weeks. In November, Amnesty
International
released a report warning that electric car companies are "not doing enough" to tackle human right abuses in their cobalt supply chains.

"I think you may see a premium develop for 'ethically sourced' cobalt, though this will remain difficult to prove and would take some time to filter into the market. With Glencore as 30 percent of the cobalt industry, it is their cost structure that aspirants to cobalt supply must compete with," said Berry, adding that he is optimistic on the battery metals space going forward.

"I have been bullish on this sector for several years now, and see no reason to change that view as the market cap expansion of various companies has opened them up as investment opportunities to a whole new class of investor," he said.

Berry summarized the factors investors interested in cobalt should pay attention to in 2018 as follows:

- Keep a close eye on the trend in EV sales both inside and outside of China;
- Watch for any accelerated change in battery chemistry;
- Watch to see how Glencore and [Eurasian Resources Group] increase cobalt production out of the DRC;
- Watch for streaming deals in the cobalt space;

Cobalt Stocks and Companies to Watch in 2018

- Watch the pace of funding in the cobalt sector for any drop off;
- Watch to see how all of the announced lithium-ion battery factory capacity gets funded;
- Watch for advances in autonomous vehicle technology and adoption understanding how this will affect the insurance markets is important;
- Watch for a major downstream player such as an original equipment manufacturer to make a sizeable investment in mining capacity — this is the real key to growth in the sector going forward.

Cobalt Forecast 2018: CEOs Optimistic

Cobalt 27 Capital, First Cobalt, Fortune Minerals, Cobalt Power Group, Castle Silver Resources and Global Energy Metals share their cobalt forecast.



Cobalt is without a doubt one of the main stories of 2017. Over the past 12 months, investor interest has soared on expectations of surging demand from the electric vehicle (EV) sector.

But what will happen to cobalt next year? To find out, the Investing News Network reached out to a number of

companies in the cobalt sector to get their thoughts on what's ahead for the <u>critical</u> metal in 2018.

Anthony Milewski, CEO of Cobalt 27 Capital (TSXV:KBLT); Trent Mell, CEO and president of First Cobalt (TSXV:FCC); Andreas Rompel, president and CEO of Cobalt Power Group (TSXV:CPO); Frank Basa, president and CEO of Castle Silver Resources (TSXV:CSR); Robin Goad, president and CEO of Fortune Minerals (TSX:FT); and Mitchell Smith, president and CEO of Global Energy Metals (TSXV:GEMC), were all able to provide insight. Read on to learn their thoughts.

Cobalt trends 2017: Cobalt surges as EV revolution unfolds

Cobalt made news headlines throughout 2017, with prices jumping and investor optimism increasing throughout the year.

At the beginning of 2017, Cobalt 27's Milewski expected the EV revolution to come to the forefront of people's minds and to impact the markets associated with the various battery metals.

"I was completely surprised by how quickly this all came to pass. It exceeded my expectations in terms of levels of interest, levels of noise and the rate at which people began to buy EVs," he said, adding that 2017 really was the year of the EV.

Similarly, Global Energy's Smith said his expectations were surpassed this year. "[I am] excited that battery metals and especially cobalt were front and center," he said.

First Cobalt's Mell explained that in the past 12 months the cobalt market has continued to grow, with new projections for EV penetration rates reaching as high as 30 percent by 2030.

"Many vehicle manufacturers such as GM (NYSE:<u>GM</u>), Mercedes-Benz, Volvo (STO:<u>VOLV-B</u>), Volkswagen (ETR:<u>VOW3</u>) and others have made new commitments to developing and manufacturing EVs, driving further demand for access to the cobalt market," he added.

Fortune Minerals' Goad expected the market to transition into a deficit in 2017, with prices climbing to \$20 per pound. "What some thought was an optimistic view ended up being quite conservative as vehicle electrification seems to have passed the tipping point," he said. In fact, he added, the most challenging part of 2017 has been "the ability to stay on top of how quickly the market is evolving."

Meanwhile, Global Energy's Smith said that given the cobalt price surge, there was a lot of confusion due to assets that "will likely never be part of the much-required supply chain." Similarly, Cobalt Power Group's Rompel suggested investors should educate themselves before having unrealistic expectations.

Cobalt 27's Milewski suggested that investors do their work to get into position now. "When the automakers begin to start contracting longer term, when that noise starts, I think it's going to have a significant impact on the cobalt market. When that happens, you want to already be long on cobalt because I think you're going to make the most money that way," he explained.

For First Cobalt's Mell, the cobalt market is an EV story. "If you are a believer [in] EVs, then the supply gap becomes apparent for cobalt in the near future," he said.

Cobalt forecast 2018: Supply worries to push prices higher

Looking ahead to next year, the CEOs agreed that as the EV demand continues to surge, supply concerns will drive the market. Carmakers will look to partner up with upstream companies to secure supply, production from the unstable Democratic Republic of Congo (DRC) will remain a concern and investors will learn more about cobalt as the market evolves.

"The outlook for cobalt is excellent. The market is already in a deficit position and upward pressure on the cobalt price can be expected to continue through 2018," Castle Silver's Basa said.

Cobalt 27's Milewski is also very optimistic, as he expects to see a transformation in the cobalt industry next year. That's because he sees big manufacturers entering into long-term contracts for cobalt supply. "[When] that happens it's going to structurally change the market in a positive way, and I would be remiss if I didn't think that was going to positively impact the price too," he said.

For First Cobalt's Mell, as carmakers continue to commit to new EV models, surging demand for cobalt will continue to drive the market. "We do not see any near- or midterm catalysts that will undermine the very strong appetite for new cobalt discoveries, and we expect that this will drive new cobalt discoveries outside the DRC, particularly in North America," he added.

Similarly, Fortune Minerals' Goad anticipates that cobalt will remain well bid at current levels, with the risk to prices continuing to be on the upside. "As demand continues to accelerate from the most significant demand pull in history, higher prices will be needed to stimulate new production that is independent of the Congo and China, and the preponderance of production as a by-product of copper and nickel mining, where primary metal markets dictate the production criteria," he added.

Next year, Global Energy's Smith expects investors to become much more educated on cobalt. "Companies involved in the space will need to not only have real projects that have future supply capability, but also have a team that has knowledge in the market," he said, explaining that companies with these characteristics will be able align themselves with downstream partners.

Cobalt forecast 2018: What's ahead for companies

As the year comes to a close, the execs had a slew of milestones to highlight from 2017 and many more catalysts to look forward in the year ahead.

For Cobalt 27, this year's major milestone was the company's IPO in June, which was one of the largest public transactions in the mining sector in Canada since 2012. In 2018, Milewski said the key catalyst to look for from his company is growth.

"We are looking at growth opportunities, at large streaming transactions, and I anticipate that at some point in the future, when we are able to execute on that strategy, it could be transformative for the company and for our shareholders," he added.

For its part, Fortune Minerals reached several milestones towards the development of its NICO asset in the Northwest Territories. Next year, the company will continue to work on securing financing for construction in order to become a new Canadian producer.

"We believe the current environment will support higher cobalt prices for an extended period of time, encouraging the development of NICO and many years of commercial operations before balance is restored from a combination of new mines, conservation and recycling," Goad said.

Meanwhile, Global Energy, which listed on the TSXV in March, recently announced the start of a work program at the Millennium cobalt project. "[I believe] it will prove out the potential of this already significant asset," Smith said, explaining that there is also potential for additional projects to be added to the company's portfolio.

First Cobalt's Mell explained that his company was formed early in 2017 with the intention of offering investors access to the rapidly expanding cobalt market, which is being driven by forecasted growth in the EV and battery materials market. "Our focus early on was to get big fast to offer this exposure, while focusing our exploration program on the Cobalt Camp in Ontario," Mell said.

Looking ahead to 2018, First Cobalt, which closed a merger with Cobalt One and CobaltTech in December, intends to significantly expand its exploration program in the Cobalt Camp in Ontario. In addition, the company has begun a muckpile sampling program of historic material at surface throughout the camp, with results estimated by Q1 2018.

For Castle Silver, the focus of 2017 was a drill program that had positive results. Next year, the company expects to arrange an offtake agreement with a major buyer to supply high-purity cobalt sulfate to the electric car battery market. "Cobalt is definitely in an upswing that will likely continue for years as more electric cars are produced," Basa added.

Lastly, Rompel said Cobalt Power Group is looking forward to more exploration and to the completion of Phase 3 of its drill program at the Cobalt Camp.

Top Cobalt Stocks of 2017 on the TSX

Katanga Mining, eCobalt Solutions and Fortune Minerals are three TSX-listed cobalt stocks that have registered gains in 2017.



2017 was a major year for cobalt. The metal, which is a key component in lithium-ion batteries, saw huge price gains on the back of increasing concerns about supply.

Most market watchers are optimistic about the metal's prospects in 2018 as well, with many predicting further price increases as demand for electric vehicles continues to rise.

In light of those developments, investors involved in the cobalt space are growing more and more interested in cobalt stocks. To help provide a picture of which cobalt-focused companies are making progress this year, we've put together an overview of three cobalt stocks on the TSX that have seen share price gains year-to-date. You can also <u>click here</u> to see our list of top-gaining cobalt stocks on the TSXV.

1. Katanga Mining (TSX:KAT)

Current price: \$1.24; year-to-date gain: 707.14 percent

Major miner Glencore (LSE:<u>GLEN</u>) increased its interest in Katanga Mining to about 86.33 percent <u>earlier this year</u>. The company operates a large-scale <u>copper</u>-cobalt mine complex in the Democratic Republic of Congo (DRC) through two joint ventures; the joint ventures are called Kamoto Copper Company and DRC Copper and Cobalt Project.

In 2015, the company <u>announced</u> the decision to suspend the processing of copper and cobalt during the construction phase of a whole ore leach project. The suspension continued through the first three quarters of 2017, and production is not expected to resume until the project is commissioned; that process is expected to be finished in 2018. Most recently, Katanga said that hot commissioning of the core of the first train of the whole ore leach project <u>has been successfully completed</u>.

2. eCobalt Solutions (TSX:ECS)

Current price: \$1.47; year-to-date gain: 159.26 percent

eCobalt Solutions is focused on providing battery-grade cobalt salts that are ethically sourced, environmentally sound and produced safely and responsibly in the US. eCobalt's primary asset is its Idaho cobalt project located in Lemhi County, Idaho.

A key milestone this year for the company was the publication of a feasibility study for the Idaho project in Q3. The company says the project will produce an average of 2.4 million pounds of cobalt, 3.3 million pounds of copper and 3,000 ounces of gold annually. In a December update on the project, eCobalt said it has made "significant progress" at optimizing the project, "resulting in a new direction to produce a clean (low arsenic content) cobalt concentrate product."

3. Fortune Minerals (TSX:FT)

Current price: \$0.30; year-to-date gain: 116 percent

Fortune Minerals expects to benefit from the development of its NICO cobalt-gold-bismuth-copper project, located in Canada's Northwest Territories. The plan is for bulk concentrate from NICO to be shipped to a planned metals processing plant in Saskatchewan. The company is positioned to become a Canadian producer of battery-grade cobalt chemicals with gold and bismuth co-products.

The company is currently in the process of updating the feasibility study for NICO, and last spoke about its progress in November. At the time, Fortune announced a change in scope for the study, noting that it was "examining the feasibility of a 20 to 30% increase in the planned NICO production rate over the 4,650 metric tonnes ... of ore per day used in the previous 2014 Feasibility Study."

The data for this article was retrieved on December 11, 2017 using the Globe and Mail's <u>market data filter</u>. Only TSX-listed cobalt companies with market capitalizations greater than \$50 million are included.

Top Cobalt Stocks of 2017 on the TSXV

What are the top cobalt stocks of 2017? These TSXV-listed cobalt companies have all seen year-to-date share price increases.



Interest in cobalt <u>continues to surge</u>, with increasing demand for electric vehicles driving the market.

At the moment, cobalt supply isn't sufficient to meet this impending demand, and prices for the metal are on the rise. Many investors are looking to cobalt-focused companies as a way to take advantage of this exciting environment.

To help investors get an idea of the current cobalt company landscape, we've put together a list of TSXV-listed cobalt stocks with year-to-date gains. All companies listed had a market cap of at least \$10 million as of December 11, 2017.

1. US Cobalt (TSXV: USCO)

Current price: \$0.56; year-to-date gain: 1,144.44 percent

US Cobalt, formerly Scientific Metals, is an exploration company focused on the acquisition and development of production-grade deposits of metals that are critical components of modern-day rechargeable batteries. Its Iron Creek cobalt property is located in Idaho along the Idaho Cobalt Belt, and it also holds the Paradox Basin and Deep Valley Ithium projects.

The company has been active at Iron Creek throughout the year, with its most recent news about the project coming in October. At the time, US Cobalt said it had <u>intersected high-grade cobalt mineralization</u> at the property. Since then, the company has <u>closed a brokered bought-deal private placement</u> for gross proceeds of \$5.75 million; among other things, the money will be used for further cobalt exploration.

2. Giga Metals (TSXV:GIGA)

Current price: \$0.61; year-to-date gain: 771.43 percent

Giga Metals, formerly Hard Creek Nickel, is interested in metals that are necessary for modern batteries, particularly cobalt and <u>nickel</u>. The company says its BC-based Turnagain project contains "substantial quantities of these two critical battery metals."

It's been a quiet year for Giga Metals, but it said after <u>closing a \$2.36-million non-brokered private placement</u> that it would be using the funds for general corporate purposes, as well as metallurgical and engineering studies for Turnagain and "potential acquisitions in the battery materials space."

3. Castle Silver Resources (TSXV:CSR)

Current price: \$0.32; year-to-date gain: 350 percent

Castle Silver Resources is focused on developing its past-producing Castle <u>silver</u>-cobalt mine in Ontario. Commenting recently on the company's progress, <u>President and CEO Frank Basa</u> said, "we expected to find more cobalt and silver at the Castle property [in 2017], and our exploration results were excellent."

The company is also testing the Re-2OX process to recycle lithium-ion batteries by stripping the casing, leaching the <u>cathode</u> of the batteries and forming a high-purity precipitate containing valuable metals. In October, Castle <u>signed a provisional milling agreement</u> with <u>Granada Gold Mine</u> (TSXV:<u>GGM</u>).

4. Cobalt Power Group (TSXV:CPO)

Current price: \$0.23; year-to-date gain: 350 percent

Cobalt Power Group is focused on cobalt exploration and development. It has made a series of strategic property acquisitions over the past year, seeking assets in Northern Ontario's Cobalt camp. The company's Ontario-based cobalt projects include the Smith, Coleman Township and Canadian projects, and it has also made several exploration license applications in historic cobalt-mining areas in Southern Sweden; they are currently under TSXV review.

2017 has brought a slew of news from Cobalt Power Group. In the last couple of months, the company's work has been focused on the Smith project. It released positive results from a Phase I, nine-hole drill program at the asset in mid-November, and later in the month released a further update.

5. First Cobalt (TSXV: FCC)

Current price: \$1.19; year-to-date gain: 205.13 percent

First Cobalt, formerly Aurgent Resource, says its goal is to become the largest pureplay cobalt exploration and development company in the world. Its main focus is the Greater cobalt project, which covers more than 10,000 hectares in Ontario's Cobalt Camp; the land package includes more than 50 past-producing mines, a mill and North America's only permitted cobalt refinery that is capable of producing battery materials.

The company has released a huge amount of news in 2017, with recent highlights including the completion of mergers with Cobalt One. In the past few weeks, First Cobalt has also reported high-grade cobalt assays at the past-producing Juno mine, and purchased additional contiguous mining claims in the Cobalt Camp.

The data for this article was retrieved on December 11, 2017 using The Globe and Mail's <u>market data filter</u>. Only TSXV-listed cobalt companies with market capitalizations greater than \$10 million are included.

5 Top Cobalt News Stories of 2017

What was the biggest cobalt news in 2017? Our most popular stories show that investors are hugely interested in electric vehicle developments.



Cobalt enjoyed an upward trend in 2017, with prices soaring in expectation of higher demand from the growing electric vehicle (EV) sector.

With carmakers promising to produce an increasing number of EVs, big contracts are on the line, and many of our top cobalt news stories of the year focused on these developments. While Tesla (NASDAQ:TSLA) was often in the

headlines, other auto companies began to steal some of the spotlight.

Read on to see what cobalt news stories grabbed the attention of our investor audience in 2017. Readers were keen to hear about what's going on with the metal and what experts think could be coming next.

1. Cobalt Excitement Rises as Tesla Begins Model 3 Battery Production

Tesla is always a hot topic in the EV space, and our most-read cobalt news story this year covered a June update from the company. The company's chief technical officer said at the time that lithium-ion battery production for the Model 3 was underway, and said the cars will use "2170 cells."

These batteries have been described by Elon Musk as the most <u>energy</u> dense in the world, as well as the cheapest out there. Read the article for more on Tesla's battery specifications and EV goals.

2. <u>Glencore's Massive Cobalt Deal to Support Volkswagen's Shift to</u> Electric Cars

Volkswagen (FWB:VOW) is preparing to really dive into the EV market, and has a hefty goal of launching 10 new EV models in 2018. In July, major miner Glencore (LSE:GLEN) signed a key cobalt deal with a Chinese firm that will help Volkswagen secure batteries for its cars.

However, all deals aside, analysts are still questioning the security of cobalt supply. How come? The majority of cobalt is produced in the Democratic Republic of Congo (DRC), an area of the world known for political turbulence. Are there any alternatives that can meet this growing demand? In the rest of this article, analysts and CEOs weigh in about whether there are viable options outside the DRC.

3. <u>Cobalt Demand Set to Surge as Automakers Call for EV Battery</u> Production in Europe

Next in cobalt news, automakers made some very big promises at this year's Frankfurt Motor Show. Luxury vehicle brands BMW (ETR: BMW), Mercedes-Benz, Audi (FWB: NUS) and Jaguar Land Rover disclosed their plans to offer an electric version of every type of their models. When do they expect this ambitious goal to come to fruition? 2025, the carmakers say.

These announcements came after the UK and France disclosed a plan to ban gaspowered vehicles by 2040. With demand amplifying ahead, what does this mean for suppliers? Will China still rule the market or will European cobalt producers be able to create some competition in the market?

4. CATL Plans \$2-billion IPO to Boost Lithium-ion Battery Production

Chinese battery giant Contemporary Amperex Technology (CATL) made cobalt news when it announced plans to complete a whopping \$1.97-billion IPO. The company is doubling down on its investment in battery production with a plan to create two new plants, including a 24-GWh megafactory.

CATL seems to be making a good move, as demand for lithium-ion batteries is predicted to jump to 750 GWh by 2026. In line with this demand, cobalt demand will also grow — but by how much? Read on to find out the big numbers predicted by Benchmark Mineral Intelligence.

5. Volkswagen Struggles to Reach Long-term Cobalt Supply Deals

Our last most-read cobalt news story covers Volkswagen's struggle to secure cobalt supply deals. Talks held at the company's headquarters were aimed at thrashing out supply deals with major producers, but ended without success. "They are looking for prices below the market, they have a lot to learn about cobalt," one source told Reuters at the time.

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