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# Eurochem's expansion into mining could double company size, boost it to top 5 potash player

By [Ben Seeder](#)

When Andrey Melnichenko founded [Eurochem Mineral Chemical Co. OJSC](#) nearly 15 years ago, the company was not much more than a pair of Soviet-era nitrogen plants and a dust bowl phosphate mine facing closure.

Melnichenko, who studied physics before switching to economics, made a fortune in banking during Russia's turbulent 1990s; he is one of the few people on the planet to have become a billionaire before the age of 35.

He saw an opportunity to leverage Russia's subsidized gas prices into an empire of nitrogen fertilizers — and Eurochem quickly became one of the country's biggest fertilizer exporters.

Fifteen years on, Eurochem, now Russia's biggest fertilizer producer, has entered the world of mining. It is set to become a top five global potash player, targeting production of 8.3 million tonnes by 2022 — equivalent to nearly 15% of all potash expected to be consumed in the world this year.

That is a huge amount in anybody's book — the company itself claims its combined US\$7 billion outlay into its two potash mines represents the biggest investment in potash in the world for the past half-century.

If successful, the strategy should more than double Eurochem's size, boosting EBITDA to more than US\$3.5 billion, from US\$1.5 billion in 2014, and clearing the path for its long-anticipated IPO. The company is currently 92% owned by Melnichenko, whose empire now spans coal mining, energy, as well as fertilizers.

## Eurochem's strategy — self-sufficiency in upstream raw materials

According to Clark Bailey, managing director of the mining division at Eurochem, the company's breakneck push into potash and phosphates and its deals to buy gas fields across Russia are part of a companywide strategy to control all of the raw materials needed in fertilizer making.

"The idea is to go upstream and to be self-sufficient in all the raw materials — natural gas, phosphate rock, and potash," Bailey said in an interview with SNL Metals & Mining in Moscow on April 23.

"The philosophy is vertical integration — from the original mineral, to transportation, all the way to the guy who uses it on the field."

The group bought the giant Novy Urengoy gas field in 2012, and then another — the Astrakhan field — in 2014, bringing its total gas resources to 585 billion cubic meters. Eurochem's phosphate base totals 4.2 million tonnes, while its potash resources total 10 billion tonnes.

## Potash strategy could make Eurochem a top 5 global producer

If successful, Eurochem's potash expansion would boost it into fifth place in terms of world producers in the nutrient, behind local rival [OJSC Uralkali](#), [Potash Corp. of Saskatchewan Inc.](#), [Mosaic Co.](#) and [Belaruskali](#).

On the phosphates side, Eurochem is already around 80% self-sufficient in phosphate rock supplies, used to create its phosphate and complex fertilizers, and is aiming to soon bring that ratio to 100%.

In Murmansk, the company's new pit at its existing [Kovdorsky](#) phosphate mine should produce more than 2.5 million tonnes per year of apatite — high-quality phosphate rock — and more than 5.5 million tonnes per year of medium-grade iron ore as a byproduct.

Not bad for a company still classified by market analysts as a chemicals company.

The Russian group needs around 3 million tonnes of phosphate rock a year to produce its DAP and MAP fertilizers, as well as complex NPK fertilizer, which contains all three nutrients.

Bailey said Eurochem will produce a range of products from the new pit at the Kovdorsky mine.

"We get various products from it, phosphate and iron ore, we also mine zirconium or baddeleyite, which makes it a pretty unique mine in the world — there's nothing like it anywhere," Bailey said.

## Kazakh phosphate rock mine to form basis of central Asian fertilizer production hub

In Kazakhstan, the company has started mining phosphate rock from its Kok-Jon mine in the southeast of the country.

It is part of the company's plan to expand significantly into fertilizer production in the central Asian country; Eurochem bought out the Kazakh government's stake in Sary-Tas, a Soviet-era fertilizer plant near Karatau, in the south of the country. The plant had been mothballed since the 1990s, but Eurochem is aiming to modernize the facilities and build new plants there to produce cheap fertilizer for sale in China, India, central Asia and Russia.

According to Eurochem's Kazakh strategy, the group is targeting production of 1 million tonnes per year of phosphate fertilizer, 800,000 tonnes per year of nitrogen fertilizer and 500,000 tonnes per year of complex fertilizer.

To feed this fertilizer output, Eurochem needs to boost its local production of phosphate rock, and also secure cheap transport of potash from its Russian mines to the Kazakh fertilizer plants.

It has invested US\$88 million in the Kok-Jon project, and output is expected to ramp up to 650,000 tonnes per year by 2016, with the potential to further increase this to 1.5 million tonnes per year in the future.

## Iron ore — a nice little side-earner

Bailey also pointed out the company produces iron ore from its Kovdorsky mine near Murmansk, with the majority of the output bought by Chinese buyers.

"It's not super-rich-grade iron — it's medium-grade, 62%-63% iron content, but it sells OK. We mine it because we have to get the apatite, and improve our costs, but it is now the byproduct instead of the main product," he says.

"Historically, the Chinese have bought a little over half of our products — selling it from Murmansk, we've had some Panamax-sized ships that went to Asia over the north passage, icebreakers in front of them."

But according to Bailey, an American who joined the company in 2013 after 16 years with Potash Corp., the main focus is on Eurochem's potash strategy.

## Eurochem enters new ground

It is a completely new area of business for Eurochem, and one of the main reasons Melnichenko convinced Bailey, a veteran potash miner, to abandon his retirement in Texas for the excitement of building potash mines in Russia.

Eurochem surprised the big Russian potash players at the time by bidding for the [Gremyachinskoe](#) deposit, according to Alexei Milenkov, CFO of rival fertilizer group Acron, which also has plans to build out its own potash mine near Berezniki.

"I think Silvinit and Uralkali didn't think either us or Eurochem could do it. We didn't have much mining experience and no experience at all in potash mines," he told SNL in an April 21 interview in Moscow.

Like Eurochem, Acron started life as a nitrogen fertilizer producer, but has since expanded into phosphate mining, and is trying to develop its own potash deposit in an area not far from Eurochem's prospective Berezniki project.

But the company found financing its potash development difficult, as both international and Russian banks tightened lending to mining projects amid the financial crisis and then the price rout in commodities.

It led to Acron's decision last year to negotiate a sale of up to 30% of the project to an Indian consortium. The company has not yet finalized the deal, Milenkov said, so there is an option of selling the share in the project to other investors.

He also pointed out that Acron is still interested in selling some of the Canadian potash licenses it acquired.

But finance is not as big an issue for Eurochem, says Olivier Harvey, head of investor relations at the company.

Despite the whopping US\$7 billion price tag for both potash projects, he said much of the outlay can be funded over time by Eurochem's free cash flows.

Still, the company has managed to tap investors in recent years, including a US\$750 million project finance facility, a US\$1.3 billion syndicated loan and a US\$750 million Eurobond issue. As of December 2014, net debt stood at US\$2.6 billion, or 1.77x EBITDA. So far, the company has expended US\$2.3 billion on its two potash projects.

He also said the devaluation of the Russian ruble was delivering huge cost savings to the company's CapEx program. Assuming an exchange rate of 65 rubles to the dollar, around US\$190 million could be shaved off the company's expected US\$660 million in 2015 CapEx.

Harvey also confirmed that an IPO was still likely, but not before the potash projects were much further advanced.

## A challenging time to enter the potash market

According to Daniel Manuel, a senior analyst with Fertecon, a fertilizer-specialist research consultancy, Eurochem's push into a sector previously dominated by just two companies in the former Soviet Union — Uralkali and Belaruskali — is coming at an "interesting" time.

Until 2013, Uralkali's production was sold via the Belarus Potash Co., a Minsk, Belarus-based marketing group that also sold Belaruskali's output; the BPC, combined with a similar North American cartel, controlled more than 70% of the potash market.

But that situation has now changed, Manuel says; producers are no longer adopting pricing strategies, they are adopting volume strategies, he believes.

"Who knows what the market in 2017 will look like — in my view, not drastically different to today," he wrote in comments emailed to SNL on May 1.

"Price discipline is in the best interests of all of the suppliers as they look to maintain market share in an increasingly competitive world."

Eurochem bought its first potash mining license in 2005, to develop the 4.6 million-tonne Gremyachinskoe deposit, located near the town of Kotelnikovo, southwest of Volgograd.

It followed up with the purchase of another license area a few years later — the [Verkhnekamskoe](#) deposit near Berezniki, Russia's potash stronghold and the main base of operations of Russian rival Uralkali.

Bailey points out that Eurochem is already well down the path of developing both mines.

Three shafts are being sunk at its Volgalkaliy mine, which will have a depth of around 1,200 meters; it expects to reach that depth around 2017.

Meanwhile, the company is rolling out surface buildings and laying out social and nearby transport infrastructure.

At Eurochem's other potash mine under simultaneous development, the Usolskiy project near Berezniki, in Russia's Urals district, the group has completed work on two shafts to a depth of some 500 meters. It is expected to begin initial production around 2017.

## **Setbacks at Volgakaliy, mine flood and lawsuit against Shaft Sinkers**

Bailey admits there have been some major setbacks. In 2012, Eurochem filed suit against Shaft Sinkers, the London-listed South African mining engineering company that had been contracted to construct the shafts at the site.

Soon after starting work on the cage shaft, things started to go wrong; the grouting technology that Shaft Sinkers used failed, and the shaft later suffered water inflow.

Although Bailey said he could not comment in detail about the ongoing case, he admitted that the failure and the flooding of the shaft that led to the lawsuit delayed completion at Volgakaliy by more than two years. The group later claimed the failure cost more than US\$1 billion.

"Our complaint was that we believe they falsified their abilities to sink the shaft. They actually proposed a plan that was not suitable and they perpetuated that. They hid information from us, so that is what we are following up," Bailey said.

In Eurochem's claim, filed with a court in Amsterdam against International Mineral Resources, the company that at the time owned 48% of Shaft Sinkers, Eurochem alleged Shaft Sinkers bribed mine employees to conceal the setbacks and work deficiencies from management.

The court eventually rejected the case, but Eurochem is set to appeal; meanwhile, the two sides agreed to enter private arbitration in Switzerland, with a decision on that due soon.

Despite initial media speculation that the setback in Volgograd, combined with the sharp drop in potash prices, signaled the end of Eurochem's potash ambitions, the company says work at the affected shaft has resumed.

It restarted work there in 2013, after a delay of more than two years. It contracted this time a freeze wall solution provided by Thyssen Schachtbau GmbH, which has also been contracted to work at Volgakaliy's skip shaft as well as at the shafts being sunk at Eurochem's Berezniki site. It also contracted a Moscow-based engineering firm, US-30, to help in sinking shafts in both Volgakaliy and Berezniki.

## **Among the world's lowest potash production costs**

Bailey says the investment case for both projects is strong.

"We will be as low cost as Uralkali — and Uralkali is already on the low end. We will definitely come in under the Canadian producers," he said.

The Volgakaliy mine will have the cheapest production of the two, Bailey says. This is because of its new technology and equipment, the high potassium chloride, or KCl, content of its ore — 39.8% — and its relatively close location to the Tuapse port on the Black Sea, 600 kilometers from the mine site. That compares with more than 2,000 kilometers for both Russian and Canadian competitors.

According to the company, once at full planned capacity of 4.6 million tonnes per year, Volgakaliy will dig up potash for US\$57 per tonne — roughly half the cost level seen in Canada's mines, but slightly over the US\$47 per tonne cash COGS costs reported by Uralkali.

The Volgakaliy mine, however, is better in terms of the quality of mined ore. The mine's 39.8% KCl content compares to about 30% for the company's Berezniki mine, and as low as 24% to 27% for Uralkali's mines, according to Eurochem.

## **Present potash price woes**

Bailey believes potash has a bright future, but it must soldier through the current price doldrums.

"I think the price will slowly grow back — it almost has to," Bailey says, pointing out that the mineral is a necessary component for intensive crop production.

As the world population increases and diets in developing countries shift to more protein-intensive foods, he says the demand for fertilizer, including potash, will increase. Estimates on how much vary, but the range of 1% to 2% per annum is normal, he says.

"You cannot grow these types of crops at these rates without potash — you have to have the volume. When you think about the demand growth — even if it's 1% to 2% a year, that's nearly a new mine every year that will be needed to keep up with demand."

Despite Eurochem's recovery after its setback at Volgakaliy, Bailey admits launching new potash production in the current market would be challenging, with spot prices not much over their 2013 lows of US\$300 per tonne.

One of the main reasons holding the price down, he says, is the unexpected dissolution in 2013 of the potash cartel between Belarus and Uralkali, the top global producer. The marketing cartel accounted for nearly 50% of global potash exports, and it was a major factor in maintaining high prices.

But the relationship between the two players broke up, and world potash prices crashed by 25%. According to Potash Corp.'s market data published on its website, FOB Vancouver potash prices fell from US\$400 per tonne in mid-2013 to US\$300 per tonne by November 2013. Prices have not recovered since.

"When they functionally went out and started competing with each other on a volume basis, and even stated they were going to sell at \$50 below the current market, everybody just stopped buying and said 'OK, I'll wait until the price gets to that number.'"

Another big factor is the market's overreaction following the ramp-up in prices in 2007 to 2008. Prices peaked at around US\$900 per tonne in this period, as crop prices rocketed on the back of food shortages in some developing countries, according to Fertecon's Manuel.

"Suppliers, aware of this fact, were able to strategically increase MOP prices," he says.

"If you look back to before 2007, we were seeing no new mines being built ... [there was] a perceived mismatch of market demand and supply [leading to] a potash deficit along that time curve. When there was (due to many reasons) that squeeze of supply versus the increased demand on food supply and it's relation to fertilizer supply ... that's when the price went crazy," Bailey says.

But the market situation soon reversed, he says, as existing potash players and new entrants announced new projects. They were attracted by the high prices and the mineral's concentration in just a handful of areas.

After Canadian authorities blocked its hostile takeover of Potash Corp., BHP Billiton announced plans to develop the [Jansen](#) deposit into the world's biggest potash mine, with 8 million tonnes to 9 million tonnes of KCl output capacity, equal to around 15% of total world potash sales of 61 million tonnes in 2014.

Other players, such as Russia's Acron, Belaruskali and Uralkali all announced plans to boost output, while the world entered the financial crisis. Potash prices slowly sank over concerns of increasing supply and lower demand.

## Hope for improving prices as market overestimates future capacity

Bailey now thinks prices are set to slowly begin rising again.

"If you study the capacity utilization rate, it's been running between 78% and 85% for a long time. When it got above 85%, almost got to 90% [back in 2007 to 2008], that's when prices really went crazy, because people realized 'Oh my God — I can't get potash, there's none left.'"

"That's where the world is going again, because other than the one in Turkmenistan, maybe one in Ethiopia and some small mines like at K+S' [Legacy] mine, and Jansen's not happening. With even a modest 1% to 3% increase in demand per year, where are you going to get the supply in 10 years? It takes at least that long to develop a site, and that is on the fast-track basis, other locations take even longer."

"If you look at what's happening and where the market's going to be, I think there will be a different scenario by the time we are on line, and certainly in our ramp up. Look at who's building and who's going to be there to deliver those tonnes — it's us."

Elena Kudryavets, general director of fellow former Soviet Union rival Belarus Potash Co., believes in a similarly positive price scenario.

"We positively view the demand on mineral fertilizer, but we have to be realistic. In the current competitive market, it's difficult to see a return to the price highs of US\$800 per tonne to US\$1,000 per tonne any time in the near future," she wrote in comments emailed to SNL.

"But having said that, we are observing on the market some positive price trends related to recent events like the strikes at ICL, the flooding of Solikamsk-2 and the real threat of losing Solikamsk-1 — these events are allowing for a rise in price."

Uralkali's Solikamsk-2 mine flooded in November 2014, and the group has been working ever since to secure the linked Solikamsk-1 mine, and to solve the flooding situation to reopen the closed parts of the mine. Its partial shutdown last year took some 3 million tonnes of potash production capacity off the market.

Bailey said one of the problems is analysts can err in projecting future capacity and resulting prices, because many do not account for long potash ramp-up periods, stalled projects and capacity being shuttered after producers bring new production online.

"K1 and K2 will probably be shut down; it depends on their costs to produce and how well (and expensive) it is to maintain with their flooding. Mosaic is spending a fortune trying to sustain both these mines. As soon as they get K3 in the ground, and some mine development, that can replace [K1-2]."

Bailey says the main point is that analysts need to be careful in their assessment and analysis about adding capacities.

"You must evaluate what comes off, stops, is too expensive to operate, or is at the end of its life as well."

As an example, he expressed doubt that BHP's Jansen project would ever get the green light.

"There's opinion it will never be built. I've got to look at it both ways. If it does, it will be years late," he says.

Bailey dismissed concerns that Eurochem's entry would disrupt the market. Even though its targeted production of 8.3 million tonnes after 2020 is a large percentage of world potash demand, he said the price effect would be diluted by Eurochem's slow ramp-up and the fact that a large proportion of production will be consumed internally.

Even so, Fertecon's Manuel says Eurochem's place on the production cost curve gives it options when dealing with competition.

"Eurochem is a very savvy player in the fertilizer world — they're going to take a measured approach to securing business in the potash market, and I would be surprised if they were extraordinarily aggressive with pricing. I don't think any of the producers have much to gain by constantly attempting to undercut one another.

"That being said, Eurochem will come into the market as a very low-cost producer — it goes without saying that they could survive a much deeper cut in MOP prices than many of its counterparts."

He raised questions over whether the company would seek to revive a cartel agreement out of former Soviet Union producers.

"There's a lot of speculation over whether or not we might see a Eurochem/Uralkali trading alliance and I don't think either party has ruled such a scenario out."

But the companies do not appear to be cooperating in at least one aspect — recruitment.

Eurochem's new mine in Berezniki is in the midst of Uralkali's main operations; one Uralkali spokeswoman told SNL that there were already fears of staff poaching by the newcomer. Berezniki has a population of around 100,000, and about 20% of these people already work at Uralkali.

"I am not promising not to take staff from Uralkali," Bailey says, but he stresses the company will not deliberately target Uralkali workers. "It doesn't make sense for either us or Uralkali to drive up labor prices."

### **Searching for efficient tech for new projects**

Bailey, who spent much of his career in the mines of Saskatchewan for Potash Corp., says he wants to bring in some Canadian techniques and technology to the Russian industry, but is keen to stick to the basics in the first phase of both mine projects.

"We don't want to reinvent a lot of new things; we want to get the basics right, then in the second phase, learn and know where to make improvements and push the envelope."

Even so, Bailey talks enthusiastically about rope hoist machines, laser shaft surveying equipment, piezometers and acoustical equipment to detect earthquakes — all either purchased or under consideration.

"We are trying to figure out the best software to use, mine plan software, survey data — is there a piece of software that can put all of that together?"

"A lot of the processes we are using are just the same [as in Canada] — crushing, flotation, granulation, we are using Koeppern compactors for potash granulation, for example. We are purchasing some Russian-made Ural-20 mining machines, but our Koepe hoists are from the Czech Republic."

"We are looking at some improved ways to have the ore report to the shaft. We are also looking at some improved ways to remove the ore in the skips once it gets to the shaft."

"We are looking at putting in other features such as different type of tensioners on the ropes, using rope guides rather than fixed guides, automatic rope changing machines — if you do it right, it's a very nice tool to have. We are at the stage where we will probably go ahead and decide to implement this technology."