The Crucible

The Fanya Metal Exchange

The Impact of Conflict Minerals Legislation in Rwanda

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LETTER FROM THE MMTA BOARD OF DIRECTORS

THE FANYA METAL EXCHANGE MEMBERSHIP APPLICATION

MMTA Members will be aware from trade news services that The Fanya Metal Exchange Co. Ltd ("Fanya") has applied for MMTA membership. The MMTA Directors are considering this application.

The first hurdle when the application was received was that very little was known about Fanya here in Europe and so the MMTA Directors were delighted that Fanya accepted their invitation to make a presentation at the MMTA's International Minor Metals Conference in London on 29 April 2014.

The Fanya presentation took place in a very well attended session and the questions from the floor that followed made the session one of the most informative and interesting for many years. For those of you who have not already seen it, with the kind permission of Hard Assets Investor, we replicate Tom Vulcan's article published shortly after the conference - see page 12.

Scarlett Zhang of Fanya gave a detailed presentation and made a very good attempt to answer the numerous questions from the floor. Time constraints, and the fact that the presentation was in English, made the task harder. Although the session overran its time allocation, it was clear at the end that questions from many Members and delegates either remained unanswered or further information was required.

Therefore, after the conference, the MMTA Directors formally wrote to Fanya seeking their response to a list of questions so as to better understand their business and to enable the MMTA Directors to consider how Fanya would potentially fit within the MMTA. Fanya have provided very full and detailed written answers to those questions. With Fanya's kind permission we replicate the questions in the MMTA letter and the Fanya answers at page 4 to 11 - the only editing has been to merge the list of questions and Fanya's answers which are displayed in a blue font.

While there are clearly a number of issues of interest to Members, the MMTA Directors have focussed on one particular issue: from Fanya's presentation, and the detailed Fanya answers overleaf, it is clear that a significant proportion of the Fanya business is the sale of metal to individuals who are private individual investors.

In contrast, the MMTA was established to assist and encourage the trading of minor metals by businesses. The MMTA Directors' understanding of the MMTA is that it is a business to business ("B2B") organisation. The MMTA Directors are not aware of any existing Member for which minor metals transactions with private individuals represents a significant part of their business.

The MMTA Membership Rules specifically exclude private individuals from membership. Under those rules, MMTA Members must be involved, "with the production, physical trade or consumption of minor metals and services related thereto".

The MMTA Directors wish to give members the opportunity of confirming whether this understanding of the function and scope of the MMTA is also shared by the Membership. This will then allow the MMTA Directors to give further consideration to the Fanya membership application.

Therefore the MMTA Membership will be asked whether they consider that membership should be restricted to the B2B environment as historically understood or alternatively whether it should be extended to accommodate Companies that make or facilitate retail sales of metal to private investors.

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The MMTA promotes essential elements that add quality, safety and enjoyment to our lives.

The MMTA is the world's leading minor metals industry organisation.

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minor metals trade association

THE FANYA METAL EXCHANGE MEMBERSHIP APPLICATION CONT'D....

Guidance On Voting

1. All Members will be balloted on this specific issue by email with one vote per Member.
2. Service members who have no direct industry involvement in that they do not buy, sell or trade minor metal are encouraged to abstain from voting.
3. Votes cast by email to the MMTA General Manager, Maria Cox, are to be received no later than 17.00 hours London time on 11 July 2014
4. If no vote is received from a Member, it will be deemed that the Member has abstained from voting.
5. Abstentions will be treated as a non vote and the outcome will be determined on a majority basis.

MMTA QUESTIONS AND FANYA'S RESPONSES:

1. Exactly who owns and/or controls Fanya Exchange?

The Fanya Metal Exchange Co. Ltd.'s shareholders are composed by legal persons and natural persons. The single biggest share takes 34%. The law person of Fanya Mr. Shan Jiuliang is Chairman of Board and President of the Fanya Metal Exchange.

2. Exactly how is Fanya regulated?

a. Detail the relevant Chinese law/statute/legal references

- *Yunan Province Trading Place Supervision Regulations (Provisional)*
- *The State Council Decision on Rectification of all the Exchanges to Guard against Financial Risks (Issued by State Council [2011] 38th Notice)*
- *The State Council Implementing Opinions of Rectification of all the Exchanges (Issued by State Council [2012] 37h Notice)*
- *Yunnan Provincial Government General Office Printing Notice of Rectification of all the Exchanges (Issued by Kunming Government [2011] 256th Notice)*
- *The Fanya Metal Exchange Trading Place Supervision Management Regulations (Issued by Kunming Government [2010] 110th Notice)*

b. Exactly which Chinese body/agency acts as regulator?

- *The Fanya Metal Exchange was registered at Bureau of Kunming Administration for Industry and Commerce and supervised by Yunnan provincial government and Kunming government. The business is supervised by China's Securities Regulatory Commission, People's Bank of China, China Banking Regulatory Commission, Chinese Ministry of Commerce, the National Development and Reform Commission.*

c. What are the primary objectives of such regulation?

- *Mainly regulate, monitor, and guide the activities of the exchange, trading participants and all the trading activities on the platform.*
- *Government monitor and administrate the exchange by the following procedure.*
  - ⇒ *Government puts on file in advance, audits the establishment terms, significant operating and management business, trading rules, risk control rules and inspects the executions situation periodically and occasionally.*
  - ⇒ *The Exchange sets perfect administration and management system to supervise and manage the platform trading and companies' operation in accordance with national relevant laws, regulations and rules.*

Yunnan provincial Financial Office supervises the daily work of the Exchange.

d. What elements of Member protection are built into the exchange rules to protect private investors?

- *Kunming Fanya Metal Exchange Spot Trading Management regulations (Provisional)*
- *Kunming Fanya Metal Exchange Metal Delivery Management rules (Provisional)*

- *Kunming Fanya Metal Exchange Risk Management Regulations (Provisional)*
- *Kunming Fanya Metal Exchange Fund Settlement Management Rules (Provisional)*
- *Kunming Fanya Metal Exchange Provisions of Risk Reserve Management Regulations (Provisional)*
- *Kunming Fanya Metal Exchange Emergency Management Measures （Provisional）*
- *Kunming Fanya Metal Exchange Spot Trading of Entrusted and Be Entrusted Business Management Rules (Provisional)*
- *Fanya Metal Exchange Transaction disputation Handling Measures (Provisional)*
- *Fanya Metal Exchange Information Announcement Management Rules (Provisional)*
- *Fanya Metal Exchange Spot Transaction Safety Guarantee Measures (Provisional)*

e. Are Members that are private investors informed of all the possible risks of investing in the volatile and illiquid minor metals market?

- *Yes. Before Members participate platform transaction and sign Protocol, they should know well of Exchange's business. Meanwhile, the Exchange also tells relevant possible risks in the form of Risk Disclosure Statement in the Protocol. Members must read and comprehensive the Statement and then can they take signature before open accounts at the Exchange.*
- *Spot transactions and the entrust (entrusted) business in the Exchange have certain risk, and you may get a relatively higher income ,or suffer bigger losses, so these transactions are not suitable for pensions, private debts and bank loans. The clients should carefully read the "The disclosure Statement ", must ensure that the clients understand the Exchange's essence, transaction rules, and decide themself whether to participate the transaction on the basis of their own experience, objectives, financial situation, the ability to take risks before they sign accessing market Protocol and opening account.*
- *The possible risks include but not limited to the policy risks, price fluctuation risk, the technical risk, the transaction risk, force majeure. The clients shall carefully assess the risks involved in the transaction, remember that "market has risk, the investment need to be cautious," and take the transaction rational, scientific in non-ferrous metal spot trading.*

f. Who are the legal contract parties? Do Members contract with Fanya or do sellers and buyers contract directly with each other?

- *Members of the Exchange are the legal contract parties. After signing Protocol with the Exchange, they open a Member account. Through the account on the Fanya electronic platform, they do transaction with other members. Both parties sign electronic contracts and do transactions only between the members.*

g. Can Members always buy and sell at quoted prices? Is there an obligation to deal/transact at the quoted price?

- *For the normal condition, the parties of buyer and seller make bids freely and make deal at a same quotation. Under special cases, in order to control transaction risk, risky member may be mandatory to clinches a deal at market price. If the risky members within the given time to make up the funds, this kind of member will not be forced to clinch a deal.*

h. How are the activities of Members regulated? For example what safeguards are there for Members to ensure that related parties are not either manipulating quoted prices or "front running" markets?

- *The Exchange forbids any manipulating prices and other unfair activities, and restrict any phenomenon which destroys fair trading by regulations and rules. For example, Fanya is the unique exchange by real-name registration system through which any Member can see other Member's quotation and deals, therefore, price manipulation can be forbidden effectively. The rule of making full payment or delivering all goods forbids the deal by contract, which can restrict speculation effectively and forbid price manipulating.*

3. Who are the Fanya Members?

The Members are classified into producers, wholesalers and traders.

a. Fanya has 70,000 Members and states that 500 new Members are being added every day, but no Members' directory appears to be available. Can the Members' Directory be made available to the MMTA?

FANYA METAL EXCHANGE MEMBERSHIP APPLICATION CONT'D.....

- *By the end of May 20, 2014, the number of Members has reached 100,000 and 500 new members added every day. The total number can be published without name and information, but the list of Members are their confidentiality. It is obligation to maintain confidentiality for all the Members. It is not suitable to disclose to MMTA.*

b. When it comes to Members holding Fanya metal stocks, what is the percentage ratio of metal companies (producers, traders and consumers) to investors (institutional and private)?

- *On Fanya platform, private enjoys the same right as companies and institutes. All the private members can hold Fanya registration receipts. The platform does not classify the holding ration of warehouse receipts.*

c. What proportion of the stocks by value held at Fanya warehouses are owned by Members who are private investors

- *All the privates, companies and institutes are equal participants of exchange. The platform does not classify the holding ration of stocks by private, company or institute.*

d. What proportion of transactions by value are made by Members who are private investors

- *All the participants have the same right of trading on platform, so we don't classify the proportion of transaction of one commodity on the platform by private, company or institute every day.*

4. Please detail Fanya defined metal contracts for each metal listed, the registered brands deliverable, contract sizes and deliver terms etc that can be traded on the exchange.

To know all the information of listed commodities, please log in the official website www.fyme.cn. All the data shall be updated every Friday and stamped confirmed by the 3rd-party warehouse & logistics. All the stock information can be obtained by click "stock information" to know details of number of registration receipts, brands, sizes, destination and trading parameter. The website is http://www.fyme.cn/a/shangshipinzhong. All the exchange is spot trading, which means that all the metals can be delivered when buyers place member and receive the delivery bill, so the delivery terms is one day or the very day.

5. Who are the 3rd party contractors?

The 3rd party contractors include designated warehouse, designated quality inspecting institutes, professional insurance companies and designated settlement banks.

a. Who are the 3rd parties involved in Fanya's warehousing, inspection & analysis of metal, insurance etc?

Commodity	Designated Warehouse
Silver	Shanghai Feiping Logistics Co., Ltd
Indium	Yunnan Company of Sinotrans
	Shanghai Feiping Logistics Co., Ltd
	Kunming Warehouse of Shanghai Feiping Logistics Co., Ltd
	Yunnan Xinchu Logistics (Kunming) Co., Ltd
Germanium	Shanghai Warehouse of Shanghai Feiping Logistics Co., Ltd
	Yunnan Company of Sinotrans
Cobalt	Shanghai Feiping Logistics Co., Ltd
	Wuxi Stainless Steel Electronic Exchange Center CO,, Ltd
APT	Ganzhou Warehouse of Shanghai Feiping Logistics Co., Ltd
Bismuth	Hunan Bismuth Industry Co., Ltd
	Guixi Warehouse of Shanghai Feiping Logistics Co., Ltd
Gallium	Tianjin Warehouse of Shanghai Feiping Logistics Co., Ltd

Commodity Cont'd	Designated Warehouse Cont'd
Vanadium Pentoxide	Sichuan Province Logistics Industry Co., Ltd.
Antimony	Yunnan Company of Sinotrans
	China Antimony Corporation
	State Reserve Logistics Co., Ltd. Guanxi
Tellurium	Qingyuan Warehouse of China Logistics Co.,Ltd.
	Guixi Warehouse of Shanghai Feiping Logistics Co.,Ltd.
Selenium	Qingyuan Warehouse of China Logistics Co.,ltd.
	Changsha Warehouse of China Logistics Co.,Lt

Listed Commodity	Name of Quality Inspection Institute
Indium	Sino-platinum Metals Co Ltd
	Kunming Metallurgical Research Institute
Tungsten Bar	National Tungsten & Rare Earth Products Quality Inspection Center
APT	National Tungsten & Rare Earth Products Quality Inspection Center
Gallium	Evans Analytical Group
Bismuth	Hunan Company of China Certification & Inspection (Group) Co Ltd (CCIC)
	Kunming Metallurgical Research Institute
Vanadium Pentoxide	Sichuan Metallurgical Products Quality Inspection Center
Antimony	Kunming Metallurgical Research Center
	Guangxi Metallurgical Products Quality Inspection Center
Tellurium	Analytical & Testing Centre of Guangzhou Research Institute of Non-Ferrous Metals
	Kunming Metallurgical Research Center
Selenium	Analytical & Testing Centre of Guangzhou Research Institute of Non-Ferrous Metals
	Hunan Company of CCIC

LEGAL ASPECTS OF CONTRACTING COURSE

Many thanks to Penningtons Manches LLP for delivering an extremely useful overview of the different aspects of the contracting process when involved in international trade. Those present had lots of questions for our expert speakers.

TECHNOLOGY & APPLICATIONS OF MINOR METALS COURSE

In the morning, the course covered an overview of the basics of metallurgy, with specific references to the properties and uses of minor metals, especially in the alloying process. This was followed after lunch by an overview of some of the key applications for minor metals, focussing on what they add to the specific application and why. Thank you to the Advanced Manufacturing Research Centre for delivering this course for us.

INFORMAL DRINKS, NEW YORK

It was fantastic to see so many MMTA Members, as well as new faces at the informal drinks recently. Thank you, too, to Metal Pages for donating sponsorship to help keep the drinks flowing!

b. What rules must these 3rd parties comply with in carrying out their roles?

- *The 3rd parties must comply with the following rules as well as the national laws and policies and rules issued by Chinese government.*
- *Kunming Fanya Metal Exchange Spot Trading Management regulations (Provisional)*
- *Kunming Fanya Metal Exchange Metal Delivery Management Rules (Provisional)*
- *Kunming Fanya Metal Exchange Risk Management Regulations (Provisional)*
- *Kunming Fanya Metal Exchange Fund Settlement Management Rules (Provisional)*
- *Kunming Fanya Metal Exchange Provisions of Risk Reserve Management Regulations (Provisional)*
- *Kunming Fanya Metal Exchange Emergency Management Measures （Provisional）*
- *Kunming Fanya Metal Exchange Spot Trading of Entrusted and Be Entrusted Business Management Rules (Provisional)*
- *Fanya Metal Exchange Transaction Disputation Settlement System (Provisional)*
- *Fanya Metal Exchange Information Announcement Management Rules (Provisional)*
- *Fanya Metal Exchange Spot Transaction Security Pledge Measures (Provisional)*
- *All above are the relevant regulations and rules for the third parties.*

c. Are these 3rd parties independently monitored to ensure that such rules are complied with?

- *On the one hand, as a public platform, all the participants monitor the third parties, On the other hand, local government and Chinese government supervise and monitor the third parties. Lastly, Fanya supervises these third parties according to the relevant management systems.*

d. In the presentation Fanya stated that 20 Chinese banks were involved. Who are they financing, Fanya or Members?

e. What is the structure of this financing? What are the advance rates loan value to metal value?

- *Another three banks joined the Fanya's business recently, so the total cooperation banks are 15 by now. These banks don't make financing cooperation with Fanya but supply account settlement and deposit management. Bank financing business is under development, and there are no problems of financing structure and the advance rates now.*

6. How does Fanya ensure the quality of metal delivered to the exchange?

The Fanya Metal Exchange ensure the safety and quality of the metal by the following five procedures,

Five commodity safety protection system = producers' system + wholesalers' system + the 3rd parties quality inspection institution + whole process insurance by insurance company.

1） Producers' system

Producers would be wholly responsible for the products quality and weight, what they supply to Fanya, and its responsibility cannot finish with the transformation of the ownership of the products in warehouse.

2）Wholesalers' system

Wholesalers' system ensures that the products in our stocks are the brand of producers and also ensure that the quality and weight are all complied with our commodities trading rules.

3）The 3rd party professional storage and logistics service, which ensures the safety of commodity.

We employ the independent 3rd party warehousing company to supply the service of stocking and logistics for our membership.

4）The 3rd quality inspection institution to ensure the quality of commodity.

Every commodity must be strictly inspected by the 3rd party authorized quality inspection institution for ensuring the quality of commodity.

5）Commodity insurance company

To minimize the risk of every commodity in the stocks, we make insurance for every commodity at its full amount.

Stock of Indium in Kunming Warehouse of Shanghai Feiping Logistics Co.,Ltd and Yunnan Xinchu Logistics (Kunming) Co., Ltd

Indium and Germanium in Kunming Warehouse of Shanghai Feiping Logistics Co.,Ltd. and Yunnan Xinchu Logistics (Kunming) Co., Ltd

Vanadium Pentoxide in Sichuan Province Logistics Industry Co., Ltd.

Bismuth in warehouse of Hunan Bismuth Industry Co., Ltd

Internal package of Indium is by plastic film. Every ingot printed with metal name, production date, production batch number, and brand.

a. Fanya has a list of approved 'brands' for each metal that can be sold on the exchange. Can the MMTA receive a list of those suppliers that are approved for each commodity and what are the criteria for brand approval?

- *You may check the relevant listed products information, such as brand, specification, delivery, trading referential data and suppliers testifying information by logging on the Fanya Metal Exchange's official website http://www.fyme.cn/a/shangshipinzhong/.*
- *The supplier who get approved brand should offer full document profiles including administration, taxes, environment certificate, Safe Production Certificate, Brand Registration Certificate, company profiles, financial performance introduction, brand influence and credit etc. We give priority to the brand that is in good reputation and outstanding brand in the rare metal industry.*

THE FANYA METAL EXCHANGE MEMBERSHIP APPLICATION CONT'D....

CCTV monitoring of metals in warehouse.

b. How closely does Fanya monitor the quality of the metal delivered? At least one of the brands listed on Fanya refers to a trading company rather than a producer, which raises concerns regarding how quality consistency is monitored.

- *Every batch of metal must be sampled inspected by the 3rd quality inspection institutes who are recognized by market. All the producers shall be responsible for the brand metals' quality from delivery to warehouse to consumption in the end-users. Trading companies are not responsible for the quality and they only sell goods on Fanya platform. The Exchange invite different quality inspection institutes periodically to inspect the metals at the same time in order to secure the quality of all the metals in warehouse.*

c. Is material sampled by 3rd party experts using representative sampling techniques when it is delivered to Fanya and what are the minimum quality requirements for each metal?

- *Yes. The sample metal requires representative sampling techniques. The sampled metal should reach the quality standard of regulations of commodity exchange before they are delivered to warehouse. The lowest standard takes GB standard or Industry standard as a reference. Most standard is higher than the quality of GB or Industry Standard.*

Above: Spot sampling of indium delivered into warehouse before registering **Right:** Analysis result of chemical elements for Indium delivered from Guangxi Debang Technology Co.,Ltd.

Left & Centre: Quality Inspection report of Indium supplied by Guangxi Debang Technology Co.,Ltd. **Right:** Quality Inspection report of the second sampling inspection of Indium in warehouse (Twice for one year)

b. Why is there a need to re-cast Indium metal before it is delivered to the exchange? Is this the same for other metals?

Not all the Indium should be re-casted. The brand approved by the Exchange can be delivered into the warehouse if the Indium has passed sampling inspection. The brand which is not approved by the exchange need to be re-casted. All the other metals take the same procedures as Indium.

c. What is the procedure if a Member has a claim on quality or non-delivery?

Quality claim or non-delivery violate must be treated in accordance with the rule of "Kunming Fanya Metal Exchange Metal Delivery Management Rules (Provisional)"。 Please click the link for reference, and find the Part Nine treatment of delivery violation.

http://www.fyme.cn/a/xiangguanjieshao/jiaoyiguize/2013/0917/18543.html

Storage information: http://www.fyme.cn/

Designated delivery warehouse details: http://www.fyme.cn/a/settlement/settlement_warehouse/

3rd quality inspection institutes details: http://www.fyme.cn/a/news/public_notice/settlement_pulic/2011/0420/212.html

Insurance companies details: http://www.fyme.cn/plus/list.php?tid=300

Delivery public notice : http://www.fyme.cn/a/news/public_notice/settlement_pulic

7. How does metal leave the exchange?

After the Member place order, the exchange will issue delivery bill for him and the Member can take delivery from warehouse by himself or get metal from the Member's designated destination where the logistics company deliver the metal. It usually spend only one day for Member to take delivery.

a. Please explain how a Member who buys metal on the exchange can take physical delivery of the metal from Fanya?

The steps can be simplified as below:

1）Sign a Protocol to be a Member of Fanya and open an account automatically formed by Fanya's system. The account is banded with the member's bank account in order to help transfer money between the exchange and its Bank account.

2）Deposit money to the exchange account;

3）Log in exchange system and buy metal.

4）Buyer get products (registered receipts) and transfer the payment to seller's account;

5）Buyer (who holding the registered receipts), make an application of delivery to the Exchange

6）The Exchange send the notice to issue a delivery bill for the buyer

7）Buyer take the delivery of metal according to the delivery bill.

b. When a Member buys metal on the exchange what ownership documentation do they receive? Are buyers issued with warehouse warrants conforming to defined Fanya metal contracts referring to actual stock/identified parcels of metal? Can these warehouse warrants be cancelled and the metal physically collected by the buyer?

- *Buyers get ownership documentation (we call it registration receipt) when they buy metal from the Exchange. The registration receipt shows the metal name, quantities and the current status. The registration receipt is the correspondent with the metal in warehouse, and the buyer can see the metal and confirm package. The registration receipt is a proof of ownership and it cannot be cancelled before it is transferred to other buyers or delivery. Buyers can make application of delivery and get the metal. Many buyers (companies and privates) have taken delivery from the warehouse.*

c. When a buyer takes physical delivery of metal, what documentation does he get proving the provenance and quality of the material?

- *When buyers take delivery, he will receive the invoice from buyer as well as the certificate of quality with supplier's name and trademark, metal name and brand, production batch number, net weight and pieces, chemical analysis of test result stamped by quality supervising bureau, standard code and date of production included.*

d. What proportion of buyers take physical delivery of metal?

- *There is no data for the moment.*

e. Does Fanya regulate the lot sizes and load in/load out rates?

- *Please see the regulations of every listed metals by the link website. http://www.fyme.cn/a/shangshipinzhong/*

f. What is the lead time for delivery?

- *Buyers and sellers make the contract via Fanya platform and then the platform can make the settlement during the transaction period. Buyers can submit the delivery application via platform system the very day and finish the delivery next day.*

CHINESE EXCHANGE FANYA STRIVES TO OPEN DOOR TO MINOR METALS INVESTING

First Published in Hard Assets Investor

Stocks of stored minor metals such as indium growing, but what are the pitfalls?

Scarlett Zhang, vice president of the China-based Fanya Metal Exchange, told the attendees at the Minor Metals Trade Association's 2014 International Minor Metals Conference in London at the end of April that 2,500 (metric) tons of minor metal indium is in stock.

She also informed the conference that figures for other minor metals held in the exchange's 11 warehouses are:

Germanium	**44.5 tons**
Ammonium Paratungstate (APT - $(NH_4)_{10}(H_2W_{12}O_{42})\cdot 4H_2$)	**10,450 tons**
Bismuth	**10,000 tons**
Gallium	**102.35 tons**
Cobalt	**90 tons**
Silver	**3.47 tons**
Antimony	**440.55 tons**
Vanadium Pentoxide (V_2O_5)	**35 tons**
Tellurium	**30 tons**
Selenium	**20 tons**

You may think, "big deal!" Well, think again. If Zhang's figures are to be believed, then this is a very big deal for some metals—particularly indium, probably one of the largest around.

To give you an idea of what some of these stocks of metal could represent, here's how they stack up against the U.S. Geological Survey's (USGS) 2013 figures for global production of each metal.

Metal	Global Production – Tonnes	Fanya's Stocks (% Global Production)
Indium	770	325.7%
Bismuth	7,600	131.6%
Gallium	280	36.6%
Germanium	150	29.7%
Tellurium*	>95	×31.6%
Selenium*	>2,334	×1%
Silver	26,000	< 1%
Antimony	163,000	< 1%
Cobalt	120,000	< 1%

* Total world production not provided because of lack of data from China and other major world producers.

Needless to say, the figures that really stand out are those for indium and bismuth, especially indium, which shows more than three years of *annual* global production, and more than five times Chinese annual output, sitting in warehouses in China.

Now, the exchange *is* three years old, so the indium stocks have been built up over this period. However, the exchange only started trading selenium and tellurium toward the end of *last month*—April 21 to be precise—and look how much is already held.

Some Exchange Statistics

To quote some of Zhang's other statistics for the exchange:

> "**Trading volume and Turnover**: nearly 160,000 tons, with turnover above $32.7 billion;
>
> "**Memberships:** over 100,000 members (producers, traders, consumers, institute investors and personal investors)"
>
> "**Clients Assets:** $4.12 billion;"
>
> "**Sales amount for rare metal enterprises**: $3.2 billion"

In addition, we learned that the exchange is adding some 500 new clients each day, and "$320 million *of new clients assets per month*," with considerable interest from the Chinese "Dama" or individual investor.

The Exchange's Three Stated Raisons D'Être

Perhaps one of Zhang's most illuminating slides was the one that provided three raisons d'être for the exchanges existence:

- Global rare metal industry needs much more open data and a platform integrating information flow, cash flow and logistics flow.
- The global rare metal upstream and downstream industries need better sales channels, more equal pricing forming system and more comprehensive financial services.
- Global capital market needs new investment targets of being modern and representing high technology development.

Zhang was particularly keen to emphasize the last of these points, noting later in her presentation that: "Rare metals become important investment products which can keep value or anti-inflate in the era of electronic finished products which are made from rare metals as the vital functional raw material."

The exchange, therefore, provides not only institutions but individual investors a handy way to invest in various minor metals. They can, if they want, even take them home and put them under their beds. As Zhang so rightly pointed out: "With the real estate industry market going down, we need to search for more and better investment categories in 2014."

Other Useful Reasons For Its Existence

In addition to these three, the exchange appears to serve several other useful and important purposes—as described by some of the speakers at the exchange's third anniversary celebration on April 18.

Vis-à-vis the "rare metal industry" and "rare metal production," the exchange enables China both to exert more influence and extract more profit. According to Qinhua Wang, the vice chairman of China Nonferrous Metals Industry Association:

"We hope to increase Chinese speaking right of rare metal industry by the connection between rare metal industry and financial industry.

"Although China has a very important position in rare metal production, consumption and import and export, we have not enough influence on rare metal in the world and we didn't get reasonable profit in the international rare metal industry.

"Under the circumstance that the prosperous development of strategic industries, our position becomes more important. Minor metal, great contribution! We expect to increase our rare metal's pricing mechanism and great influence on international market and strengthen Chinese market speaking right gradually."

And, according to Feng Cheng, chairman of China Chamber of Commerce of Metals Minerals & Chemicals Importers & Exporters (CCCMC):

"Seen from the worldwide value chain, Fanya is function as the protector of Chinese rare metal resource and promoting the national market pricing as well. In the meantime, Fanya also makes the ordinary investors get profit, which realized the four parties win-win situation of country, industry, enterprises and investors."

On the pricing front, too, the exchange has been helpful to a number of minor metal producers—extremely helpful if two producers, one of gallium and one of antimony, are to be believed. And they are probably not alone:

"Fanya, who combines with the real economy and capital achieves a surprising effect. I think the most sad thing is that we sell our resources at very low price to overseas markets currently, but we have no resource to use when our industry is well developed and upgrade to a new level in the future. With the platform of Fanya, antimony enterprises need unite together to maintain antimony market order and seek more reasonable pricing mechanism." —China Minmetals Corp.

CHINESE EXCHANGE FANYA STRIVES TO OPEN DOOR TO MINOR METALS INVESTING, CONT'D....

"Gallium is not raw ore, of which about 90 percent is extracted from the production of aluminium oxide. If we don't produce the gallium from aluminium oxide, it will be washed away. Chinese gallium resource takes up about 90 percent of the world, but current gallium price in the market failed to show its resource value, that is to say that we give the resource to the overseas market without taking any payback. Gallium industry should have a better future." —Libing Jia, Chairman of the board of Zhuhai Fangyuan

Some Observations

The discussion following the presentation, the last of the conference, could perhaps best be described as "lively," especially with the need for decorum to be maintained. (One need remember that many delegates make their livings trading the very metals Fanya is holding.)

However, perhaps understandably, very little concrete information could be learned from Zhang:

Q. Why so much indium, as opposed to silver – both are industrial metals?

A. It was the exchange's first metal.

Q. How much can the market move on Fanya?

A. There are market limits of 5-6 percent per day.

Q. Can people take stocks out?

A. They can take metals back home if they like.

Q. What stock levels is Fanya targeting?

A. Depends upon the market.

Q. Who is buying: industry or individuals?

A. Open an account and we'll tell you.

Q. Are individuals not being "seduced" into minor metals by adverts on TV and the like? There are not enough of them and the volumes are too small.

A. There's a market in base metals. Why not minor metals? If it weren't Fanya, it would be someone else.

What To Make Of Fanya?

First and foremost, the exchange appears to function as a very useful domestic price support mechanism for various minor metals produced in China. Throughout Zhang's presentation, she returned again and again to the theme of Fanya providing a way in which the "true" value of various metals could be realized. (The individuals quoted above confirm this.)

Can individuals really take their metal holdings "*back home*" and pop them under the bed? I doubt it somewhat, especially if they hold only 100 grams of this or that metal. And, as a corollary to this, when it comes to selling, I can't see who would be on the other side of the deal, especially in a falling market.

Indeed, the fact that no information was forthcoming from Zhang on the split between institutional and individual membership and/or trades makes one wonder whether it is small-time individuals who are being targeted as investors. And if they are, and something goes wrong and they come to harm, what may the effects be on the minor metals trade? (One need remember that this is China, where the concepts of culpability—especially that of government officials—and individual rights are not necessarily the same as they are elsewhere.)

And what's the government's involvement? The exchange must certainly have its, if only tacit, approval. Trade in such metals is too important *not* to come under the purview of at least some part of the administration.

This could lead one to cynically surmise that the exchange and the stocks of metal it "holds" are actually a nifty way for China's State Reserve Bureau to complement, with "buffer" stock financed by exchange members, the country's national stockpile of such metals.

In times of national emergency, who knows if the government would not see its appropriation (with or without compensation) of these metals as perfectly justified? And in a crashing market, what easier way to pick up such metals at fire sale prices?

But I am probably being too cynical and, "[w]ith the real estate industry market going down," the exchange does, simply—for Chinese investors anyway—offer an excellent investment alternative. Hey, Thomson Reuters, Bloomberg and Metal-Pages either are, or will soon be, carrying Fanya data.

Tom Vulcan, Hard Assets Investor

MINOR METALS & MAKE-UP: GET THE GLOW!

In the pursuit of beauty, for millennia humans having been putting all sorts of concoctions on themselves to dazzle and attract, from crushed jewel paste by the Egyptians to the famous white lead based face paint used by Queen Elizabeth 1st of England The modern age brings with it ingredients lists that you need a chemistry Degree to decipher.

The presence of metals in consumer goods, and in particular personal products such as toiletries and cosmetics, is often the target of campaigns from supporters of more 'natural' products. An example of a metal often targeted in personal goods is aluminium and its role in deodorants, even with inconclusive studies demonstrating that the use of aluminium in this application has harmful effects. Concerns over unlisted and possibly carcinogenic substances should not be ignored, but education needs to be key to demonstrate that some 'metals' have very interesting properties that create excellent products and are not all dangerous or undesirable in cosmetics.

To continue on my Minor Metals journey of discovery, I was surprised to learn that mineral makeup, powders and eye shadows that create a 'glow' often contain bismuth oxychloride or titanium dioxide.

Bismuth oxychloride has a useful quality for makeup of excellent adherence to skin in addition to layers of atoms in its structure that refract light chromatically creating an iridescent 'pearl-like' glow. Bismuth has been used as far back as ancient Egypt as a cosmetic, mostly as a white powder. It is also used in pearlescent nail varnishes and lipsticks.

Another common method of obtaining a pearlescent finish in cosmetics is the use of mineral mica with a thin layer of titanium dioxide. The variation in the thickness of the top layer combined with the natural translucent mica creates the pearl effect with lots of colours emerging. Titanium dioxide also adds 'whiteness' and opaqueness to products such as sunscreen.

Bismuth Facts

- ***Used in a number of pharmaceutical, electronic and industrial applications.***
- ***A fragile pinkish-white metal that was long confused with lead, tin and zinc.***
- ***Bismuth is typically recovered as a by-product of lead and copper***
- ***The main mining areas for bismuth are Bolivia, Peru, Japan, Mexico, Canada and Australia.***

Tamara Alliot, MMTA Development Coordinator

MANAGING REACH FOR MANUFACTURERS AND IMPORTERS—HOW COMPLIANT ARE YOU?

Join us for this essential one-day course

When: 10th September 2014

Where: MMTA Office, London

The programme includes:

- Summary of duties of manufacturers and importers
- Managing business impacts
- Conducting an internal audit
- Supply chain issues- non-EU suppliers and EU suppliers of raw materials
- Supply chain issues- customers
- Conducting a supplier audit
- Implications of getting it wrong

Member price: £295 +VAT

Non-members: £350 +VAT

Lunch and refreshments are provided

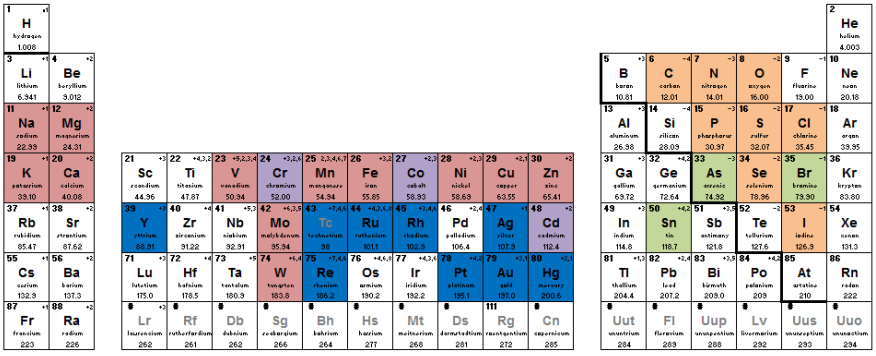
MINOR METALS IN MEDICAL APPLICATIONS

Some of the most well-funded, innovative and creative research goes into the area of medical materials. Cutting-edge technologies are used to save lives and improve the quality of day-to-day activities. Minor metals are at the forefront of this research, with fascinating applications being developed all the time.

It is impossible to tackle all the metals and their diverse applications in one article, so The Crucible will launch a series of *Minor Metals in Medicine* pieces to give this sector the attention it requires.

Many readers will be aware of applications such as Co-Cr alloys in replacement joints and dental implants—to be covered in-depth in a future piece in the series, which will also include titanium in instruments and other applications, as well as inside the body, magnesium, 3D printing and dissolvable parts.

This short introductory piece offers an overview of some less well-known applications, as well as the presence and purpose of metals naturally occurring in the human body. Below is a 'Biomedical Periodic Table', showing not only that many elements are essential to life, but also the role of metals in chemotherapy and diagnostics. Metals in the body contribute to basic functions such as growth, fertility and organ function, and having deficiencies in certain metal-ions can lead to severe illness and even death.



Key

Pink: Essential elements, **Orange:** non-metallic essential elements

Green: Elements possibly beneficial for life

Blue: Elements for chemotherapy and diagnostics

Purple: Essential elements also used in chemotherapy

When thinking of metals in medical applications, 'structural' parts may well be the most prominent, for example hip joints and implants, but in fact there are many other treatments and drugs that are based on metals. As highlighted in the table, the most widely-used drugs in chemotherapy are metals-based, often based on platinum group metals, for example rhenium and rhodium. The 'Australian Research Network for Metals in Medicine' currently has a number of projects with promising results that involve a range of different metal-ions including those of cobalt, copper, gold, iron, molybdenum, niobium, platinum, ruthenium, tin and titanium. It is also interesting to note that the main treatment for bi-polar disorder, which affects around 1% of the world's population, is with lithium-ion therapy.

Metals also have anti-microbial properties, with many metal mixtures having powerful anti-microbial qualities. Many are already in common day-to-day use in areas such as silver bandages for treatment of burns, zinc antiseptic creams, bismuth drugs for the treatment of ulcers, and metal clusters as anti-HIV drugs. Bismuth is also used in popular indigestion medicines.

Tamara Alliot, MMTA Development Coordinator

GREENLAND—EU RAW MATERIALS COLLABORATION

How can the EU and Greenland collaborate on raw materials mining and processing? A wide range of issues, including availability of mineral resources, funding sources for the development of mining, not to mention infrastructure development and supply chain considerations, all play a role in whether this will be a viable collaboration.

Greenland has resources of REEs, critical and non-critical raw materials, including molybdenum, vanadium and gallium amongst others, and a recent 'letter of intent' between the EU and Greenland is intended to herald a new era of enhanced cooperation between the two.

However, gaining funding from European banks, as well as a lack of processing infrastructure in Europe, are hurdles which would need to be overcome. Before investments are made, geological knowledge, environmental risks and the infrastructure from transport to processing all need to be assured. If the EU were to invest in raw materials in Greenland, it would be important to create a win/win situation, with education and infrastructure development for Greenland and, in return, increased security of raw materials' supply for the EU.

Greenland looks attractive, but most areas of the country have challenging and/or costly implications with a lack of local technical knowledge, labour force, under-developed infrastructure, local opposition and a complex supply chain with processing located elsewhere. Nevertheless, the importance of sustainable primary supply is one of the four facets of reducing the criticality of materials, the others being substitution, material efficiency and recycling.

Greenland's arctic ecosystem and desire to protect its fishing industry—the second largest sector after commerce - are key considerations when developing mining. Creating a fair and ecological supply chain is a growing issue and there is increased media focus on reputational risk for companies, as well as analysis of the impact of consumption in the European population.

There are some junior mining companies already in situ, but these can be very small, high risk venture capital companies, and they are not necessary strong technically or knowledge-wise.

There is a very clear political objective for an EU-Greenland cooperation, but at this point in time, a framework is lacking that would allow actual implementation of projects.

This is a summary of some of the issues raised at the Stakeholder Workshop on EU-Greenland Co-operation on Raw Materials, Brussels 17th June, led by DG Enterprise & Industry

The full report and presentation slides from the workshop are available on the **Members' Area** under 'News and Views'.

CRM INNOVATION NETWORK—SUBSTITUTING CRITICAL RAW MATERIALS

2nd Innovation Network Workshop, Brussels, 14th May 2014

What is the CRM Innovation Network (CRM_InnoNet)?

Project Objectives

Mapping of critical raw material substitution initiatives: CRM_InnoNet will employ a 'top down' sector-based approach to identify potential bottlenecks in the raw materials value chain and a 'bottom up' raw materials-based approach, including mapping of on-going initiatives in the field of substitution of critical raw materials at the EU and Member States level.

Prioritisation methodology: CRM_InnoNet will develop a methodology to establish clear criteria for the prioritisation of applications which are at 'threat' due to **resource scarcity** and identify opportunities for technological and non-technological development in the field of substitution of critical raw materials.

Substitution Roadmap: CRM_InnoNet will propose a roadmap for the substitution of critical raw materials in five key applications.

Innovation Network: The Innovation Network will constitute a dynamic, open and proactive platform for the entire stakeholder community.

Policy Recommendations: CRM_InnoNet will prepare recommendations, future initiative ideas and suggested actions for policy makers.

Around 130 people gathered together in Brussels for the 2nd Workshop on the substitution of Critical Raw Materials, run by the CRM Innovation Network. The Network sees substitution as the solution to reducing 'criticality' of the EU CRMs. During the workshop, academics, research institutes and industry representatives gathered to discuss the many projects launched on substitution.

During the day, delegates had a chance to discuss with the group their own ideas and specific challenges facing their substitution projects, as well as other methods to decrease criticality. The group aims to make an integrated community to drive innovation in substitution of CRM projects.

Starting the day, we were introduced to some of the challenges that the world faces in the coming years. Dr Claire Glaessen drew our attention to the fact that by 2050 there will be an estimated 9.5 billion people in the world with 3 billion of these falling into the middle class category, with increased spending power, placing a huge demand on consumer goods and technologies such as smartphones, TVs and computers. Ensuring that the raw materials are available to sustainably meet this increased demand is essential, affecting not only the EU but the entire world.

The network focused on 14 CRMs, increased to 20 (new list released 26th May—see opposite for more information), but they are also making sure that the substitution projects are aligned with the aims of industry and materials that actual businesses deem 'critical' to their operations beyond what the EU has decided is important.

The next session included presentations on the 'Mapping of the CRM landscape' and analyses on different industries such as ICT, electronics, energy and transport. The group also outlined their roadmap for material substitution and what they envisage happening after the end of the project in late 2015. It was considered important that the projects carry on well after the end of the Network, as a longer time schedule is needed to commercialise these innovative projects and make a 'real' difference to criticality.

Afternoon sessions were on 'Materials for Aeronautical structures: reason and rules for material change' (a long and extremely complex endeavour which includes complete re-design of the part when changing the material) and a presentation on 'Risk Assessments in material supply chains' by David Gardner from C-Tech Innovations. This project was developed in response to the UK Resource Security Action Plan and looks at how SMEs can identify potential 'hotspots' or 'criticalities' for themselves. Funded by the UK Government and the CRM Innovation Network it offers a methodology on how to complete an assessment simply and with little time investment. The next step for this project is to produce an official standard.

Speakers stressed that straight substitutions of one material for another is only one of several options. Service for product, process for process and new technologies for substances are all ways to reduce dependence on CRMs. An example of this may be the 'leasing' of products instead of buying, with the product returned to the manufacturer at its end-of-life and the consumer provided with a new model. The returned product could be recycled or refurbished creating a closed-loop economy.

The MMTA attended the workgroup session on high-value alloys with representatives from Tata Steel, GE, the nuclear industry and aerospace manufacturers. Some of the discussions included emphasising that long time frames are need in these industries to introduce new materials, and that there are many difficulties in straight swapping of one material for another.

Trade issues were also mentioned, with the confusion between price volatility and supply risk not being appropriately differentiated in the discussion of CRMs by experts, and how instead of just substitution, trade issues also need significant attention.

The group also examined the recommendations of a previous group of experts to ensure a sustainable supply of CRMs, with some of the possible policy interventions to help with criticality as follows:

- Harmonized legislation across countries
- Reliable certification of products from all countries
- Education and industry-driven research initiatives, with a a pre-requisite for EU funding being an industry focus
- Improved export legislation with the monitoring of the export of waste

Finally, may we draw the attention of Members to the 'Critical Raw Materials Substitution Profiles' which are still open for comment until August 2014.

This is a valuable opportunity to influence the documents and inform others on whether substitution is possible or not of a particular material.

Visit http://www.criticalrawmaterials.eu/documents/project-dissemination-downloads/raw-material-profiles/ and register for this site, which also contains a library interesting documents on the use of CRMs in various sectors.

This Week in Rare Earth Elements

By J.A. Green & Company

This Week in Rare Earth Elements, China's General Administration of Customs released the most recent set of export statistics for rare earth elements for the month of May. The United States was the single largest export destination for rare earth materials, representing 42% of exports at an average value of $7.86/kg. Japan holds the top overall position for rare earth exports for the year but fell to the second position for the month of May, with a much higher average value of $13.28/kg. The European Union represented the third largest export destination, with an average value of $18.21/kg.

In other market news, the Roskill Consulting Group has released its most recent report on the rare earth market, finding that China will account for 70% of rare earth demand, followed by Japan (15%) and the United States (10%). China is also expected to account for 83% of global supply, followed by North America (7%), Australia (6%), and Europe (2%). The outstanding balance for both demand and supply come from the rest of the world.

PUBLICATION OF THE NEW EU CRITICAL RAW MATERIALS LIST AND REPORT

Update from the CRM Alliance:

The European Commission has now published a **Communication** on 'the review of the list of critical raw materials for the EU and the implementation of the Raw Materials Initiative'. According to the document, a new key priority is to ensure a sustainable supply of raw materials within the EU, especially as regards framework conditions for mining and improving the raw materials knowledge base.

As expected, it contains 20 critical materials: **antimony, beryllium, borates, chromium, cobalt, coking coal, fluorspar, gallium, germanium, indium, magnesite, magnesium, natural graphite, niobium, PGMs, phosphate rock, heavy REEs, light REEs, silicon metal and tungsten**. To access the Commission website, please click **here**.

Expected next steps by the European Commission:

Setting up a pan-European knowledge base of non-energy, non-agricultural raw materials by 2020;

Preparing an issues paper on seabed mining by the beginning of 2015;

Communication on the European Innovation Partnership (EIP);

Annual high-level conference on the EIP in the autumn in Italy where a number of key 'raw materials commitments' will be presented;

Start preparing for the next strategic programming phase for research in 2014 covering 2016-2018;

Selection process for a Knowledge and Innovation Community on raw materials with a call running until 10 September 2014;

Final meeting of the European Rare Earth Competency Network project at the end of 2014;

During 2014 further raw materials diplomacy events to take place (Greenland, African Union, USA, Canada, etc)

Trade negotiations with a special emphasis on the Transatlantic Trade and Investment Partnership with the United States;

To boost resource efficiency and increase the amount of recycling - highest priority in 2014 is on the waste policy review

The Communication was published together with:

Critical Raw Materials report

Annex to the CRM Report

CRM profiles

Non-CRM profiles

KEY ASPECTS OF REACH COMPLIANCE

Lisa Allen – Technical Manager, REACHReady Ltd

Lisa is a chemist with many years of commercial experience. Her roles have included working with members of the supply chain to deliver new products and re-formulations to meet demanding specifications.

In her role as Technical Manager, Lisa provides direct assistance for REACHReady subscribers, as well as technical guidance. She oversees the technical content of REACHReady's training programme, and provides REACH-related training through public workshops and seminars. She is an experienced speaker on REACH both within the UK and internationally and has had a number of articles published.

More than a year has now passed since the second REACH registration deadline, which applied to substances manufactured and imported in quantities of 100 to 1,000 tonnes per year per legal entity. For that deadline, some 3,215 companies submitted 9,084 dossiers to the European Chemicals Agency, ECHA. Those registrations concerned almost 3,000 substances and included many minor metals and their compounds which had not been registered for the first deadline of 1st December 2010, for example lithium, tantalum, neodymium, tungsten carbide and vanadium dioxide.

In the early days of REACH one could perhaps be forgiven for regarding registration as the end point in a company's compliance plan. To make a registration is no small accomplishment: if you are one of the many companies having already been through the process you will no doubt appreciate the effort – and cost – involved. However, as the impact of other REACH processes, namely evaluation, authorisation and restriction, are realised, it is easy to see that making a timely dossier submission is only one aspect of an ongoing compliance project.

What is Evaluation?

The "E" of REACH consists of two processes: substance evaluation and dossier evaluation. The former is carried out by Member States and seeks to answer the questions, "are the risks already controlled?" and "are (further) legislative controls required to protect human health and the environment?" It can result in additional testing and data requirements (which may go beyond the standard information requirements in Annexes VII to X to REACH), to which active registrants may need to contribute in order to maintain their registrations. In April this year, the first draft decisions on 37 substances evaluated under the Community Rolling Action Plan (CoRAP) in 2013 were issued to affected registrants where further information was deemed necessary to assess the safety of those substances.

Possible outcomes of substance evaluation where the data available are sufficient for the Member State to confirm the risk include proposals for: harmonised classification and labelling under the CLP Regulation, inclusion in the Candidate List of substances of very high concern (SVHCs) for authorisation, or Annex XVII restriction – as well as no further controls being required.

In contrast, dossier evaluation, which comprises compliance checks on registration dossiers and examination of testing proposals for higher-tier (Annexes IX and X) information requirements, is carried out by ECHA. It seeks to instil confidence in the compliance of registrations and may again result in registrants being required to submit updated dossiers to maintain their registrations, either spontaneously or at ECHA's request.

Focus on dossier evaluation

By the end of 2013, the Agency had completed compliance checks on 1,130 of the 19,772 registration dossiers (5.7%) submitted for the 2010 deadline. In early 2014, ECHA announced that 69% of the evaluated dossiers were found to be non-compliant. The most common shortcomings were deficiencies in the substance identification information, and insufficient justification where studies had been waived or where information was missing from the Chemical Safety Report.

ECHA's substance identity campaign

In 2013, as part of its campaign to encourage registrants to improve the quality of their registration dossiers, ECHA conducted IT-based screening on the information required for substance identity on all REACH registrations received. Subsequently, in April this year, ECHA sent 1,350 letters concerning 309 substances for which shortcomings were identified in the registration dossiers. The letters invite registrants to make spontaneous updates to their registrations within three months, providing guidance on how to address the issues identified.

To help registrants comply, ECHA also released an update to the Technical Completeness Check plugin for IUCLID, which contains a Dossier Quality Assistant, and hosted a webinar on 30th April specifically for companies that had received a letter in light of the substance identity campaign.

Dossier selection process

REACH requires ECHA to evaluate at least 5% of the dossiers submitted per tonnage band, but the Agency may examine *any* registration dossier to ensure that the contents are in compliance. In the first series of dossier evaluation, ECHA used both random selection and electronic concern-based screening methods to identify dossiers, either for **overall** or for **targeted** compliance checks.

In an overall compliance check, ECHA looks to verify that the information necessary for the safe use of the substance is present in the registration dossier. For the targeted checks, the focus is on specific parts of the dossier; ECHA may escalate a targeted compliance check to an overall check if significant non-compliance which requires further assessment is identified. Unfortunately, registrants are not routinely informed that their dossier has been selected for evaluation.

Results of dossier evaluation

There are three possible outcomes of dossier evaluation: a decision requesting more information, a Quality Observation Letter (QObL) recommending improvements, or no registrant action is required. QObLs and decisions are delivered electronically to the registrant's REACH-IT message box; unfortunately 'no action' results are not currently communicated to the registrant, positive feedback which could prove useful.

While a QObL is not a formal part of the legal text it is a pragmatic approach taken by ECHA to indicate where the registrant can improve the dossier. The QObL also suggests a deadline for the voluntary update, normally between six and twelve months. The relevant Member State Competent Authority is informed; follow-up action is monitored by ECHA and reported to the Member State.

In the case of missing information, a draft decision triggers a more formal process. For overall compliance checks (approximately 30% of dossiers evaluated) – but not targeted compliance checks – the registrant has the opportunity to participate in a conference call with ECHA within 10 days.

A registrant in receipt of a draft decision related to either type of compliance check must submit any comments it wishes to make within 30 days of that draft decision.

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KEY ASPECTS OF REACH COMPLIANCE, CONT'D....

A review by the Member State Competent Authorities follows: where amendments to the draft decision are proposed by Member States there is a second 30-day commenting round available to the registrant, followed by a 60-day period for the Member State Committee to seek agreement on the decision. If there is disagreement in that Member State Committee the European Commission will take the final decision; where there is unanimous agreement, or no proposed amendments, the final decision is taken by ECHA.

What can you do?

If you have already registered and have received a final decision you must submit the required information to ECHA in an updated dossier by the deadline set. If the decision is still in draft, the commenting procedure may still be open to you – keep an eye on the dates and the information in your REACH-IT message box! Where offered, make use of the conference call with ECHA as it can resolve many issues raised by the draft decision. For decisions related to targeted compliance checks, we suggest you refer to the series of ECHA webinars for detailed information on addressing the shortcomings in your dossier. We also recommend keeping a copy of any comments you make via the web-form regarding the draft decision.

Where a lead registrant receives a draft decision relating to shared information they should inform the members of the joint submission as soon as possible. Joint registrants are obliged to contribute to the shared costs arising from an evaluation decision, such as the commissioning of new studies, in order to maintain their registrations.

If shortcomings in the quality of your dossier were identified, but the required information was deemed to be complete, you should have received a QObL – prompting you to make a spontaneous update.

Even if you don't have a registration obligation until 2018, the results of the first round of dossier evaluation should help you improve your dossier to avoid formal decisions or Quality Observation Letters in the future.

Controlling chemicals of concern

The REACH Regulation provides two mechanisms for the authorities to control chemicals of concern: authorisation and restriction. The former is the process by which Member States and ECHA (at the request of the European Commission) propose substances for inclusion on the Candidate List and subsequently Annex XIV (the Authorisation List). Once included in Annex XIV a substance cannot be used or placed on the market in the EU after the "sunset date", unless an exemption applies or a valid application is pending. There are currently 151 substances on the Candidate List, 22 of which are listed in Annex XIV. Annex XIV includes a number of chromium (VI) compounds, diarsenic trioxide and diarsenic pentaoxide; a further five SVHCs were recommended by ECHA for inclusion earlier in the year.

In 2013, ECHA received eight applications for authorisation from seven companies, covering 17 uses and two substances, DEHP and DBP. Late last year, ECHA's Risk Assessment and Socio-Economic Assessment Committees (RAC and SEAC) concluded that "adequate control" had been demonstrated by the very first applicant for Authorisation – Rolls-Royce plc – for the use of DEHP in the production of aero engine fan blades. In light of the Committees' favourable opinions, the first authorisation is likely to be granted this year by the European Commission, subject to a seven-year review period.

ECHA expects to receive twice as many applications for authorisation in 2014, in particular for trichloroethylene and chromium-containing substances. To support applicants, a new ECHA-EASA (European Aviation Safety Agency) report has been published which highlights the key aspects of the authorisation process. Although the report was prepared to facilitate the

aviation industry's compliance with the strict EU airworthiness standards which may require the use of Annex XIV substances, it also provides best practice advice that can benefit other industry sectors.

In contrast to authorisation, restriction can be used to control broad, or very specific, risks related to a substance or substance type. There are more than 60 entries in Annex XVII to REACH; an example is the restriction on the use of mercury in fever thermometers and measuring devices. Annex XVII has been amended some fifteen times since it took effect in June 2009, mainly to include new substance restrictions or amend existing provisions.

Staying abreast of changes to these lists of chemicals of concern is an important part of any company's ongoing compliance management. REACHReady subscribers can access a consolidated list of the Annex XVII restrictions, as well as copies of the REACH legal text and amending regulations, from the website. Our Technical Alerts also highlight when substances have been included in the Candidate List, the Authorisation List or Annex XVII.

Lisa Allen, REACHReady

MMTA CONFERENCE—TORONTO 2015

THE MMTA'S INTERNATIONAL MINOR METALS CONFERENCE 2015 WILL TAKE PLACE AT THE FAIRMONT ROYAL YORK HOTEL, TORONTO, FROM 27—29 APRIL 2015.

Be sure to take full advantage of the MMTA Members' Early-Bird Rate which is now available. If you are not yet an MMTA Member, don't delay in completing your application to ensure your Member discount.

We will once again be hosting a high-quality speaker programme, as well as excellent networking opportunities.

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FULL

Course: REACH—are you compliant?
10th September 2014
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41st Anniversary Dinner
21st October 2014
Intercontinental Hotel, London
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4th December, 2014
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Minor Metals trade Association

Artisanal miners in Eastern Rwanda

A VIEW ON THE RWANDAN MINING SECTOR AND COMMENTS ON THE IMPACT OF 'CONFLICT-MINERALS' REGULATIONS

Rwanda is a resilient, forward looking country with a vision to elevate itself to a middle income, service and knowledge based economy by 2020. The key achievements during the last ten years include growing the economy at an average GDP of 8% per annum, with the aim to achieve 11.5% from 2012 to 2017.

As of 2013, the growth of the GDP per capita was $693 from $644 in the year 2012, a 3-fold increase ($220) from 2000. The Rwandan GDP per capita target is $1,240 by 2017.

Artisanal miners treating coltan in Eastern Rwanda

Rwanda's strong performance is largely driven by the expansion of the service sector which accounts about 45% of GDP compared to 33% and 15% contributed by agriculture and industrial sectors respectively. Inflation in Rwanda has been kept at a single digit since 2008.

In the Rwanda national economy, the mining sector occupies a very crucial role, currently being the second highest foreign revenue source next to tourism. The sector represents 67% of principal exports and last year, it generated $226 Million with 8,188 tons of mineral exported, mainly tin, tungsten and tantalum. The mining sector in Rwanda counts 682 mine sites operated by 245 private mining companies and artisanal cooperatives and 23 mineral processing and exporting companies. It employs 33,638 people of which 16% are women.

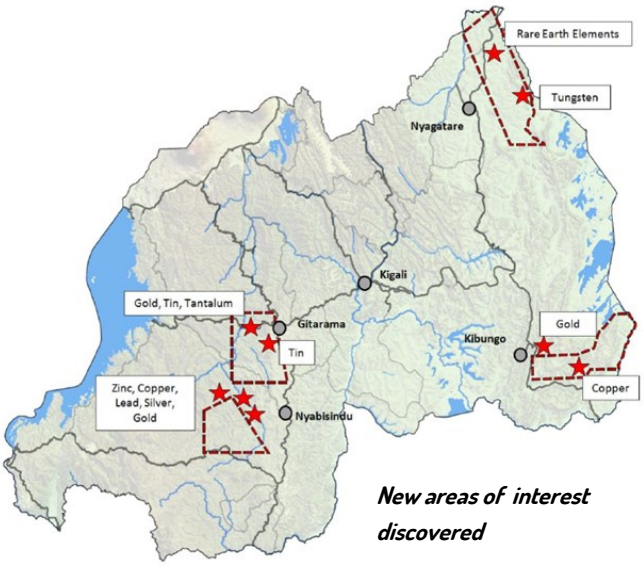
Tunnel in an artisanal mine in Western Rwanda

The key actions of the Government toward the sector are focusing on increasing mineral production and export earnings, value addition and diversification, capacity building, streamlining legal and institutional framework and exploration of new mineral Prospective Targeted Areas (PTAs), with the aim of transforming the mining sector.

The Government of Rwanda funded exploration works in 4 PTAs located in the districts of Kirehe, Nyagatare, Muhanga and Nyamagabe; the initial study was completed in 2013. Of these 4 PTAs, 14 New Interesting Areas (NIA) that needed advanced exploration were delineated. Results have indicated that, in addition to the traditionally known minerals (3T 'Tin, Tantalum, Tungsten' and Gold), there is high potential of new types of minerals including Rare Earth Elements, niobium, lithium, beryllium, silver, cobalt, nickel, copper, zinc, and lead. The Rwandan Government has committed funds for further exploration works in the NIA and in three other PTAs for the year 2014-2015.

Tungsten miners in Northern Rwanda

In the framework of attracting investment and streamlining the sector, a new mining code, more comprehensive and investor friendly, was developed and approved by the Parliament in February this year.



New areas of interest discovered

Rwandan miners being trained

In addition, the Government of Rwanda has invested hundreds of thousands of dollars to develop a modern mining cadastre system. This system is replacing the paper based system which was time consuming and less efficient. The new system is enabling the government to monitor compliance for the sector in terms of managing licenses, work commitments, social and labor plans, environmental permitting, royalty and tax payments, and extractive industry transparency-initiative reporting. It also provides security of tenure for mining companies, allowing them to seek capital funding to further their projects, as well as providing additional confidence for investment for large international

A Tunnel Under Development in Eastern Rwanda

mining companies.

In order to control and monitor the operators in the sector, the Ministry in charge of mining has developed a user-friendly reporting template which will apply for both mining and mineral trading businesses. In addition, the reports will show details on all actors in the supply chain from the mine of origin up to the export point; this will bring more transparency and increase credibility in the Rwandan minerals supply chain. These are being done in the framework of streamlining mining and minerals trading activities by ensuring that laws and regulations are well understood and implemented by actors in regard to responsible sourcing and supply of minerals.

This goes hand in hand with the Regional Certification Mechanism (RCM) and the mineral traceability scheme in line with the OECD due diligence guidance for responsible supply chain of minerals as well as the ICGLR Regional Initiative against the Illegal Exploitation of Natural Resources. Rwanda has implemented these schemes since 2011, and currently, 100 % of all minerals produced, processed and exported from Rwanda are tagged, and the supply chain of minerals on both ends are traceable.

It is important to note here that Rwanda was the first country in the region to issue, in November 2013, the first ICGLR Conflict Free Certificate for mineral export.

So far, 22% of all mining companies operating in Rwanda have been inspected in respect to the ICGLR requirements (which themselves are based on the OECD standards), a record in the Great Lakes Region, the country intends to have them all inspected and classified by July 2015.

Despite the achievements and progress made so far; the Rwandan mining sector is facing a number of challenges which are mostly related to the implementation of the so called “conflict-minerals” regulations.

Each country has its particular plans and concerns over its minerals resources; For Rwanda, the 3Ts (tin, tungsten and tantalum) and gold are currently the pillars of her mining sector and in fact they are all labeled as “conflict-minerals”.

Basing on the criteria set in the OECD guidance[1], Rwanda is neither a *Conflict-Affected* nor a *High-Risk area*. However, in order to ensure that mining activities are undertaken in accordance with best practices, Rwanda went ahead and put in place numerous measures aiming to standardize, harmonize and increase transparency in mining and minerals trading.

Due to reasons beyond its control, Rwanda is obliged to put in place regulations and carry a heavy burden in order to comply with requirements most of the time dictated by commercial interests or set without considering the realities on the ground and without taking into account the views of concerned communities.

[1] ***OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas***

A VIEW ON THE RWANDAN MINING SECTOR AND COMMENTS ON THE IMPACT OF 'CONFLICT-MINERALS' REGULATIONS CONT'D...

Sacs of Rwandan tagged minerals

Furthermore, for whoever sourcing minerals from Rwanda, there are no risks of funding armed conflict, widespread violence and war or human rights abuses. Therefore, as far as conflict-minerals are concerned, we should avoid a 'copy and paste' approach in solving this problem. Realities and challenges are different in countries covered by the section 1502 of the Dodd-Frank Act, consequently the appropriate approach in finding solutions should be "case by case". Indeed, the weight of the solution should be proportional to the weight of the risk, rather than applying one standard to all countries and at all stages of the minerals supply chain.

On the other side and despite the fact that, since 2011, Rwanda is implementing the OECD due diligence recommendations in regards with conflict minerals and has implemented a minerals traceability mechanism in collaboration with ITRI, at the beginning of 2014 companies which process wolframite have begun refusing to buy the tungsten ore, even if it is traceable and conflict-free.

The most probable reason for this recent change may relate to the start of the US Securities and Exchange Commission reporting deadline in relation with the Dodd-Frank Act and possibly other customer demands.

Certain companies seemed to take advantage of this to pressurize their intermediate suppliers to stop buying anything from Africa. Those companies would then have an advantage in the market – by cutting out some of their competitors.

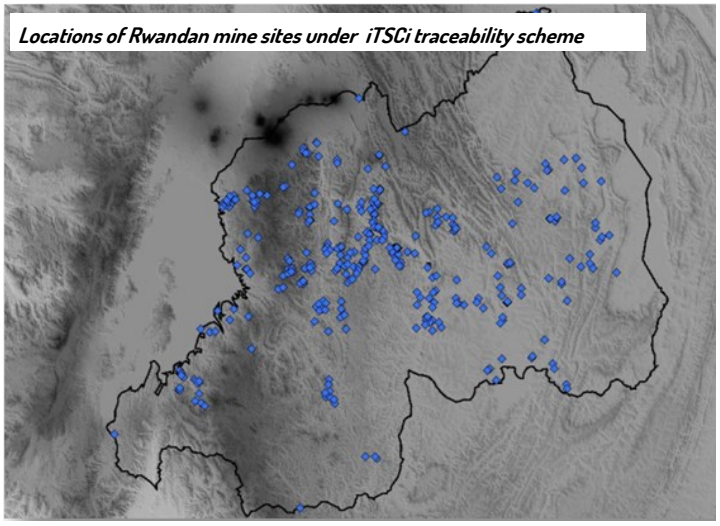
Apart from the consequences which will affect the Rwandan mining sector by negatively impacting on the export earnings, production volumes, employment, etc. There are several other consequences including decrease in wolframite prices, lowering attractiveness of investment in the mining industry which in end may undermine the work being done to promote responsible minerals sourcing due to disengagement by downstream users from the region.

Evode Imena is Minister of State for Mining

Ministry of Natural Resources, Rwanda

June 9, 2014

Rwanda understands and appreciates the genuine objective of initiatives and regulations aiming to break the link between conflicts and natural resources. However, currently all the burden is carried by artisan and small scale miners, the regulations are heavily impacting on mining companies and national economies. There is an urgent need of engagement by downstream companies and end users, these two important actors should participate directly in funding and supporting responsible sourcing initiatives put in place in the Great Lakes region.


Locations of Rwandan mine sites under iTSCi traceability scheme

There has been, for long time, a bad publicity on "conflict minerals"; a coltan[2] miner or trader was nearly considered as a criminal; which is not true. Tin, tungsten, tantalum and gold are sources of income for thousands of African families and a pillar to the economic development of themselves and their countries. Now, it is time to change the mindset and tell the world that tin, tungsten, tantalum and gold are not the symbol of conflict; they are rather the symbol of hope, prosperity, growth and development.

[2] *Coltan: The local name of niobium-tantalum ore*

RWANDA MINING SECTOR PROFILE

Mineral exports have room for growth

- Rwanda's main mineral exports are ores processed to extract tin, coltan and tungsten.
- Two important gold deposits have been discovered
- Mining is the second largest export in the Rwandan economy. In 2013, the sector generated about $226.2 million of foreign exchange.
- In 2013, the percentage variation of increase was 66%.
- 5 year average (2009-2013) growth for the sector was 33%.

What is being done to develop the sector?

- The Government invest in mineral exploration works and geological data acquisition to attract investors;
- Private companies are given incentives to explore and develop mining projects;
- Prospective areas for REE, Nb, Li, Be, Co, Ag, Ni, Cu, Pb and Zn have been discovered;
- A strong, investor friendly legal and policy framework has been put in place.

Opportunities in the sector

- **Value addition:** currently, all mineral ores produced in the country are exported as raw mineral concentrates. There are opportunities to smelt and refine minerals and for plants to cut and polish dimension stones.
- **Industrial mining**: Modern technology is needed to scale up operations to an industrial level and increase production.
- **Exploration**
- **Gemstones mining and processing**
- **Trade in minerals substances**
- **Trade in mining equipment**

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