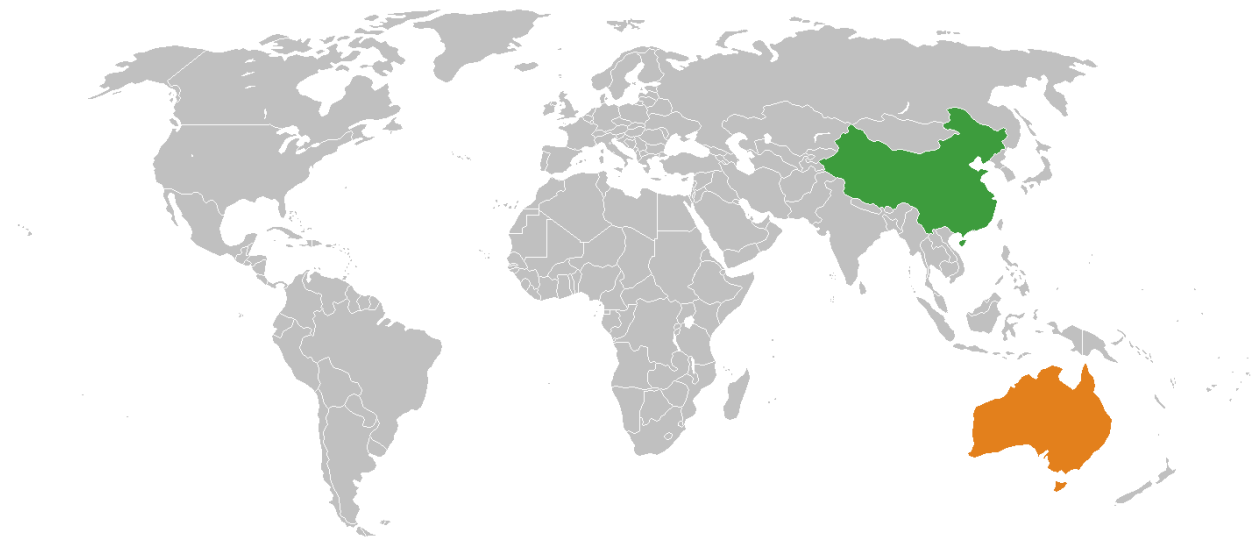




The Australia Resource Efficiency™ Strategy: A Transparent, Stable & Resource Efficient
Approach to Benefiting from Chinese Infrastructure Investment



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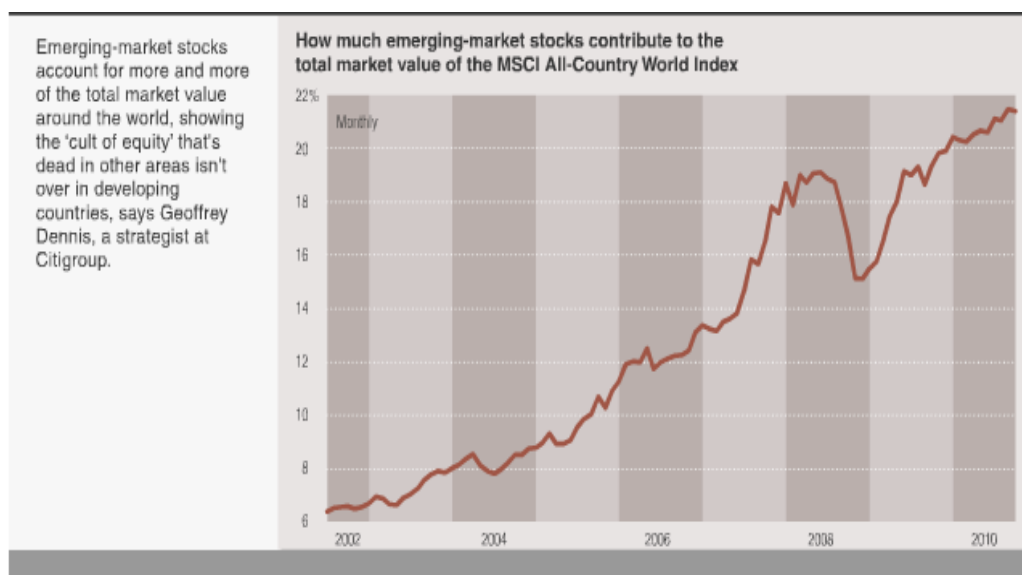
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The Australia Resource Efficiency™ Strategy: A Transparent , Stable & Resource Efficient Approach to Benefiting from Chinese Infrastructure Investment

In recent decades, a number of developing countries have experienced enormous increases in economic growth and modernization. Brazil, Russia, India, and China – collectively known as the BRIC countries – have substantially outpaced developed-country growth and now rank among the largest and most economically powerful nations. The growth of these countries is clearly changing the dynamic of world markets; developing countries comprise half of the global economy today, and the OECD predicts this will rise to 60 percent by 2030.¹ The chart below, which maps the share of market value in the MSCI All-Country World Index comprised by emerging market stocks, illustrates the increasing importance of developing economies as a portion of total world equity markets.² The BRICs’ massive growth and the resulting shift in the equity structure of world markets represent a major challenge and opportunity facing investors in developed markets today.

¹ “Perspectives on Global Development, 2010.” OECD.
<http://www.oecd.org/document/12/0,3343,en_2649_33959_45467980_1_1_1_1,00.html>.

² Source: Bloomberg



With average annual growth of 10.48 percent over the last decade and an economy second in size only to the United States ³, China is the largest of the BRIC economies. In a 2009 update to its earlier report on the rise of developing economies, Goldman Sachs predicted that the Chinese economy would expand at an average rate of 5.2 percent through 2050, and could become larger than that of the United States as early as 2027.⁴ Since its economic liberalization began in 1979, the country has leveraged its surplus labor, an artificially low exchange rate, and government support of industrialization into immense new wealth, fueling significant growth in Chinese investment in energy and material-intensive industries abroad as well as increased internal consumption. In resource-intensive sectors, Chinese foreign direct investment has rapidly increased as firms attempt to satisfy soaring demand for metals and other basic materials used in infrastructure and construction. Chinese corporate investment into foreign mining

³ CIA World Factbook

⁴ "The BRIC Nations: Growth and Risks." Reuters.

<<http://www.reuters.com/article/2009/06/10/bric-idUSSP31967220090610>>.

ventures increased 64.4 percent per annum 2007 to 2009, and Chinese foreign direct investment (FDI) stock in the basic materials sector has surpassed 40 billion USD.⁵

China's dynamic growth environment, however, is difficult for foreign investors to navigate. Many Chinese companies are unlisted or majority-owned by the central government, such as China National Petroleum Corporation and Baoshan Steel. State-owned firms are often monopolistic and can distort markets; according to a 2009 Time Magazine article, state-owned enterprises have enjoyed heightened government support during the recent global financial crisis, at the cost of many private Chinese firms.⁶

Restrictions on investment have further complicated the equity markets. While regulations have been eased in recent years, foreign investors still face significant barriers to entry and the risks of expropriation, extortion, and theft of intellectual property. In the cases of both public and private equity, government policy risk is high and transparency is notoriously lacking, leaving investors vulnerable to market manipulation and accounting fraud. Sino Forest's misrepresentation of its finances to investors, including fund manager John Paulson, is an excellent example of the lack of oversight of publicly traded Chinese firms.⁷ The recent suspicious sale of Alibaba subsidiary Alipay – which cut Yahoo, an Alibaba investor, out of profits – provides another tangible example of the transparency and governance-related risk of direct involvement in China.⁸ Government expropriation and

⁵ "Investment Map." International Trade Centre. <<http://www.investmentmap.org>>.

⁶ "Why China's State-Owned Companies are Making a Comeback." Time Magazine. <http://www.time.com/time/world/article/0,8599,1894565,00.html>

⁷ "How to find 'safe' stocks in China." CNN Money. <http://money.cnn.com/2011/07/05/markets/China_stocks/>.

⁸ "Alibaba resolves dispute with Yahoo, Softbank over Alipay unit." Bloomberg. <<http://www.bloomberg.com/news/2011-07-29/alibaba-reaches-agreement-with-yahoo-softbank-on-alipay-payment-schedules.html>>.

regulatory bias have weighed on foreign companies attempting to expand into China and can increase risk to unacceptable levels.⁹

Despite the risks, China's impressive growth and accumulation of wealth underpin an investment opportunity that cannot be ignored. While risks and barriers in China complicate direct investment, investors can gain indirect exposure to the "Chinese Miracle" by investing in companies outside of China that provide it with basic materials and industrial inputs that are required as building blocks of its economic growth. As China continues to grow and modernize, demand for basic materials – metals and metal ores, minerals, and fuels – will continue to climb.

Australia is well positioned in this regard: the resource-rich nation provides China with 36 percent of its imports of raw metal ores, more than the next three largest suppliers – Brazil, India, and South Africa – combined.¹⁰ Iron, which feeds China's massive steel industry, is in especially high demand from Australia, which has the largest iron reserves and supplies 38.8 percent of global trade in the metal.¹¹ Chinese steel production increased from 15 to 50 percent of global output over the past decade, providing strong demand for Australian iron producers. The same is holds for other metals used in infrastructure: Chinese projects now account for fully half of all construction globally.¹² As China continues its aggressive modernization and infrastructure expansion, demand for steel – and the iron

⁹ "Banking on China." Allens Arthur Robinson.
<<http://www.aar.com.au/pubs/pdf/asia/china.pdf>>.

¹⁰ "Trade Map." International Trade Centre.
http://www.trademap.org/light/Country_SelProductCountry.aspx

¹¹ Ibid.

¹² "2011-2012 Pre-Budget Submission." Minerals Council of Australia.
<http://www.mineralscouncil.com.au/file_upload/files/submissions/MCA_Pre%20Budget_FINAL.pdf>.

with which it is made – is likely to continue to grow, increasing profits for Australian producers. Australia supplies China with a large proportion of its imports of other basic materials as well, and trade in these products has been rapidly increasing over the last five years (see chart below). The Minerals Council of Australia notes, in a 2010 report, “Industrialization and urbanization are at the heart of... growing demand for mineral commodities. China remains very much at the epicenter of this process.”¹³

Product ¹⁴	Australian Share of Chinese Imports (% , 2010)	Trade Growth 2006-2010 (% per annum)
Iron	43.4	44
Coal	32	105
Precious Metals	27.1	595
Aluminum	24.7	100
Nickel	17.9	15
Copper	10.3	13
Lead	15.9	7

In addition to being the largest exporter of basic materials, Australia is the most stable and transparent economy of any of China’s significant resource trading partners. This further increases incentives for corporations and investors to use Australia as a proxy for Chinese growth. The following charts illustrate Australia’s favorable position relative to its commodity-exporting peers (below) and compared to China’s top trading partners and large global economies (bottom).

¹³ Ibid.

¹⁴ Chart data source: International trade Centre.

Trading Partner ¹⁵	Share of Chinese Metals Imports (% 2010)	S&P Sovereign Debt Rating	Transparency International Corruption Score (10 = best)
Australia	36	AAA	8.7
Brazil	16.9	BBB+	3.7
India	10.9	BBB-	3.3
South Africa	5.5	A	4.5
Chile	4.6	AA	7.2

Benchmark Trading Partners	Share of Total Chinese Imports (% 2010)	S&P Sovereign Debt Rating	Transparency International Corruption Score (10 = best)
China	-	AA-	3.5
Japan	12.7	AA-	7.8
South Korea	9.9	A+	5.4
Taiwan	8.3	AA-	5.8
United States	7.4	AA+	7.1
Russian Federation	1.8	BBB+	2.1

Australia's economic security and low corruption – especially relative to its commodity-exporting peers – make its basic materials sector an open and attractive market for international financial and strategic investors from US, EU and China. In addition to expanding operations by multinationals like BHP, the world's largest mining firm by market cap, the Australian market's openness and transparency facilitates foreign direct investment into domestic firms. In 2010, foreign direct investment (FDI) stock in

¹⁵ Chart data sources: International Trade Centre; Standard and Poor's; Transparency International.

mining operations stood at nearly 149 billion USD, comprising 32 percent of all foreign holdings in the country.¹⁶

The inflow of capital has come largely from China itself, where resource firms seeking geopolitical diversity and industrial producers increasing vertical integration have turned to Australia. For example, Chinese state-owned enterprise SinoSteel, the second largest importer of iron ore in the country, engaged in a hostile takeover of Australian mining firm Midwest in 2008 in order to consolidate control over iron supplies.¹⁷ American and European firms have also shown interest in the country, as demonstrated by the high profile buyout this year of Macarthur Coal by Peabody Energy and Arcelor Mittal.

China's growth has fueled a strong market for commodities and pumped profits for basic materials firms for over a decade. Many prominent investors expect the trend to remain intact for the decade to come, or longer. Quantum Fund co-founder Jim Rogers, who has designed multiple commodities ETFs, predicts a 20-year commodities "supercycle" driven primarily by burgeoning demand from BRIC countries.¹⁸ As previously mentioned, Goldman Sachs reports forecast China's robust growth extending to 2050. Strong long-term growth will ensure continued demand support for Australian basic materials.

At LGA, the strong macro case investment in Chinese commodities suppliers has been coupled with an Australian focus to assure transparency and liquidity and proprietary

¹⁶ "Investment Map."

¹⁷ Moran, Theodore. "China's strategy to secure natural resources: risks, dangers, and opportunities." Washington, D.C.: Peterson Institute, 2010.

¹⁸ "Jim Rogers: Commodities 'Supercycle' to Last 20 More Years." Barrons.com. <<http://blogs.barrons.com/focusonfunds/2011/08/10/jim-rogers-commodities-supercycle-to-last-20-25-more-years/>>.

approach for selecting more energy and resource efficient firms. Rather than selecting sectors that have lower environmental impact, LGA invests in the companies with the greatest energy efficiency and resource efficiency advantages within high environmental impact sectors. This “best-in-class” investment strategy has been proven out over the last 10_ years in the US market and is particularly well positioned to add value should resource costs (e.g., energy) rise over the foreseeable future as a direct result of growing demand for infrastructure to support modernization and wealth growth in developing markets such as the BRIC countries.

LGA’s thesis holds that firms that are more thermodynamically efficient will have lower energy –related emissions and lower energy –related costs, along with a concomitant reduction in pollution associated with manufacturing and the costs of managing various types of production wastes.

In the highly competitive Australian resource extraction industries, LGA believes that firms that are able to produce minerals and other energy intensive goods with proportionally lower emissions than competitors operating in Australia will almost by definition have lower overheads, proportionally greater profits, and a tangible competitive advantage. The operationally efficient companies identified by LGA will have the added benefit of greater resilience to higher energy and material prices. As a result, we expect firms selected for the LGA Resource Efficiency Portfolio™ to have a profitability advantage over their peers selling raw and basic materials to the price-competitive global and Chinese dominated commodity markets. In the long run, more efficient companies will excel as resource scarcity increases exploration and extraction costs.

LGA's thesis that resource efficiency generates "double bottom line" benefits to environmental and economic performance is reinforced by leading organizations operating within and behalf of the resource sector in Australia. The Minerals Council of Australia notes in a 2011 report that in addition to economic benefits, "the industry's environmental performance has improved with an increased focus on resource use efficiency, including in relation to energy, water and chemicals."¹⁹ The World Business Council for Sustainable Development (WBCSD), has also issued reports suggesting that what it terms "eco-efficient" businesses should have competitive advantages.

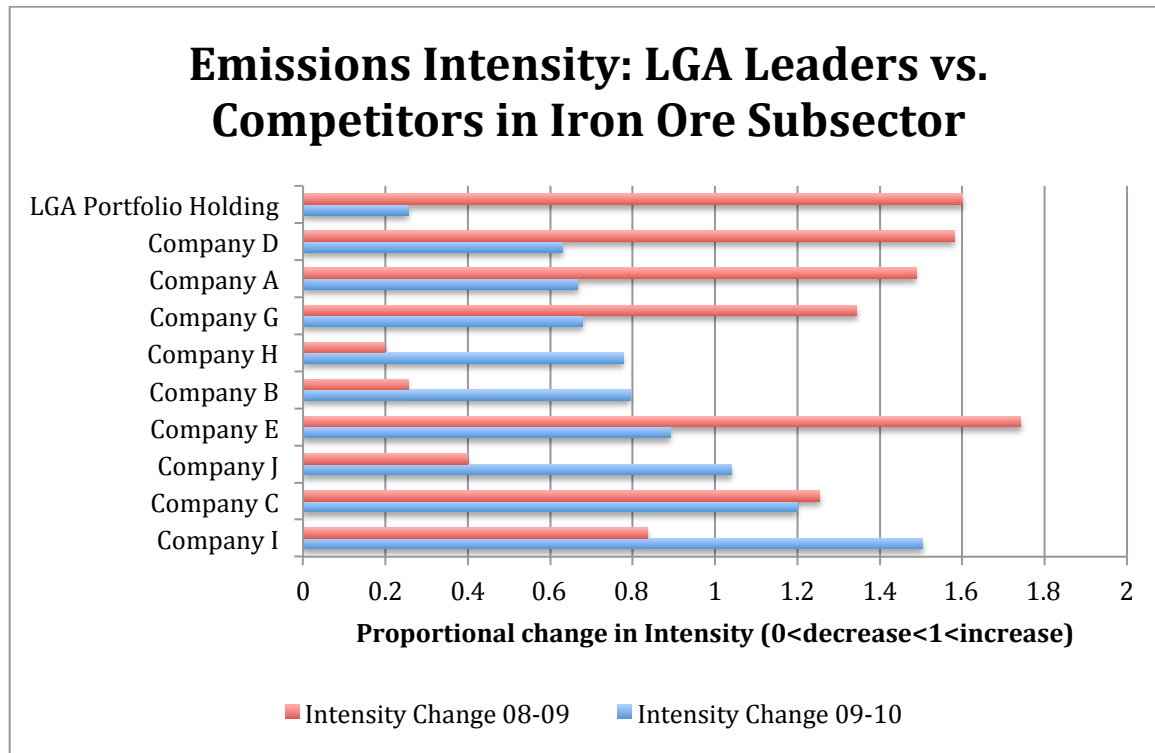
To identify the most resource efficiency companies within an investment market, LGA employed proxy measures that are related to a company's energy use and material efficiency. LGA has found that companies that are able to reduce the level of emissions of harmful pollutants associated with industrial production while maintaining or increasing production of revenues tend to be good investments. LGA believes that it is very hard to reduce pollution per \$ or ton without improving resource efficiency. Thus, analysis of emissions intensity – ratios of emissions weighted by financial performance – were central to this process. LGA analysts used emissions data provided by the Australian National Pollutant Inventory, a registry of emissions of 93 different chemical substances by over 4,200 facilities nationwide.²⁰ The analysis revealed sizable variations in pollution intensity between and within each industry segment assessed. For example, among petroleum

¹⁹ "2011-2012 Pre-Budget Submission." Minerals Council of Australia. <http://www.mineralscouncil.com.au/file_upload/files/submissions/MCA_Pre%20Budget_FINAL.pdf>.

²⁰ See <www.npi.gov.au> for general information or <<http://www.npi.gov.au/publications/pubs/npiguide.pdf>> for more information on reporting thresholds and emissions calculation methodology.

extraction companies, median revenue-weighted emissions increased by over 21 percent 2008-2009, while the median for natural gas suppliers dropped 32 percent. After making cross-sector comparisons, LGA focused on companies' year-on-year trends to identify the leaders and laggards within target sectors.

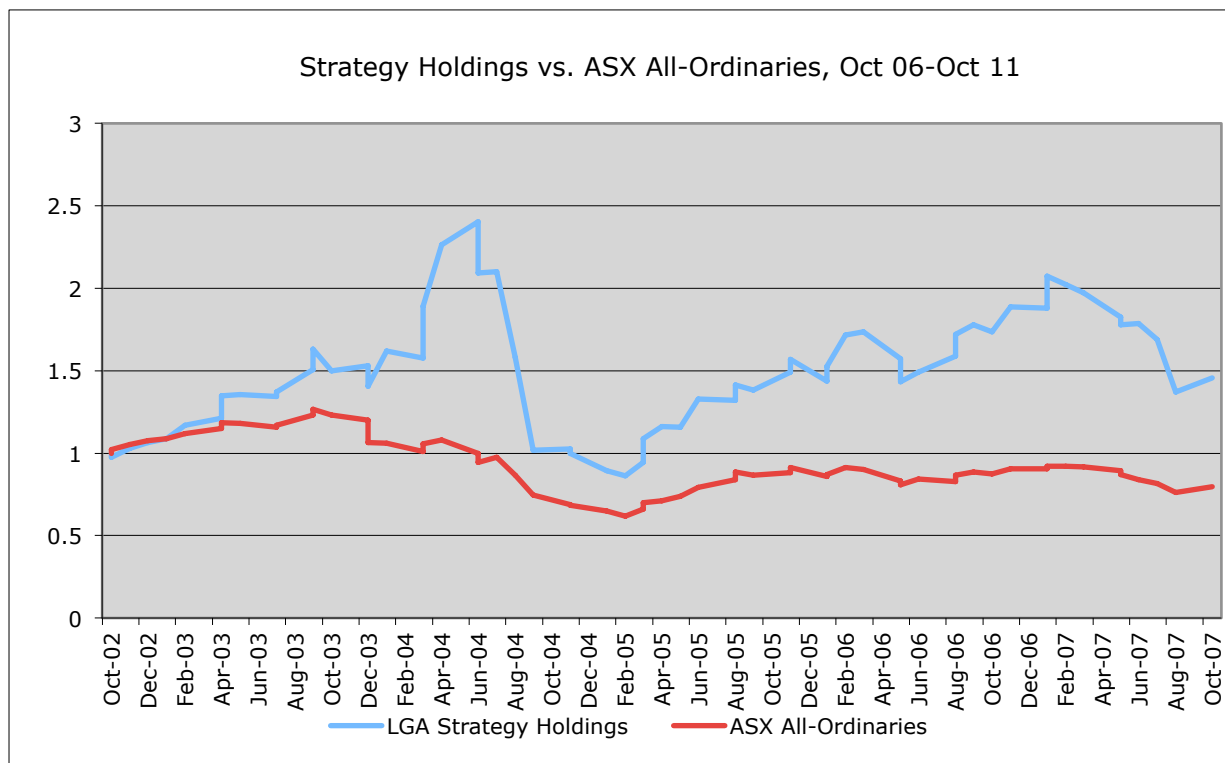
Within individual industries, LGA found substantial variation in resource efficiency as measured by emissions intensity, both between firms and in their multi-year trends. For example, while coal miners' intensity registered a 5.9 percent decline from 2009 to 2010, the Resource Efficiency Portfolio™ selection reduced its revenue-weighted emissions by over 31 percent. LGA filled its leadership portfolio with firms whose intensity improved far more than their peers. The chart below shows the emissions intensity of the LGA portfolio selection for the iron ore subsector compared to its industry peers. (Note that a lower number for intensity change is desirable as it indicates a year-on-year decrease in emissions relative to revenue; a 0.5, for example, would indicate that emissions intensity fell by 50% year over year.)

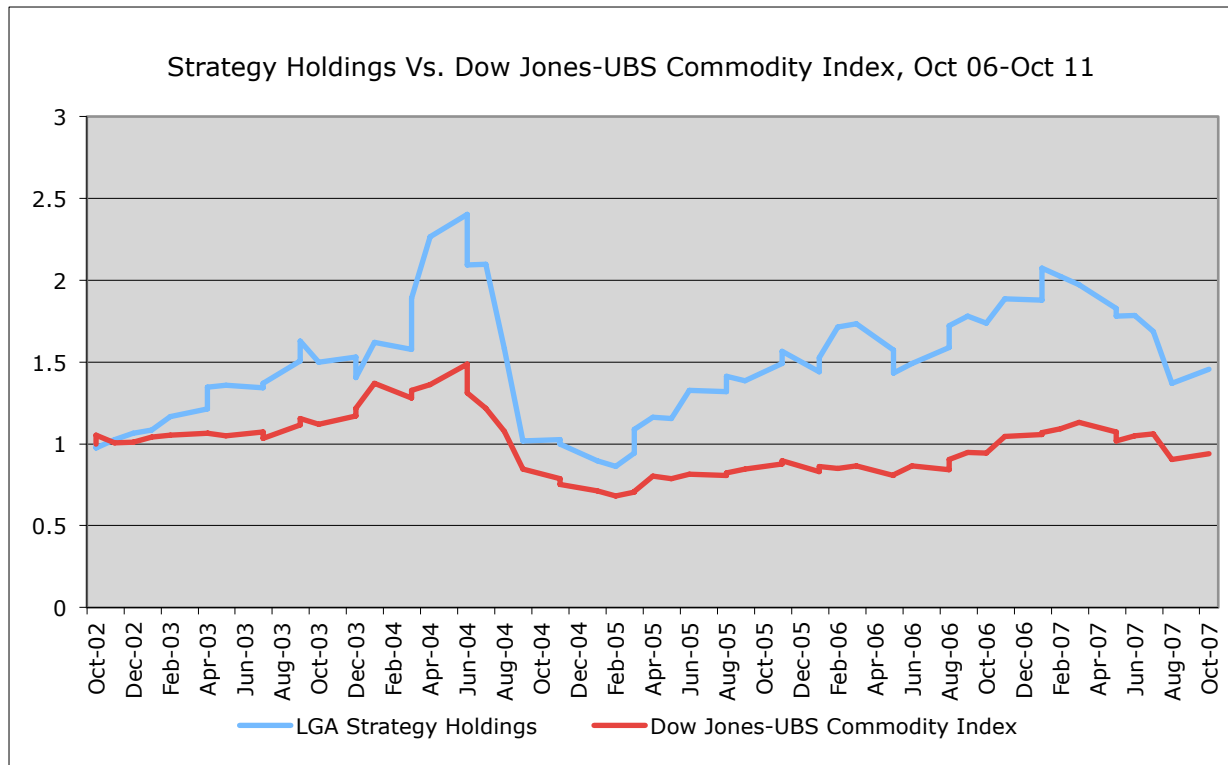


The intensity trend distribution shown in the iron ore industry sample is typical of all industries LGA examined and selected from. Companies with impressive improvements were chosen for the portfolio; in the above example, our holding drastically reduced its emissions intensity (by over 70%) after lagging in the previous period. The efficacy of the best-in-class approach was confirmed in our compilation of a leadership portfolio based on efficiency analysis that, when back-tested, outperformed the ASX All-Ordinaries and Dow Jones UBS Commodities Indices over the past five years (see charts on following page). Although direct causation cannot be proven, these results are certainly consistent with and reinforce our thesis of resource efficiency providing competitive advantage to commodity companies.

While China's enormous new wealth and modernization provide immense opportunities, its volatility and unpredictability make it an uncomfortably risky

environment for most investors. **LGA views investment into Australia’s resource sectors as the most viable strategy to limit the risks associated with investment in the country while capturing much of the upside potential.** Australia provides investors with “first-world amenities” of investor protection, economic stability, and a free and open democratic society, while benefitting from exposure to the explosive demand growth of the developing world. And in this competitive marketplace, LGA expects operational efficiency to play a significant role in improving the profitability of AUS leadership companies supplying booming Chinese markets.





Conclusion

Australian resource companies represent a viable way for transparency-oriented investors to gain exposure to the Chinese infrastructure boom. LGA's Australia Resource Efficiency™ portfolio provides a vehicle for investors to channel their investments into the sector to those firms that are best situated from a competitive perspective in light of anticipated rise in energy and environmental costs due to macro trends such as demographic and income growth in China and other developing markets.

About the Authors:

* Jonathan Naimon is the Founder and Managing Director of Light Green Advisors. Jon formerly held positions at Carnegie Mellon and the Norwegian School of Management as a visiting professor, and has decades of experience in environmental consulting at firms such as IRRC (now a member of Risk Metrics Group), Combustion Engineering, Asea Brown Boveri, and the House of Representatives Energy and Power Committee. Jon received an MS in Environmental Management from the University of North Carolina and a BS in Biology from MIT. He has served as a visiting professor at both Carnegie Mellon University and the Norwegian School of Management.

Eric Franzen is a Research Analyst at Light Green Advisors. Eric joined LGA as an intern in 2010, and has been with the firm in his current position since graduating from Kenyon College earlier this year. Eric graduated from Kenyon with a BA in International Studies.

About Light Green Advisors (LGA)

LGA is a specialist asset manager focused on generating sustainable excess return through proprietary analysis of the ways firms harness energy and natural resources. The firm's Eco Performance Portfolio™ strategy has delivered excess return to US investors for over 10 years. LGA developed the Australia Resource Efficiency™ Portfolio as an absolute return vehicle that enables investors to benefit from the Chinese infrastructure boom and the most resource-efficient Australian companies.

LGA supports the PRI Initiative..