

# Professor Dudley Kingsnorth weighs in on Molycorp, Lynas and his latest rare earth market forecast



Photo taken by Tracy Weslosky: Ian Chalmers of Alkane Resources (L) and Professor Kingsnorth (R) showing his license plate

I would like to start this piece with a *special thanks* to **Professor Dudley J. Kingsnorth** of the Curtin Graduate School of Business, Curtin University; and through the Industrial Minerals Company of Australia Pty Ltd (“IMCOA”) who has graciously written our audience with an update on the rare earth market after just returning home from two weeks in China in time to see his Fremantle Dockers in the AFL Grand Final yesterday...

He starts with an important disclaimer that the rare earth market is complex and one that cannot be concluded in a simple statement. Due to the volume of relevant information and data, the following is quoted verbatim and below his letter you may access his most recent presentation *China’s Industrial Minerals and Markets Conference*.

Professor Kingsnorth writes: “...I do firmly believe that, with Mountain Pass (Molycorp) and Mt Weld (Lynas) coming on-line, that there is renewed confidence in the market on the part of consumers which is leading to a rejuvenation of the market. In essence, my position has not changed much over the past 6

months or so, but in identifying the difficulties that the suppliers face it is beholden upon me to identify the upside that is possible, but not a certainty...taken in context, as I believe your readers do, it should be seen as **laying out the broad landscape that is the future.**"

Highlights of his recent talking points at numerous conferences in China include the following on demand highlights:

- Demand in 2016 ( $\pm 20\%$ ) 160,000t REO
- Demand in 2020 ( $\pm 30\%$ ) 210,000t REO
- With the advent of LEDs the demand by the phosphor sector is weak.

Supply side highlights:

- Supply in 2016 ( $\pm 20\%$ ) 180,000t REO
- Supply in 2020 ( $\pm 30\%$ ) 250,000t REO
- **HREEs will be in short supply, particularly in ROW**

Professor Kingnorth goes on to write:

- Chinese rare earths suppliers are nervous about the advent of Mountain Pass and Mt Weld and have real concerns about an oversupply of LREEs, which will lead to low prices.
- Over the past few months and weeks both Molycorp and Lynas have stated that while they will commission their new facilities, to full Stage 2 design capacities within the next year or so, it will take time for the market to absorb that capacity, some 60,000tpa REO, and accordingly it may be some time before they operate at those capacities on a continuous basis.
- For LREE consumers we are entering a new era with a relative abundance and diversity of supply. I believe that with this new confidence that we will see the development of new applications and increased consumption of existing applications. SorbX by Molycorp

is a prime example. Less focus on replace, reduce, recycle.

- Under the above conditions the market cannot accommodate another LREE project until 2017/18 at the earliest. In fact it is my view, based on the time Molycorp (>50 years' experience) and Lynas (>50 years' experience through Rhodia/Solvay Agreement) have taken to design, get approvals, raise funds, construct and start-up that we will not see.
- A major focus remains the identification and construction of new HREE projects – both in China and particularly in ROW. What about the upside – noting that there was no probability placed on this eventuating, but it is certainly much less than 50:50.

There are several potential developments on the demand side:

- Continued and growing use of LaNiH batteries, rather than the rapid replacement by Li-ion batteries as seen by many. The jury is still out on this one.
- High growth in demand for cerium-based chemicals for water and waste treatment.
- High growth in demand for rare earth magnets (15-25% p.a.) if it can be available at <US\$75/kg REO – noting that this could entail selective mining of those deposits that have higher Nd content. This potential demand cannot drive overall demand alone as at this price it does not support the production of Nd alone.
- The Perfect Day – it is a good event so it is not the perfect storm!! – is if the above 3 market developments occur simultaneously, then demand may exceed 250,000tpa REO for the first time in 2020.

*Professor Kingsnorth comments at the end of his letter with regards to the above "...is an honest attempt by me, based upon my knowledge and experience, to lay out some of the future scenarios. I am not asking anyone to plan on this potential scenario, but just to consider taking it into account in their*

*forward planning. Comment is welcome."*

Special courtesy, Professor Dudley J. Kingsnorth's recent presentation from the *China's Industrial Minerals and Markets Conference*.

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