



BUILDING BLOCKS

~ Alexander B. Miles

I. Gravity Investing Revisited

Around the globe, new economies are building infrastructure to support urban migration and industrialization, with many citizens from Shanghai to Sao Paulo consuming their first course of western-style capitalism. It is amazing just how quickly the globe is shrinking, with the advent of international commerce, the internet, wireless technology, and global finance to supply credit and capital for the opportunities of tomorrow.

Many such opportunities fall under a category we have previously defined as *gravity investing*, inasmuch as their long-term outcomes can be tied to what we consider predictable trends. These trends focus at their core on the premise that the global infrastructure is not sufficient to support the global community. Several years ago, as noted in our *Kingfisher Review*, Winter 2005, it had become highly likely that the emerging economies of the world, namely India and China with their nearly 3 billion people, would begin to apply demand forces on the building blocks of industrialization to a degree that had never existed in the history of the world. With the construction of roads, bridges and airports, the design and development of large scale power, water and wastewater treatment plants, and a persistent migration to budding industrial towns and brimming mega-cities, the economies of the East, and some of European heritage which had decayed under the shroud of the iron curtain, have been recalled to life. Their resurgence has shocked the energy and mining industries, which had underinvested in asset recovery for decades, shunning low return on capital projects in the face of moderating demand and weak pricing.

Coincident with global infrastructure development driving demand for power, basic materials and industrial metals, new global consumers are emerging who seek greater mobility, higher quality and larger quantities of food, and city living with access to greater educational and employment opportunities. These forces are exerting new and unrelenting pressures on our finite natural resources markets, starting with oil and other forms of

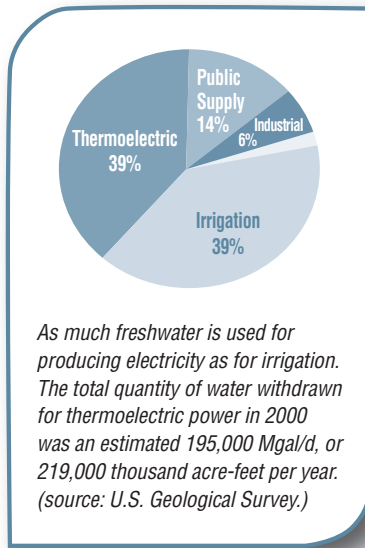
legacy energy inputs and migrating to agricultural and industrial commodities. New populations are moving up the global food chain toward western-style consumerism, seeking cars, cell phones, and handbags for the first time.

We have witnessed over the last three years a rapid price appreciation in the underlying inputs of this growth story. Demand for crude oil, coal, steel, copper, and corn, among many other commodities, has risen in the face of tight market supply, a consequence of perennial underinvestment, geophysical limits and depletion curves. As a result, the world remains caught in the cross hairs of a dual challenge: increasing demand AND constrained supply for water, energy, food and industrial metals. Shifts in either demand or supply tend to impact price, yet today it seems we have a shift in both.

This dual challenge is further complicated by the interconnectedness of the components of the energy-water nexus, aptly named by Sandia National Laboratories, a government-owned scientific research lab charged with defining these risks with respect to national security. The production of electricity requires tremendous amounts of water, and the treatment and delivery of water requires significant energy. When this relationship is observed within the broader context of agricultural production, climate change, pollution control, industrial mining, and waste management, a "circular argument" emerges in that as we attempt to alleviate one problem, we tend to exacerbate another.

The amount of arable land around the world is shrinking as industrialization and desertification encroach on existing farmlands. This negatively influences both agricultural acreage and the quality of water supply. As a result, more water must be used from deep underground sources, requiring greater amounts of energy to pump and treat. In addition, each year more wastewater and seawater is converted using energy-intensive treatment processes to meet growing demand, particularly in non-naturally replenishing regions of the world. As the price of energy rises, so too do the costs associated with treating and delivering water from non-traditional

sources. Adding to the supply challenge, freshwater supplies around the world are feeling the heat of climate



change as decreases in mountain snowpack, which acts a winter reservoir, and increases in groundwater withdrawals are outpacing natural recharge rates.¹

On the energy front, oil prices have steadily risen from around \$45 to \$135 per barrel, as global oil production has been unable to keep pace with rising demand. Even with renewed efforts of late in re-tapping old wells and exploring new frontiers in deepwater, shale, and tar sands, many oil and gas producers are facing an uphill battle in replenishing their depleting reserves each year. From the American perspective in particular, too much of the world's existing supplies resides in potentially unfriendly foreign regimes such as Saudi Arabia, Iran, Iraq, Venezuela, Russia and Libya to name a few (fortunately, neighboring Canada maintains the world's second largest reserve).

It is, however, important to acknowledge that the world is continuing to discover new oil, just not currently at a rate sufficient to keep pace with the amount of production lost each year. The Brazilian oil company Petrobras recently uncovered what they initially claimed could be 33 billion barrels (a figure which some estimates balloon to more than twice that) off the coast of Rio de Janeiro, amounting to the third largest field on earth². But with offshore rig rates for the project already pegged at \$600,000 per day and an oil depth of 5,000 to upwards of 10,000 feet through as much as a mile-thick layer of salt, the costs and technological obstacles of this

¹ WETT, Water Energy Technology Team of the Lawrence Berkely National Laboratory

² *Brazil Oil Find May Be World's 3rd Largest*, Associated Press, posted 4/14/08 at www.cbsnews.com

mega-project are indicative of the challenges in bringing "new oil" to market. Still, the global appetite for fossil-fuel based energy will remain robust for two more decades (natural economic cycles notwithstanding as demand, particularly for refined product, can be temporarily destroyed with higher prices in a slow growth environment), and consequently the world will be compelled to continue producing oil and gas at increasing costs.

It is not that we are running out of oil entirely, it is that we are increasingly relying on new oil production that will become too costly relative to its alternatives. Currently the world does not yet have the infrastructure to make substitutes available. I fear that it may require a super-spike in oil prices to \$250-\$300 per barrel level before emerging alternatives begin to take their rightful place as meaningful contributors to global energy supply. Such a spike would be devastating to the consumer and many industries, in particular those such as airlines, which maintain few options in reinventing their business models. However, as discussed in recent commentary by our friend and analyst Brian Smyth, such a move could prove a boon for the utility industry and perhaps even the auto industry and those innovative companies which can withstand the shock and reinvent their products and services within the new paradigm. With oil prices reaching record highs seemingly each week and the American dollar facing new lows, there is little doubt of an eventual and steep correction in the commodity arena. However, our view is that a U.S. led global recession will only be successful in providing commodity price relief temporarily (perhaps a year or two). Inevitably, prices will resume their upward trajectory until substitutes enter the market, and oil ultimately regains its commodity-like characteristics forcing prices to eventually fall.

As prices remain elevated above historical levels, (a trend we see intact, though with occasional variances in both directions) the natural economic and technological cycles will ultimately facilitate a jagged and imperfect migration to competitive emerging technologies, which offer cleaner and more efficient energy. This migration has already begun, and will accelerate during the coming five years as it becomes clearer which companies and technologies will provide the first wave of economically viable, large-scale alternatives. Wind power generation has already established itself as a viable source and solar power, both in small-scale point of use applications and larger scale grid applications will become increasingly attractive and economically viable within five years. Integrating these technologies and others such as geothermal, wave technology and nuclear into electricity generation and energy-intensive processes such as water desalination and recycling will prove instrumental in stemming runaway costs and alleviating supply shortages.

In the agricultural sector, corn and soybean prices have nearly tripled in the last three years, wheat has doubled in the last two years, and rice has doubled in the last 12 months. Mandates for corn-based ethanol have created a fuel from food frenzy, driving demand up for corn and creating supply shortages in soybeans as farmers switched from planting beans. China, which had been running an agricultural trade surplus from 1995 to 2003, saw a deficit for the first time in 2004. During the first quarter of 2008, China's deficit grew to \$3.66 billion USD with imports surging 61% versus the first quarter of 2007.³

A brief look at the copper and iron ore markets reveal similar price moves in those commodities. Copper prices have doubled in the last two years. The three dominant seaborne iron ore companies, BHP Billiton, Rio Tinto, and Companhia Vale do Rio Doce, which make up 72% of the global iron trade, installed across the board price increases of between 65%-71% earlier this year to their global customers, which amounts to about every steelmaker in the world.⁴

I do not know that any writer has supposed that on this earth, man will ultimately be able to live without food.

~Thomas Malthus

The net result is that there is increasing global demand for food, energy, and infrastructure within an environment in which energy supplies are more costly to produce, increased use of carbon-based energy inputs

are accelerating climate change effects, traditional water supplies and farmland are being polluted and diminished, and alternative water supplies are becoming more costly to treat and deliver. Therefore, we believe those industries and companies, which can help the food, power and infrastructure sectors to increase supply, lower costs, increase efficiencies and provide cleaner substitutes to existing technologies and processes, will remain in high demand.

II. Climate Change is Heating Up

"Science ... warns me to be careful how I adopt a view which jumps with my preconceptions, and to require stronger evidence for such a belief than for one to which I was previously hostile. My business is to teach my aspirations to conform themselves to fact, not to try and make facts harmonize with my aspirations."

-Thomas H. Huxley

A key policy and investment driver over the next several years is climate change. While the evidence supporting climate change had not been widely

³ http://news.xinhuanet.com/english/2008-05/08/content_8131752.htm

⁴ *Search for iron ore accelerates*, Wu Jiao of China Daily. Posted on 2/28/08. www.chinadaily.com.cn

accepted among United States policymakers until quite recently, the global consensus has long since determined that the science supporting global warming is valid. However, the topic of climate change is challenging because it is charged both politically and economically. As such, I find it useful not to engage in philosophical debates about whether aggregate temperature increases are the result of natural geological patterns or human activity. At this stage of the debate, consensus among business leaders and policy makers around the world acknowledges that global warming is occurring.

Given all of the vested parties, which "spin" data for their own best interest and short-term agendas, I have determined that the Intergovernmental Panel on Climate Change [IPCC] is the most independent global authority on the issue. A brief look at some of the science and conclusions drawn by the IPCC is useful.⁵ According to the panel, most of the observed increase in globally averaged tempera-

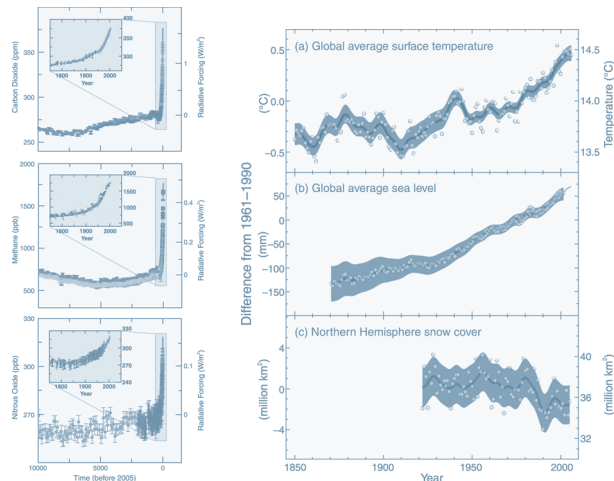
The IPCC is a scientific inter-governmental body set up by the World Meteorological Organization and by the United Nations Environment Programme. Its role is to assess on a comprehensive, objective, open and transparent basis the latest scientific, technical socio-economic literature produced worldwide relevant to the understanding of the risk of human-induced climate change, its observed and projected impacts and options for adaptation and mitigation. IPCC mandates that their reports should be neutral with respect to policy and of high scientific and technical standards. (www.ipcc.ch)

tures since the mid-20th century is very likely due to the observed increase in anthropogenic (derived from human activity) greenhouse gas concentrations. Discernible human influences now extend to other aspects of climate, including ocean warming, continental-average temperatures, temperature extremes and wind patterns {WGI 9.4, 9.5}. Global atmospheric concentrations of carbon dioxide, methane and nitrous oxide have increased markedly as a result of human activities since 1750 and now far exceed pre-industrial values determined from ice cores spanning many thousands of years. The global increases in carbon dioxide concentration are due primarily to fossil fuel use and land-use change, while those of methane and nitrous oxide are primarily due to agriculture {WGI 2.3, 6.4}.

While there are many non-human induced warming influences affecting the global climate, it is the concept of marginal influence, which IPCC defines as *radiative forcing* that quantifies the various contributions to climate warming. These forces have contributed to a rate of increase during the industrial era that is very likely to have been unprecedented in more than 10,000 years. During the ten years spanning 1995 to 2005, the

⁵ Source: IPCC Climate Change 2007, *WGI Fourth Assessment Report: The Physical Science Basis*. (Author's Note: *The following two paragraphs drawn from this report with chapter references*).

measured radiative forcing of carbon dioxide increased by 20%. This was the largest change for any decade in at least the last 200 years {WGI 2.3, 6.4}. The observed widespread warming of the atmosphere



and ocean, together with ice mass loss, support the conclusion that it is extremely unlikely that global climate change of the past fifty years could be explained without external forcing, and very likely that it is not due to known natural causes alone.⁶

As the scientific community has begun projecting a consensus view on climate change and the role human activity is playing, governments and dealmakers around the world are digesting the insights provided by IPCC and others to formulate policies and strategies for this new world. In 1997, the world united with the Kyoto Protocol in a first, and admittedly imperfect, attempt to define a framework for addressing global climate change. One hundred eighty-two parties have since ratified the protocol including the European Union. The United States has not participated because of its contention that certain aspects of the protocol would be overly punitive to its economic growth. In 2000, the European Union Commission on Climate Change was formed to proactively address global warming challenges and ensure EU compliance with the protocol. Because of these initial steps, some of which reflect modest successes and others which uncovered loopholes and oversights in the framework, new financial markets and investment trends are emerging.

The notion of the carbon footprint is one such emerging trend. The carbon footprint, which seeks to measure the impact human activity has on the environment, is one way to analyze the contributions of various participants to climate change. The “footprint” calculates the sum of a given entity’s environmental impacts to include direct emissions such as energy and transportation use, as well those more indirect such as

⁶ <http://www.greenfacts.org/en/climate-change-ar4/index.htm>

its imbedded share of production and delivery costs for various goods and services it consumes. This method allows for a common sizing of impacts, providing both absolute and net amounts. The goal of each entity is to reduce its absolute carbon contribution while also seeking to reach net neutrality (offsetting existing emissions through either reductions or credits). Conservation techniques and efficiency enhancements are relatively intuitive, and offsets may be provided through the purchase of exchange of carbon credits through either an open market such as a derivatives exchange, or through intermediaries which match legacy emitters with sustainable projects in the emerging world. This is a highly innovative, developing financial market and has the potential to grow significantly over the coming decade.

III. Sustainability for Profitability –

The time is now

Trends in sustainable or “green” investing have been developing for years. And, as many of you know, we manage our own invest-

It is neither the strongest of species, nor the most intelligent that survives. It is the one that is the most adaptable to change.

~ Charles Darwin

ment strategy that focuses on exploiting investment trends in sustainability. Over the last year, nascent industries and markets have begun to accelerate the transition from the futurist’s mind to the pragmatist’s portfolio. Radical environmentalists and animal rights advocates are no longer leading this movement. The money is leading this movement, and it is becoming very profitable to think green. CEOs around the world are recognizing that if they are to be profitable, they must think strategically and sustainably about the future. They must think about how to conserve, how to increase efficiencies, how to manage costs, how to manage waste streams. Because sustainable strategies are not just ethical, they are profitable.

The two main influences that will drive executives and managers to think sustainably will be regulatory forces and market forces. One burgeoning new market force is the environmental derivatives market, better known as “cap and trade”. “Cap and trade” refers to limits that are established by some type of governing body. In Europe, the Commission on Climate Change sets the rules. In the U.S., a voluntary market has emerged. Limits are then set relative to baseline emission levels and a commensurate number of allowances or permits are granted each year. These permits serve as licenses to pollute. Every year, based on the limits imposed by the regulator, the amount of permits granted is reduced. For those participants who are able to reduce their emissions faster than the required rate, they accrue a surplus of credits, which can then be “traded” to other market participants who may require

additional pollution permits to operate under the cap. This innovative system creates an economic incentive for those entities able to reduce their carbon footprint to do so. It also provides a foundation for driving a cultural and strategic shift within companies as they invest for the future.

One company at the center of this emerging industry is The Climate Exchange, Plc, a London-based company with Chicago roots. We believe this company has pioneered the development of the environmental derivatives market by creating two primary exchanges, one in London and one in Chicago, which allow the trading of various new instruments including certified emission reduction (CER) contracts. These instruments are a form of international currency, allowing market participants to speculate or hedge the right to emit greenhouse gases into the atmosphere. In the case of CERs, the credits are issued by the United Nations under the Kyoto Protocol and are subject to strict requirements. Each CER represents one metric ton of CO₂ equivalent emission and are backed by emission reduction projects in the developing world. The credits may be used by countries in the developed world to “offset” emissions, or they may be traded in a market such as The Chicago Climate Exchange to monetize their value.

The market is new and small. Yet it is exceedingly interesting and holds significant promise as it evolves. The Chicago Climate Exchange alone saw volumes in their cash contracts increase almost 200% year over year in the first quarter of 2008 and volumes in their futures contracts were up almost 400% over the same period⁷. . . and this is a voluntary market with no U.S. government-based mandates driving compliance. Forward-looking companies from Bank of America to United Technologies to Smithfield Foods have joined the exchange to get a head start. Recently the New York Mercantile Exchange also entered the nascent U.S. market with the launch of the Green Exchange to compete with The Climate Exchange.

The climate change movement has reached a stage of inevitability. The global bank HSBC recently pledged \$100,000,000 to combat global warming in what it said was the largest ever donation by a British company.⁸ HSBC Chairman Stephen Green said that the bank had already committed to becoming carbon neutral, and was working with “ungreen” business sectors to help them become environmentally sound. The Japanese government is in the midst of presenting a climate change roadmap to Western nations at the upcoming “Group of Eight” summit meeting in July, 2008. The plan promotes, among other things, 21

revolutionary new technologies ranging from “third-generation” solar panels leveraging nanotechnologies over silicon, to sequestration technology capable of storing emissions underground, to advances in car batteries for hybrid electric vehicles, to coal gasification technology. Advocates assert that such technologies could help achieve as much as 60% of the plan’s proposed 40 billion ton reduction in global emissions by 2050.⁹

With emerging technologies colliding with high prices and new regulation, the evolution toward more efficient, renewable, less pollutive sources of power is nearing a critical point of viability. As we move toward that symbolic breakeven point, leaders from all corners of the world and in every industry are preparing for a different set of opportunities. Those who proactively look ahead will build strategies to move in concert with emerging technologies and new regulation. Those who fail to innovate will face obsolescence. Sustainability is profitable.

Market Notes

We believe that our investment strategy continues to work in light of a volatile and negative equity market marked by a severe breakdown in the credit markets and several bouts of market intervention from central planners and government officials.

Our strategy in this environment has been to attempt to preserve capital in three ways:

1. Avoid financial stocks, in particular the investment and consumer banks, with exposure to sub-prime and structured products which continue to face a liquidity crises. These banks confront ongoing asset write downs, pending damage to leveraged loan portfolios, deterioration in commercial and construction loan portfolios, Bear Stearns-esque liquidity “runs” and perhaps most importantly, a lack of future revenue visibility as mortgage and asset-backed product revenues evaporate for the foreseeable future.
2. Maintain a significant strategic cash position and other non-equity related exposures in an effort to reduce our correlation with the broader equity market.
3. Maintain exposure to sectors and investments with “real” asset qualities with some degree of pricing power, including Silver, Basic Materials and Energy to protect client capital in the face of flight to quality trades and a structurally weak U.S. currency, further undermined by ongoing FED interest rate policy.

⁷ Chicago Climate Exchange First Quarter Earnings Release

⁸ www.guardian.co.uk/business/2007/may/30

⁹ <http://asiacleantech.wordpress.com/2008/03/03/>

The U.S. economy and increasingly the global economy appear vulnerable to additional weakness. The downturn in the U.S. stock market has come largely on the effects of deterioration in credit and housing. However, growth and employment metrics have yet to fully reflect what is happening to the underlying economy and inflation in our opinion is understated with respect to energy, food and raw input costs. These higher costs have been absorbed by companies for a number of quarters as price increases passed on to consumers have been unable to keep pace with rising costs. This challenge will likely resolve itself with prices continuing to rise, creating consumer demand destruction, and margins continuing to fall, causing further earnings deterioration. The coming weeks should be checkered with company pre-announcements as they take down expectations for the coming quarters.

We are not, however, putting our head in the sand. We continue to seek attractive valuation entry points in unique and out of favor sectors such as in the luxury lodging, technology, and alternative energy, as well as high quality companies we consider positioned for long-term growth in sectors with ongoing tailwinds including oil exploration, mining and materials. Asian markets, particularly China and India have seen some of the worst price action with prices falling over 40% year to date and over 60% peak to trough and present longer term opportunities.

We remain cautious on the state of the US economy, I believe we are in recession and will continue to see economic weakness as the consumer feels the pinch. Housing prices will continue to come down, in my opinion, another 5-10% in aggregate to a total of 15%-20%. However, on the positive side, corporate balance sheets are in excellent shape in comparison to prior recessions, having taken advantage of prolonged low interest rates to retire expensive debt and refinance at lower costs. Stock valuations are also not overly expensive, particularly when compared with the 1999-2000 levels. As a result, we believe the stock market is likely to bottom well before the economy. We will be more apt to cast off investments that are underperforming. We will continue to approach the market opportunistically and a bit more actively than usual in seeking to uncover valuation nuggets in which to put capital to work.

Kind regards,



Etymology of Kingfisher – A bird of the genus *Alcedo Alcyon*, Kingfishers nest in shore bank tunnels among freshwater and saltwater environments in nearly every continent in the world. The Belted Kingfisher is easily observed along the Carolina coast and famous for its fishing skills and extraordinary, plunging dives. Of the Forest Kingfishers, the best known is the Australian Kookaburra, identified by its laughing cry and valued as a destroyer of harmful snakes and lizards. In addition to its reputation as an excellent hunter, the Kingfisher is a symbol of calm and prosperity, said to ward off inclement weather. The scientific name of the Kingfisher is derived from Halcyon, one of the seven sisters of the Pleiades and daughter of Atlas. According to Ovid, Halcyon's husband Ceyx had angered the gods and was drowned in a storm. In her grief, Halcyon threw herself into the sea. The Gods were so moved by her devotion that they turned the couple into birds. The legendary birds, identified as the Kingfisher, were said to charm the wind and waves to calm the sea for the fourteen days centered on the winter solstice known as the "Halcyon days".

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