# EuroChem widens its sights

**Fertilizer Focus discusses EuroChem's potash capacity with Clark Bailey, Head of Mining, and future plans with Olivier Harvey, Head of Investor Relations**

**Fertilizer Focus (FF): I understand EuroChem are looking to offer N, P and K nutrients to the market, which would make you a one-stop shop for all fertilizers. How do you plan to market these products and are you looking at any joint marketing opportunities?**

**EuroChem (EC):** EuroChem is known to be an ambitious company, whether by its intensive value creating projects in Russia or growing M&A track-record. While today the Group has a solid presence in Europe, the CIS and the US - and recently announced the acquisition of a fertilizer distributor in Brazil - the start of its potash operations will add another dimension to its international presence, and undoubtedly increase the Group's focus on the Asian, South American and African markets. Needless to say that with its global reach, the Group's premium products and distribution business (EuroChem Agro), offers a natural platform to leverage potash sales.

Still, due to internal potash requirements the Group's potash market entry is expected to be rather gradual, which also means flexible. EuroChem is an integrated company (from source to solution) and as such, also enjoys many key partnerships and market relationships, which remain valuable for our continuing market penetration. This applies for all nutrients and will be particularly important in growth markets like Asia and Latin America, where we see the need for more balanced nutrient application.

In essence, with so many opportunities available, it is probably still early to imagine what shape or form the Group's K marketing function will ultimately take.

Volgakaliy potash - mine rescue building

VolgaKaliy potash project - electrical substation and three shafts

**FF: Which markets are you looking at targeting?**

**EC:** EuroChem's potash 'market' will initially be internal for application at our NPK facilities. Already today the Group sources up to 500 000 tonnes of potash from the market. These volumes will be fulfilled by our mines with our internal potash requirements potentially increasing above 1 million tonnes per year as we grow our NPK/complex production capacity.

As we mentioned, a key focus for our potash product will be Asia Pacific and Latin America, which are growth markets and where potash will be needed to provide balanced nutrition and maximized agricultural productivity.

We also plan to convert KCl to SOP for specialty agriculture sales for those crops which are sensitive to chlorides such as fruits and tobacco.

**FF: Argus FMB recently visited the new VolgaKaliy mine in Russia. Could you give me some background on this project?**

**EC:** The VolgaKaliy project was conceived when EuroChem purchased a license area, named Gremyachinskoe, for the development of potash in 2005. The site's reserves are 1.613 million tonnes by Russian measuring standards (B+C1+C2) and the anticipated life of the mine is c.45 years. It is an excellent deposit with KCl percentage of 39.8%. The project was originally planned to begin operating back in 2014, however, in late 2011 issues developed with the technique chosen to sink one of the site's three shafts. As a result, the entire cage shaft sinking effort was put on hold – and so was the construction of the main mill on the surface - but to our good fortune today, other infrastructure continued, although at a slower pace while awaiting the outcome of the cage shaft sinking issues. In 2013 the sinking of the cage shaft was resumed and in 2014 sinking began on the third shaft, the site's second skip shaft. In 2013, surface construction was restarted (and the status is as noted below). With the recent issues in the cage shaft (see below), yet another plan was organized to change the services of the two shafts which have now reached depths well into the salt and are far past the bottom of the water bearing levels and protective freeze walls. Today, those plans are being implemented, but the effect of the cage shaft will create an additional six month delay to the plans put together in 2013 following the first sinking issues. Currently, first production is scheduled for mid-2018 and a 5-year ramp up period is envisaged to get us to full capacity, during which time other surface facilities will be built. With this modified plan, it puts the production back on our original track within this time frame.

> *"The VolgaKaliy project is focused on producing by the middle of 2018*

**FF: What are the specific timescales you are working to?**

**EC:** The VolgaKaliy project is focused on producing the first product by the middle of 2018. In 2018, with mine development being the throttle, approximately 280K tonnes of MOP, red standard, will be produced during the first six months. EuroChem's other potash project, Usolskiy Potash, will come online shortly before the VolgaKaliy site. We currently expect to

Volgakaliy potash - product storage

start mining operations at Usolskiy in the fourth quarter of 2017.

**FF: To which depths will you be mining?**

**EC:** Mining depths vary slightly, but the ore, being an 'evaporate' and without geological uplifts or major faults, is relatively flat. The bottom of our two skip shafts will be at -1147 metres below the shaft collar or 'Zero' reference elevation point. The top of the upper salt zone happens to be at an elevation of roughly -1004 metres (varies slightly). The shaft stations for loading the skips will be at the elevations -1072 metres. The main ore body of the potash zone lays generally between -1085 metres and -1100 metres.

**FF: The mine is being developed in two phases – could you explain these phases?**

**EC:** Yes, the project has been proposed to be developed in two phases. The project's first phase which we name as Phase 1, is defined simply by the work and facilities that are required to bring this stage of development into the initial operations. This involves almost the entire surface facilities and infrastructure for the plant, less the Phase 2 Beneficiation Plant and some additional storage facilities. So, this Phase 1 includes removing and storage of the top soil from the site, leveling the site to the engineered elevations and grades, building the high voltage (220 Kv) power lines and the main electrical substation, the rail system and rail station including the loading systems for the entire plant, the gas pipeline and metering systems, the water wells inlet and water treating facilities, the tailings management area and ponds, roads, fences, parking lots, canteen and administration buildings, mine rescue building plus the site's fire protection facilities. It also involves sinking all three mine shafts, building all three headframes, shaft service and hoist buildings, as well as building the offices and shops for maintenance. The distinction between Phase 1 and 2 is basically, that each phase has its own surface beneficiation plant which includes crushing, screening, floatation, compaction, drying and a separate storage building. For the underground, the near shaft services facilities, shops, storage areas and bins will all be done during the Phase 1 work while both phases have mine development and ramp up work to enable the surface facilities to reach their nameplates.

> *"EuroChem is long-term focused and enjoys advantageous cost positions across nutrients*

**FF: Could you confirm that the capacity of the mine is 4.6-4.85 million tonnes of MOP once both phases are completed?**

**EC:** Phase 1 will be a plant whose operational capacity is essentially 2.3 million tonnes per year of MOP produced in two grades, both of which are identified as being a 'Red Product' 95% KCl grade, one of which is referenced as 'Standard Grade –Pale Pink' and the other as 'Compacted' or 'Granular-Pale Pink'. The 'pale pink' designation comes from the fact that the raw ore material in this potash zone has fewer elements and minerals in the 5% which is not KCl that give the MOP its 'red color' and consequently it will be pale in color. The next capacities are a little more complicated to describe, call them 2a and 2b or Phase 2 and 3, but will be built following completion of Phase 1 and its startup and commissioning. We will be able to construct both a Red Plant of approximately 1.3 million tonnes per year and a small white plant of 1.25 million tonnes per year. This affords us a wider range of client or markets, some of which are for our own internal use and expansions into higher-grade fertilizers.

**FF: One of the shafts flooded recently – how did this happen and what is the current status?**

**EC:** The shaft did not flood. There was a water inflow that prevented us from continuing to sink. The

amount was managed simply by use of our buckets and we initiated a grouting program which was partially successful. However, after extensive grouting efforts at the shaft bottom, it was finally understood the actual path and profiles of the water flow. Further, with more analysis at shaft bottom it became clear that the water bearing sandstone dipped downward much further on one side and has allowed water to essentially flow beneath and then through the initial protective freeze wall deteriorating the freeze wall sufficiently to call for a revised plan. Consequently, as of the beginning of August the plant has allowed water to fill the shaft and is pumping water into the shaft to stabilize and stop this flow such that the freeze wall can be reestablished. Several additional, deeper freeze holes will be added at the location where is has been concluded water was able to undermine the initial wall. By the 12th of September, surface rigs will be in place and the water will be equalized to begin this programme.

**FF: Do you have new plans for water management?**

**EC:** The Plant and Project Institute have designed a proper dewatering system for this mine. The design takes into consideration several cases and its construction will progress over time, meaning the location and size of dewatering gets revised as the shaft/mine development progresses. The main sizing basis comes from the time when the mine is backfilling the old rooms and must decant or remove the water from those rooms and recycle it back to the surface. Dewatering at the current stage is handled shaft by shaft, until these are all connected and the sizing basis comes from information provided by the geologist and hydro-geologist who provide the potential water flow rates that may be encountered.

**FF: EuroChem are also developing the Usolskiy mine - another MOP project – how is this progressing?**

**EC:** The Usolskiy mine, which is located in the Berezniki area, known as the Verkhnekamskoe deposit, is progressing very well. We have over 4000 people on this project now, including EuroChem and our maintenance company (Ural-RemStroyService) as well as various contractors.

In Usolskiy, the site continues with construction of the main beneficiation mill with Renaissance, the contractor. Additional focus on installation of steel and equipment continues. Renaissance started the installation of process equipment for the grinding and flotation departments, the first large elements of the mills have now been installed.

Volgakaliy potash project - transfer tower to/from storage

Monolit-Group (Belarussian company) was selected to construct the mine administration building. VIPS (architectural engineering firm in St. Petersburg) provided the last details for designs of the mine administration building and canteen. UralEnergoStroi (UES) started the construction of the boiler house. StroiGasEngineering continues with the construction of the Reagents building, this contractor showed good progress and was also awarded the compressor station and Reagents pipelines gallery projects.

The construction of the product storage and raw ore storage buildings is driven by the fabrication schedule of the large glulam (wooden) beams. The raw ore storages are assigned to one contractor – Timber.

Storage building #1 should be finished in December 2016, storage building #2 will be finished at a later date. Each building has a capacity of 135 000 tonnes of product.

UES continues with the construction of the main substation (220 kV). The construction progressed well and construction was completed in August. UES also started constructing the water treatment facilities.

Shaft No.3: As of 25 July 2016, all 45 holes (freeze holes and temperature monitoring moles) were drilled to the designed depth and cased. The pump building, constructed for the freeze station by Thyssen, is essentially complete. Freezing operations will begin this fall and US30 is already signed to be the shaft-sinking contractor.

In summary, the project is proceeding at a fast pace, although there is a great amount of work left to do on many fronts. The schedule remains to have ore to surface and begin commissioning in late 2017.

Volgakaliy potash project - site overview

**FF: How do you think the oversupply situation for potash should be addressed?**

**EC:** We currently see capacity overhang in all nutrients, not only potash. We are now in a supply driven situation where some marginal capacities will be affected – but EuroChem is long-term focused and driven, and enjoys advantageous cost positions across nutrients.

Specifically on potash though, depending on whom you ask, there are likely various expectations as to how EuroChem should react or address the market with its own potash capacity as it prepares to enter what is today perceived as an oversupplied market.

At the very top, the situation is really the supply demand balance, which currently is at a low simply due to demand. The supply side is extremely slow to develop on account of the significant capital and work required to bring new capacity online. It is easy to recite examples, just as with EuroChem's potash projects, whether we look at PotashCorp's or Mosaic's brown field expansions or K+S' Legacy project - all required multi-billion dollar investments – and all were conceived when supply was clearly short. New potash mining assets require millions of working hours and years to develop - at least 7 years on average with EuroChem's closer to 10 for the first tonnes. However, the demand side of the ratio, while moving higher, has not grown as much as anticipated 10 years ago, while total cultivated land acreage and soft commodity prices have. While some of the lacklustre demand growth can be attributed to one-off economic/ political situations in key markets, the fact remains that improper fertilizer application or nutrient imbalances remain as fertilizer spending remains modest. In Russia, current fertilizer application rates are at approximately 39 kg/hectare while in North America, application is approximately 168 kg/ hectare and both are considered inadequate to provide optimal yields. Farmers are both extremely frugal and intelligent. So much of today's market has simply been the rationalization of the end user to the economy and their returns for their own capital and labour in the field. Agriculture can adjust regionally each year, capacity projects are harder to modify.

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Regardless of the market situation - both EuroChem sites will be amongst the lowest cost potash mining assets in the world, and while this should guarantee adequate returns even at today's prices, EuroChem does not intend to, as we like to say, 'rock the boat.'

**FF: Does EuroChem have any other future developments that you would like to talk about?**

**EC:** EuroChem has the good fortune to have implemented a strategy that strives for vertical integration within the company. That includes other related aspects, meaning to improve our independence. Other than this 'vertical integration' concept, a company can grow by expanding into new markets, grow or develop new regions, or create new products, not simply by looking at new developments that have the same theme, products or potential clients.

EuroChem´s upstream strength in all key nutrients fits well with the active development of its global distribution network. Consequently, we have continued to develop and expand with such items as you have seen announced in the last year, including the acquisition of Bentrei, a distribution company in the USA, Tocantins, a distributor in Brazil, and the acquisition of an interest in Agrinos, which specializes in the development of microbiological fertilizer additives. ■