

## The Upside of High Prices

Several articles and presentations from a variety of sources, including me, have discussed the recent run up in rare earth prices and their consequences. Nearly all of these publications have focused on the problems caused by high prices and their obvious negative effects. But the question I want to address is: is there a positive side to high prices? The answer may seem counterintuitive, but yes, there are several ways in which high prices are helpful to the industry. Things are now in motion on several fronts which could only happen in an era of high rare earth prices. So, for this article, let me focus on the positive side of high rare earth prices.

One thing high prices promote is a very thorough review of cost structure of any device that contains a rare earth magnet. Several of the questions that should be asked are: Can the basic functionality be retained with a slightly smaller magnet? Could the alloy be changed to reduce the dysprosium or terbium content, without any negative consequences? Is ferrite a better choice? These and other similar questions should be addressed in the process. In the end, a better and more optimal design will emerge. The magnet will be used more efficiently with less waste, which is always a good thing. It is easy to rationalize the time and effort required for this activity because it is paid for by potential savings on a relatively more expensive magnet. The motivation to review the design was low or nonexistent when rare earth prices were low; not so today.

Secondly, higher prices provide rare earth suppliers a golden opportunity to invest in their operation. As someone who sold rare earths during a period of falling prices in the 1990's, I can tell you that nothing discourages investment in new equipment or expansion more than declining prices. However, rising prices have the opposite effect, which is why we are seeing lots of investment activity at nearly every rare earth supplier outside China. While it is important not to squander the opportunity, it is equally important to be sure that any new process is environmentally friendly in order to avoid some of the problems that have plagued the industry in the past. The only uncertainty for investors is whether rare earth prices will remain high, since any capital investment needs to be rationalized by its payback over the long term. A price spike is usually an insufficient reason for investment in equipment. My opinion is that prices will remain high long enough to warrant the investment. There is a risk that prices could fall later on, although I doubt that we will ever again see the low prices of a few years ago, which seemed unsustainable.

My third thought is that nothing happens in a vacuum, meaning that rare earths are not the only commodities that have increased in price lately. Consider the recent price changes to energy and other metals. While some magnets are pricier today, many other device components are as well. I say this not to rationalize the increases, but to remind us that several forces have changed over the past few years, making for a complex situation. Therefore, while doing the previously mentioned design review, it would not surprise me to discover that an NdFeB magnet is still the best material in a given design. But it is always good to challenge the status quo and to understand the answers one finds.

Higher prices for raw materials are an unpleasant reality for many, but opportunities are contained in the changed landscape. Ultimately, a healthier industry should emerge from the changes, and that is what we all want.

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