

China's Rare Earth Industry's Big Advantage is not Just in Mines

China's Real Rare Earth Infrastructure is based on a dedicated, and educated, specifically Experienced, and Skilled rare earth industrial and R&D workforce, financed, where needed, and supported by the State.

There is a debate among Western economists on the value and effect of industrial policies, set by governments, on the marketplace. It's argued that when governments, instead of the markets, pick winners and losers in industries it never ends well.

China's admittedly authoritarian central government does exactly that; it defines an industrial policy for the long term, and it picks winners and losers. But, unlike the American government, it does not careen from policy to policy based on the politics of the moment. China's government's long-term focus is on the growth of the overall economy, price stability, and domestic social harmony.

I think that it is the issue of price stability that has caused the Chinese central government to step into its domestic rare earth's industry lately. Stable, or at least predictable, prices allow the long term planning characteristic of the Chinese industrial economy.

Just before Christmas China announced that it had formed a large and state-supported vertically integrated rare earth products' company called, eponymously, China Rare Earths. This event, a merger of the rare earths operations managed by three mostly state owned and state controlled companies has been widely reported. What journalists seem to have missed is that this will be a well financed rare earth company from the

start. The Peoples' Bank of China (the PBOC) is the lender of last resort to any State Owned Enterprise (SOE) and if that enterprise is producing anything required by the current industrial policy then profit and loss take a back seat to security of supply. In rare earths, for example, mining and separation are today rarely, and then only barely, profitable especially in any country with strict worker health and safety and environmental management regulations. The profit is in downstream products, metals, alloys, and magnets, phosphors, and catalysts. This is why stand-alone rare earth ventures even with separation capability and capacity, such as Lynas Rare Earths Limited (ASX: LYC), make relatively little profit, while by contrast China's vertically integrated, and so far, mostly private Shenghe Resources, which is vertically integrated from the mine to the magnet does much better in sales volumes and profits than Lynas.

China's rare earths industry has had a long learning curve, and this has generated the world's largest rare earth R&D, rare earth mining, and rare earths production (processing and manufacturing) engineering reservoir of skilled and well-educated individuals dedicated to rare earths, in the world.

China Rare Earths inherits this human infrastructure, and, unlike, an American venture, such as MP Materials Corp. (NYSE: MP), does not go far to seek out specifically educated, experienced, and skilled engineers and workers from outside of the new company.

Each year China has a ruthlessly competitive national exam to determine admissions to its top universities. Last year some 15 million sat for the national exam. The top tier was selected for China's most prestigious universities. Those chosen were mostly directed to what we call the STEM curricula, (the hard) sciences, technology, engineering and mathematics. This choice of direction is made in accordance with and support of China's Industrial Policy, of being independent of the West in 10 technologies by 2025, and

becoming a permanent center of technological innovation, superior to any other nation.

The United States, where social forces are denigrating college admissions' qualification through the cancellation of blind testing, and where even mathematics may be branded as "racist" by half-witted college faculty and administrators, is surviving today as the top tier innovation nation through the work of legacy researchers, many of whom are foreign born, and most of whom are already in their peak productive years.

The American military pretends to be surprised by Chinese prowess in modern weaponry, and the American mainstream media simply does not report on China's astounding space program. Both are described as based on stolen intellectual property by a smug American media. Can they say the same about China's dominance in rare earths and battery materials and the end-use consumer products mass produced in China based on those groups of metals?

The United States can and will supply its military needs for rare earth and battery metal enabled products from domestic sources or through domestic processing of imported ores, and, perhaps, restrictive tariffs to politically level the price competition.

But such self sufficiency will not be possible for the entire civilian economy. Compromise and rationing are the future of the domestic supplies of technology metals for green energy purposes. The best we can hope for is a hybrid energy supply, green where possible, but mostly from fossil fuels and nuclear, if the US intends to retain a domestic industrial economy.

More than ever now, the domestic production, processing, and fabrication of the critical metals and materials needed for a broadly prosperous technological society is itself critical. Depriving ourselves of STEM graduates to ensure those skills

survive chosen is a step towards the national suicide of America's standard of living.