

[\[2008-8-15\] Rhenium prices hold while metals with investment funds behind them fall.](#)

Rhenium overtakes Pd & Ru to becomes 6th most precious traded metal

What greater evidence is needed of the pernicious effect of investment funds on our metals markets than the desperate decline of Rhodium? Down from \$10,025 per toz (a month or so ago) to \$5600 per toz (on Friday 15th August 2008) or, to put it another more impressive way, from \$322,303 per kg down to a mere \$180,040 per kg. And yet, such falls in Rh, Pt (down from \$2300 to \$1344) and Pd (down from \$592 to \$280) quite simply have not touched the emerging precious metal, Rhenium. Why?

Adopted recently by the European Precious Metals Federation (EPMF) for the purposes of REACH (therefore definitively classified as a precious metal), instead, Rhenium is setting a rather more old-fashioned standard for the way in which a metal should be priced. It is something of a throw-back because, high as the price is, (\$11,000-\$12,000 per kg) – \$3000 per kg or so higher than palladium now - there is neither hot air nor hot money behind it.

We needn't look too far for the reasons. As I have explained to hedge fund managers (who have called me with increasing frequency this year) Rhenium is not just rare in trading terms, it is rare in nature. It is high priced for rather basic reasons – it is un-substitutable, useful and rare.

Something that starts its life as the 77th least abundant element on earth (cf Copper 27th) and occurs at no more than 0.04 parts per billion compared to about 50 parts per million for copper isn't going to fill a bank vault or a commodity portfolio however hard you try. I also explain that those involved are quite happy as we are. We do not require more finance to enter our business nor need further price transparency than we already have by way of www.thebulliondesk.com, minormetals.com, Metal-Pages, Metal Bulletin, Metal Prices and Metals Week. 'Thanks, but no, thanks.'

A theoretically more productive use of hedge fund money would perhaps be to go off and find a mine of it, or develop some really efficient technology to recover the Rhenium that is currently contained in Nickel alloy scrap, or invest and improve in more recovery of Rhenium from flue dusts at roasters. In the case of the former, the Russians had the bright idea of trying to extract it from the fumes of a live volcano on the island of Kudriaviy. A few of us sceptics held our breath about this, but the harsh environment of live volcanic sources look like an obstacle to commercial recovery for a while longer.

The nickel alloy idea, on the other hand, while expensive, is both commercial and practical and is being pioneered with differing levels of success in Israel, Czech Republic, Poland, Russia, Germany, UK, & USA. It has much merit because it starts to close the scrap loop that has been so long open. At last, material once regularly lost to the stainless steel industry never to be recovered, can now re-enter the supply chain. But the amounts are minor, at the moment not more than 1-2 tpy worldwide. .

To rehearse the figures again, this is a market with, at best, 50 mt of supply which, for those who haven't seen the numbers before, are composed roughly as follows: Molybdenum, Chile (27 mtpy), Climax, USA (5-7 mtpy), Kazakhmys, Kazakhstan (5 mtpy), Ecoren, Poland (3 tpy) and another 3 mt split between China, Uzbekistan & Armenia with the rest coming from the rudiments of recycling. I usually mention Iran at this point because with almost 1 kgs of Rhenium in every metric ton of Molybdenum Sulphide concentrates (MoS₂) this country is the great untapped source of the metal. [Hard also not to ignore the irony that the world's greatest super power might need Iranian Rhenium in order to power the engines in their military planes.]

On the demand side, it is the un-substitutable use of Rhenium in Nickel base alloys used in single crystal turbine blades for gas turbine engines that remains the main driver. While much has been made of GE trying to reduce its requirement for Re, there is no evidence to suggest that they have succeeded. The top four consumers for this use, GE, Pratt & Whitney, Rolls-Royce Plc and, super-alloy maker, Cannon Muskegon consume more than 45 mtpy alone. It basically, doesn't leave much over on a market that possibly needs another 10mt and probably much more. Hence, the price.

In a true market, this price, ten times higher than it was in 2005, shines a light on this element and produces more market efficiency. That is the true purpose of price. It makes the numbers work better. The Rhenium that could not be extracted in concentrations of < 1% in discarded grindings or mixed alloy shot at \$1000 per kg pre-2005, now has a chance. High prices will lower uses where possible, encourage less waste and propel more recycling.

I also try and explain to hedge fund managers, if they want to listen, that a metal of this magnitude of rarity is high in price because mankind in the 21st century highly values the outcomes Rhenium promotes – i.e. indirectly assisting lower Nitrous Oxide emissions in the upper atmosphere through the more efficient burning of airline fuel, reducing the consumption of fuel by airlines, and in its other main field, via oil catalysts, contributing to cleaner air all over the world. In the CIS, for example, where the greatest growth in production of lead-free gasoline is taking place, the need to buy virgin rhenium for bi-metallic catalysts used in its production is greatest.

Rhenium didn't collapse last week with the Pgm's because neither hedge fund nor speculative money was thrown at it in the first place. It was a trade entirely composed of those who recover it, ship it, process it, upgrade it, sell it, deliver it and consume it. I write this in the full knowledge that supply-led forces, if they exist, some hitherto hidden stockpile maybe, could at any time come to temporarily and adversely affect the price. This is not the point. For, at least I and those involved in the supply and trade of Rhenium can go to bed at night knowing that the factors dictating its price are only those relating to it directly. It won't be moving in any direction fast just because the braced ones in the City of London or New York take a shine to it one day or decide to dump it the next because of an inadvertent exposure in another unrelated market.

Rhenium could therefore serve as a template with which to attack the dogma that has been stalking our markets – namely the spectre of the financialization of commodities in general. In our field of minor metals we have the LME, and banks such as Credit Suisse, to contend with who make great play about bringing their expertise in running markets, unasked for, for our benefit. Always obscure to me, these much-vaunted advantages have now all but evaporated in a puff of financial smoke in the midst of the credit crunch and the aftermath of the sub-prime fiasco.

So, at time of writing, we see prices for Rhenium at \$11,000 per kg Re contained for catalyst Ammonium Perrhenate and for Rhenium metal pellets Re 99.9% used for nickel alloy additions, \$12,000-12,500 per kg. As airlines find times harder, the retirement of old engines is accelerated and the introduction of more fuel efficient ones, the rhenium-containing ones, advance even faster. Every order for a new plane or engine is an order for Rhenium and I do not expect them to dry up some time soon.

I only mention these matters because it has been put to me on numerous occasions that Rhenium is somehow riding on a bubble. If so, it is an extraordinarily robust one.

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