

**SE MINING** IN WESTERN AUSTRALIA

HD Western Australia: Sparing the Mine and Spoiling the Miner

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If Australia is known as "the lucky country," then Western Australia could be considered the luckiest of its five states and two territories. The nickname, coined by Australian professor Donald Horne in the 1960s, was largely inspired by the abundance of natural resources that punctuate the country's landscape. Western Australia is a vast area that covers nearly one-third of Australia's total surface and is home to some of the world's largest **iron ore** deposits, as well as over 50 other metals and minerals. Queensland may have **coal**, Victoria may have **gold**, but Western Australia has a culture and history deeply rooted in **mining** and resources, which it has used to its benefit; becoming the fastest-growing state in Australia.

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Mining and resources have always been the backbone of Western Australia's economy. In 2012, the value of the state's mineral and petroleum sector was A\$97 billion, which is the second-highest total in history, behind the record A\$108 billion in 2011 according to the Department of Mines and Petroleum. Western Australia and the national economy continue to benefit from the growth in the resources sector. Confidence has returned to the market on the back of solid price rises in iron ore. As of October 2012, committed capital expenditure on major projects in Western Australia increased by 4.1% to A\$141 billion from the \$135 billion at the end of April 2012. West Australian resources companies total market capitalization at the end of November 2012 stood at A\$86 billion, an increase of 2.1% from the end of August 2012. This growth has strengthened post-election, with strong results posted by majors BHP Billiton, Fortescue Metals Group and Rio Tinto. This looks to translate into strong, stable growth in the coming period. BIS Shrapnel, a market forecasting service, has forecast mineral production in Australia to increase by 41% over the next five years: a far cry from the dim-results predicted in the first half of 2013. However, Western Australia's mining industry must now solve a series of structural problems, the answers to which will define the face of the industry moving forward. Western Australia has grown fat off its "luck." but the rise of the Pilbara and the country's <mark>oil</mark> and gas industry have come at a cost. Mines and their <mark>ore</mark> bodies have been spared: their miners, spoiled. Mine productivity has hit a historic low as wage rates have hit a historic high. Compounded with a downturn in global commodity prices, this dynamic has led some to question the economics of West Australian mining. Yet West Australian mining remains viable. From the beating which global commodity markets have inflicted on the industry, a better industry is now emerging: innovative and lean.

New Frontiers in Iron Ore

Iron ore continues to be the driver of Western Australia's mining industry. Nearly 93% of Australia's iron ore deposits are found in the state, with most of these being located in the world-class Pilbara region, home to mining giants Rio Tinto, BHP Billiton and homegrown Fortescue Metals Group. However, a new iron ore region is emerging in the Midwest, with large hematite deposits ready to be mined as soon as port and rail challenges are solved.

Most **iron ore** is shipped from the port of Esperance, on the southern coast, or Port Hedland in the north, but these two main hubs are already operating over capacity. A much desired A\$6 **billion** development of the Oakajee port in the western part of the state held promise, but was recently suspended due to a lack

of interest from potential joint venture partners; leaving a slew of juniors - and investorsin limbo, whose development depends on regional investment.

Some, however, view the region's development as only a matter of time. Padbury Mining, a fellow member of the Geraldton Iron Ore Alliance, which has 1 billion mt of JORC-compliant magnetite and 11.5 million mt of direct shipping ore in the Midwest region, took the unusual step of acquiring the intellectual property from a failed Chinese-backed bid for the development of Oakajee's infrastructure. The intellectual property itself is held in a subsidiary, which Padbury's CEO, Gary Stokes, hopes to divest to an infrastructure development company.

"Peak Hill's region could absolutely become the next Pilbara," said Stokes. "We believe there are 50 billion mt there; already 21 billion mt, JORC-compliant, have been identified. The Midwest is set to grow exponentially, just as soon as the infrastructure developments go ahead. China has an exposure of perhaps \$5 billion in the Midwest, so it is not just going to sit and watch."

## Grappling with the **Gold** Market

Western Australia's evolution has historically been tied to **gold** rushes. Today, Western Australia is home to one of the country's largest **gold** mines at Boddington, owned by Newmont, and exciting new discoveries like Tropicana, a 118 **million** mt resource containing 7.89 **million** oz of **gold**. However, the recent slide in price of **gold** has been strongly felt by **gold** miners operating in the state. Average cash costs for operating **gold** mines in Western Australia are above A\$1,000/oz. While still economic, falling prices and escalating costs are creating an environment of uncertainty amongst the state's **gold** miners.

Enter small juniors, who are attempting to make economic projects out of less. The projects coming into fruition in Western Australia over the near term are those that have less reserves or a shorter mine life, but lower cash costs and, as a result, are highly profitable.

Doray Minerals that owns the Andy Well project in the northern Murchison region poured first **gold** in September 2013. The 444,000 oz resource is expected to produce around 74,000 oz/y of **gold** over a four-year mine life. With cash costs at around A\$900/oz, the payback period for investors is likely to be less than two years.

Doray's managing director, Allan Kelly, explained how the **company** was able to convince shareholders that Andy Well was worth **mining**. "The market's focus has been on ounces instead of grade. The simplest way to value companies is by putting an enterprise value per resource ounce, and when we are trading at A\$300/oz, the market viewed us as overvalued. A **company** that has 1 **million** oz at 1g/mt might be trading at A\$20/oz, and compared to them Doray seems expensive. However, these projects might not even go into production," he said.

Despite the high costs of getting **gold** out of the ground in Western Australia, the assets are still attractive to overseas players. In August 2012, Zijin **Mining**, the No. 1 **gold** producer and No. 2 **copper** producer in **China**, acquired 89% of ASX-listed Norton **Gold** Field's shares. As Dr. Diamen Chen, Norton's Perth-based CEO. explained, Zijin's strategy was always to develop internationally and it saw Norton, and specifically the **company**'s Paddington **gold** mine, as a good platform for the **company**'s overseas growth. "Norton's strategy is to increase **gold** production, reduce costs and to seek further merger and **acquisition** opportunities to expand its **operations** in Australia. Our plan is to double production in the next three to five years while significantly reducing operating costs. The **company** will increase the mill feed grade; last year our resource grade was higher than our mill grade, so the development of a large base load mill feed, which we called Enterprise, will provide over five years base load mill feed for our **operations**, at 1.72g/mt. The higher mill feed will provide us with the opportunity to significantly increase our **gold** production over the next few years," said Dr. Chen.

Gold companies that are currently at the development stage face the challenge of building capital-intensive mines without steady cash flow. Gascoyne Resources is targeting production at their 1 million oz Glenburgh project by late 2014. "We did a placement late last year to some large gold funds in the United Kingdom, and have been doing a lot fundraising to allow us to continue aggressive exploration." said Michael Dunbar, managing director of Gascoyne Resources. "It is important for us to keep drilling because once the company loses momentum it takes a huge amount of time to gain it back. In the meantime, the company is still responsible for administrative expenses."

Despite the challenge of a high-cost environment, Doray's Allan Kelly believes that the opportunities outweigh the negatives. "There is more **gold** to be found in the state, both in known deposits and previously operating mines. Also, the big **gold** companies that acquired most of the mid-tier companies in the 1990s are now beginning to spin out projects that have not been worked on for many years," he said.

A sense of historical perspective is needed to understand the impact that the changing price of **gold** has had on the viability of Western Australia **gold** exploration and production. Changes in the price of **gold** 

over the course of the past five years have had a net-positive impact; the industry has picked up projects that were once previously deemed uneconomical. Additionally, the volatility seen in the price of **gold**-while undoubtedly sucking **millions** from the market in fallen valuationshas not come without a silver lining; those that have hedged their resources and hedged smartly have guaranteed the tenability of their mine.

Through the Nullagine **gold** mine, Millennium Minerals is one of these few companies that has exhibited strong results in spite of a decline in the perceived feasibility of a West Australian **gold** exploration-to-production story. Part of a tenement package acquired by Millennium Minerals in 2001, the resource body of the Nullagine **gold** mine was explored extensively until 2005, when exploration ceased on account of what were uneconomic grades of mineralization at the time. The **gold** price then stood at less than \$600/oz.

A rise in the price of **gold**, however, gave way to production. Brian Rear, managing director of Millennium Minerals explained: "The Nullagine **Gold** Project was the subject of a feasibility study back in 2006, however, the availability of engineering capabilities, experienced manpower and the low **gold** price combined to see the project put on the shelf. By mid 2009, the viability of the project changed with the price of **gold** rising and with a lot of the industry pressures such as manpower and capital construction demand easing."

In September of 2012, the Nullagine **gold** mine poured its first brick of bullion. **Commercial**-scale production commenced in January of 2013. Though the operation initially assumed an eight-year mine life, this will likely be extended; resource estimations have since placed the **ore** body in excess of 1 **million** oz of **gold**.

Although the Nullagine **gold** mine was conceptualized at a time when the price of **gold** was greater than the price at which it stood in the second half of 2013, Rear is unfazed regarding the impact that future turbulence in **gold** pricing might have on the profitability of the mine, even with an effective break even cost of \$1,100/oz. Rear said: "Should the **gold** price change, the way in which we mine the deposits will change as well. Should the **gold** price fall significantly, the Nullagine **gold** mine will continue to produce; half of our **gold** is hedged at a price of A\$1,630/oz."

Nickel-and-Diming Nickel Deposits

For a commodity whose price has been in the doldrums for the past few years, surprisingly, some of the most exciting stories to emerge recently from Western Australia have been from nickel companies. Sirius Resourc- es's share price rose by nearly 3,500% with the discovery of Nova and Bollinger.

Excitement around these discoveries has been contagious. Reciting a mantra of "grade is king" to those that might criticize exploration for the commodity at a time when nickel has been the worst performing base metal of 2013, resource exploration companies have acquired concessions surrounding those of Sirius, hoping to strike the 3% grade mineralization that has made Sirius famous. Hopefuls include Matsa Resources, who has seen promising drill results for polymetallic mineralization at its Symons Hill project which, is located about 6 km from Nova; Rumble Resources, who also has early stage work near Nova; and Sheffield Resources, whose Redbull project has shown a mineral signature similar to that of Bollinger and Nova.

Should these prospects materialize in high-grade nickel mineralization, they could be met with a more receptive market in the coming years. David Singleton, Poseidon Nickel's CEO, is bullish on nickel prices. "Nickel forecasts are predicting huge price rises by 2015, due to supply problems in the market. As long as the demand side is reasonable, then the supply side is going to struggle to fill in the gap," he said.

The way in which this may play out, however, could be nuanced. Sirius's CEO. Mark Bennett, distinguishes between the wider nickel market and the sulphide subset, which holds a different set of dynamics. "There are a number of smaller producers of concentrate, and the majors with downstream processing infrastructure are continually looking for more feed. Anyone who can produce a good nickel sulphide concentrate is in a good position to market the product," he said.

Rox Resources, who recently intersected nickel sulphide mineralization at Mt Fisher, is also hoping to capitalize on the sulphide distinction. The **company** was able to raise A\$5 **million** last year on the back of the excitement generated by the discovery, said lan Mulholland, Rox's managing director. "For the vast majority of exploration companies in Australia, it is still extremely difficult to raise funds, and companies are forced to do so at discounts to their share price. We need to get an understanding of what we are dealing with before making significant investments."

Western Australia's Diversified Commodities Base

Most of the investor attention to Western Australia is focused on **iron ore** and precious metals. Companies operating outside of this sphere have to overcome a distinct set of financial and regulatory challenges.

The state has some of the best-known **uranium** deposits in the world, but **uranium** production in the state has lagged far be hind its potential. Australia holds more than a third of the world's known **uranium** resources. yet it contributes less than 20% to the world's current supply.

This gap could start to change, thanks to the West Australian state government's April 2013 decision to grant the state's first <a href="uranium mining">uranium mining</a> license to Toro <a href="Energy">Energy</a>'s Wiluna project. Toro <a href="Energy">Energy</a>'s managing director, Dr. Vanessa Guthrie, said: "The state government's decision in 2008 to commence <a href="uranium mining">uranium mining</a> created real momentum and excitement within Western Australia's <a href="uranium">uranium</a> community, and was the signal that triggered Toro <a href="Energy">Energy</a> to kick off Wiluna. The government's re-election in March 2013 created significant certainty and predictability for the <a href="uranium">uranium</a> sector in the state -our projects now have four more years of clear support," she said.

However, Western Australia has no history of **uranium mining**, which, according to Brian Reilly, managing director of Cameco Australia, creates a fear of the unknown. Cameco, a major global **uranium** player, owns a portfolio of exploration-stage **uranium** projects in Western Australia. "Northern Territory and South Australia have been producing safely and efficiently for decades, but in Western Australia much more education needs to be done," said Cameco's Reilly.

Western Australia's rare earths industry is facing the problem of educating investors about the value of less understood mining projects. "Some people now think the rare earth market is over. The fundamentals are still there, but visible value is lacking," said George Bauk, CEO and managing director of Northern Minerals, a rare earths developer.

Rare earths in particular have a potentially exciting future in Western Australia, as China, the world's largest producer of the commodity, recently made moves to curb its exports in order to satisfy internal demand.

Mineral sands players are hoping for a similar supply void caused by the price shock that triggered the three dominant producers to curb their production. David Harley, managing director of Gunson Resources, explained: "When the industry suffers a price shock, the big producers stop selling their product, creating an opportunity for smaller players to gain market share."

Even though some analysts believe that demand will increase, it may not translate into investment for mineral sands projects thanks to the steep drop in zircon prices. "Now that zircon prices have retreated to around US\$ 1,400 mt from highs of US\$ 2,500 mt in 2012, investors perceive zircon producers with more caution," said Peter Davies, managing director of Image Resources.

Fortifying Western Australia's Mineral Base

Although Western Australia may be famed for the **iron ore** deposits of the Pilbara and the **gold** deposits of Goldfields-Esperance, the state produces over fifty commodities, many of which are of global significance.

Comprising an estimated 30% of the world's supply of lithium, Talison Lithium, through its Greenbushes mine, the state's oldest mine still in production, has sought to further expand its importance to the global electronics market through the development of a mineral conversion plant that will convert lithium concentrate into lithium carbonate, allowing the **company** to directly access some of the world's most important chemical markets such as Japan, South Korea and the USA. Although development of the mineral conversion plant is still tentative, the conceptualization of the plant drew significant interest from a number of parties: first Rockwood Holdings, and later Chengdu Tianqi Industry **Group**, who acquired the **company** for C\$848 million in March, 2013.

Equally significant is Australian production of mineral sands through market leader Iluka Resources, the single largest producer of zircon globally, as well as titanium dioxide products rutile and synthetic rutile, Iluka Resource's success has rippled across West Australia's **mining** industry, creating an industry for mineral sands exploration through having developed an educated investor base.

Bruce McQuitty, managing director of Sheffield Resources, which was recently named "Best Emerging Company" at Australia's Diggers & Dealers Conference for their Dampier Mineral Sands project, said: "Iluka Resources has helped many emerging mineral sands companies in that they have provided investors with an analogy to which they can look."

This relationship, however, has not been purely beneficial. Smaller mineral sands players have seen the economic feasibility of their projects determined by their access to market. This can involve waiting for the

market to open up. David Harley, managing director of Gunson Resources, a resource exploration company with the Coburn Min- eral Sands project in Western Australia, explains: "When the industry suffers a price shock, the big producers stop selling their product, creating an opportunity for smaller players to gain market share."

Changes in the production figures of major mineral sands producers can **lead** investors to sour on the commodity in spite of its strong long-term outlook, in turn forcing mineral sands exploration companies to alter their financial strategies. Bruce McQuitty, managing director of Sheffield Resources said: "This has led Sheffield Resources to capitalize itself through options and the **sale** of non-core projects like that of our **iron** project in the Pilbara."

Another commodity that is not usually associated with Western Australia is potash, although two companies are hoping to put their projects into production over the next few years. Russia and Canada have dominated the world's potash market. but West Australian potash players are confident that they can break that stronghold. "It is going to be challenging to break through," said Patrick McManus, managing director of Potash West, an early-stage potash player. "The growth of China as an iron ore market changed the iron ore supply business, and we are seeing that with the potash market now."

## Incentivizing Exploration

Exploration expenditure has dramatically reduced in Australia over recent years. According to estimates, the current level of producing mines and those close to development will sustain the **mining** industry in Western Australia for another 15 to 20 years. With less greenfields exploration activity. the future beyond 2030 is murky.

There are a number of reasons why exploration expenditure has declined in Western Australia, according to Reg Howard Smith, CEO of the Chamber of Minerals and **Energy** of Western Australia (CME), the main representative body of the resources sector in Western Australia. "The high cost of exploration in the state is a significant problem: over the last few years Western Australia has become one of the most expensive regions in which to operate. There is also a lot more competition on a regional level, causing many exploration companies to find greater opportunities in Africa." he said.

Companies who stay in Western Australia face a costly approvals process that eats into their precious exploration capital. As KPMG's national leader, natural resources Helen Cook explained: "Our regulatory environment is highly complex, from federal to state to local regulations, and a number of new taxes have been introduced."

The number of prospecting and exploration applications in the state dropped by almost 50% in the fourth quarter of 2012, the lowest level since 2009. Industry representatives such as the Association of **Mining** and Exploration Companies (AMEC) have called for a more streamlined process and less duplication amongst various departments to help junior miners secure licenses.

One option seriously being considered would be a measure similar Canada's flow-through incentives scheme, where mineral exploration companies can pass tax breaks for exploration onto investors. Although the Australian government has examined the scheme in the past, no such incentive exists despite backing by industry representatives.

"The CME supports greater incentives for exploration, such as flow-through shares, but it is difficult for the federal government to support a similar scheme in Australia since there has been major investment into the **iron ore** sector, making it difficult to justify exploration incentives." explained Reg Howard-Smith of the CME.

This, however, is changing. The introduction of an exploration incentives scheme was one campaign promise made by the Coalition in this year's presidential election. Tentatively, such a scheme would be implemented in July of 2014.

For those investors who braved investing in resource exploration previously, the market has rewarded them handsomely. Case in point is Sirius Resources's Nova nickel-copper discovery in August 2012. With just over A\$1 million in cash, the company managed to uncover an entirely new deposit in the Albany Fraser Range. The resource comprises of over 10 million mt of 2.4% nickel, 1% copper and 0.08% cobalt. "The target was such that if we drilled the hole and found nothing, it would be all over. The company only had A\$500,000 felt when we hit mineralization. It had looked so prospective all along that we did not want to allow ourselves to believe it was real; it was either graphite or one of the world's biggest nickel deposits, and it turned out to be the latter," said Sirius's managing director Mark Bennett.

Since the Nova discovery, an almost inconceivable stream of good news has emerged from the project as further drilling revealed a similar deposit to Nova, which Sirius has named Bollinger. At press time, the

**company** had more than A\$60 million in cash and is actively drilling to advance the project toward feasibility.

Their success signals a new era for West Australian explorers, opening up previously underexplored or even virgin regions and highlighting the need to keep drilling despite challenging circumstances. Only then will the capital markets follow suit and return Western Australia to the dominant position it once enjoyed as a leading destination for exploration enthusiasm.

Cost Controls and the Push for Mine Profitability

A critical challenge for the **mining** industry in Western Australia is to manage the rising cost of doing business in the state while increasing operational productivity. Costs have risen exponentially over the last decade, far outpacing that of the rest of Australia and negatively impacting Western Australia's competitiveness in the global **mining** industry.

Productivity, classified here as both labor and capital expenditure versus output, has declined significantly over the same time frame. The recent high commodity prices led to less skilled and experienced employees getting paid exorbitant wages to mine more marginal deposits, requiring more ore to be processed at a lower grade. This vicious cycle caused a 50% drop in labor productivity and a 37% drop in capital productivity.

Steve Coughlan, managing director of Byrnecut, explains: "Labor costs in the **mining** resources sector across Australia have increased more quickly than productivity through the last couple of boom periods. Long term that is not sustainable. Labor shortages during the booms and the push by mine owners to execute projects regardless of the costs exacerbated this problem. These input costs are flat lining in the current downturn. Labor productivity and mine efficiency are more critical to the success of current and future projects in Australia given the drop in metal prices."

Gascoyne Resources's Michael Dunbar points to the **mining** industry's adoption of a fly-in, fly-out lifestyle as one of the causes of cost overruns. With many mines located in remote areas of the state, companies have little choice but to import staff on a rotational basis. "We are seeing people moving away from fly-in, fly-out 2/1 rosters to 8/6 rosters, which is incredibly inefficient because in essence you need two people to do one job and, with labor costs already high, it is making the industry essentially uncompetitive," he said.

The key for any company is to be profitable, and the way to do this is to increase the cash margin, according to Norton Gold Fields's CEO, Dr. Dianmen Chen.

"In the past Paddington had been singled out as being a high-cost project, but over the past 9 months we have increased production and implemented a strict cost control environment. We have invested in an owner-mining fleet for both our open cut and underground operations, which were commissioned in 2013 and have helped drive our production costs down," he said.

The successful **mining** companies in Western Australia are the ones that are managing costs and increasing efficiencies, according to Scott Jackson, managing director of QG, a Perth-based **mining** consultancy. "The adoption of technology is essential and companies must examine methods of exploration that will reduce upfront costs instead of relying on traditional techniques."

Ray Hince, general manager of recruitment **company** JDA Applus Velosi, said: "It is difficult to rein in an established labor cost base, so the best strategy is to cut people out of your processing equation to reduce capital maintenance costs. A number of companies are following Rio Tinto's drive to automation. There will always be a requirement for maintainers, supervisors, planners, managers and professionals, but a lot of operational expenses can be cut," he said.

This has led to opportunities for some. Steve Coughlan of Byrnecut said: "We embrace innovation to drive productivity, and, for example, have developed new underground trucking technology with Powertrans, a Brisbane based truck manufacturer, to this end. The DAT60 is designed for ramp truck haulage in mines producing at depths previously considered to be at the limit for underground truck haulage. Six of these trucks are now in use at Gwalia Deeps mine hauling from a vertical depth of 1500m.

Perth: A Center of **Mining** Excellence

Australian companies have not been as quick to explore outside their borders as their Canadian counterparts, but this is quickly changing. Although Perth-based companies have operations all over the world, a large proportion of mining companies are focused on the African continent. There are over 240 ASX-listed companies that are based in Australia but have operations in Africa.

Bill Turner, chairman of the Perth-based Australia Africa Mining Industry Group, explained the attraction of the continent to West Australian miners: "Africa has undergone some challenging times since the end

of the colonial period, from civil wars to dictatorships, but the situation has changed dramatically over the past twenty years. The continent has not been explored to the extent that Western Australia has been. The topography is very similar to Western Australia."

Peak Resources are working to advance their Ngualla rare earths project in Tanzania, which is on track to a 2016 production target. According to the **company**'s chairman, Alastair Hunter: "Australian companies are becoming more and more adept at working in Africa and have a clearer understanding of how to cope with the issues."

**Mining** companies working in Africa have a very different range of issues to deal with than in Australia. There are political risk issues, poverty, bribery and corruption, and the responsibility to assist in developing a viable industry in an infrastructure and educationally challenged region. Of particular concern is the degree of sovereign risk, or resource nationalization, associated with certain African destinations; the chance that a **company** could stand to lose their project is much more real in Africa.

The allure of Africa as an investment destination translates into an A\$50 **billion** flow of capital into the continent. Though historically, this has been generated by resource exploration and mineral production, as a consequence of the current state of business in Western Australia, many METS companies have found that the greatest growth opportunities lie overseas. Steve Coughlan explained in the case of Byrnecut that, "while the Australian market is not saturated and opportunities continue to exist domestically, the largest relative contributor to growth for Australian business will be found in opportunities present within foreign markets."

Perhaps directly as a response to the realization of the state of the domestic market, in September of 2013, West Australian premier Colin Barnett announced that the industry would see greater levels of collaboration between the government of West Australia and African governments. Focused on knowledge transfer in areas such as resource policy, these forthcoming agreements seek to strengthen West Australia's foothold in Africa; a reflection on both the advanced nature of West Australian mining and where the future of the industry lays.

The allure of overseas exploration does not end on the African continent. An increasing number of Perth-based juniors are making inroads into Central Asia, Europe and South America, a historically Canadian-dominated **mining** region. Companies such as Azure Minerals and Laconia Resources are generating a great deal of interest in projects in Mexico and Peru respectively. As 2014 dawns, expect to see more West Australian juniors on the global **mining** scene.

West Australian Mining: Forward, to Better Days

The steep drop in commodity prices and lack of available risk capital wreaked havoc on West Australian miners. The boom and bust cycle, however, is not a new trend in the **mining** industry, and stakeholders are confident that good times will return. These tougher times demonstrate just how sentiment-driven the **mining** industry is; where using emotion-laden terms such as boom and bust can have a profound economic effect.

Reg Howard-Smith of the CME prefers not to use such language when discussing the **mining** industry. "We focus on sustained economic growth," he said. "There have definitely been interesting commodity price movements over the last decade, but we will see a major pickup in production that will contribute towards the sustainable development of the state. The sector is changing, not ending."

"Australia is in very good shape with excellent opportunities," said Liam Twigger, managing director of Perth-based financial house PCF Capital. "At the moment, however, companies are operating in an environment where the market expects an imminent cataclysmic event, so nobody is putting money into mining stocks. The good news is that many Australian companies are not saddled with debt, have good projects and experienced management teams."

Despite a slowdown in **transactional** activity, PCF Capital's Twigger is confident that Australia remains an attractive destination for foreign capital. "**Chinese** investment will continue, although we have probably passed the peak investment period. Australia remains a compelling investment proposition compared to other destinations and the **Chinese** are very comfortable with the regulatory regime here and the transparency it provides. Africa remains an alluring target for foreign investment, but the continent continues to generate new ways of relieving investors of their money and their projects if they are not careful," he said.

Some signs of relief can be seen on the horizon: analysts are confident that the Australian dollar will soon drop to more manageable levels as the United States edges closer to **energy** independence and the European debt crisis is resolved. As well, labor costs are due to drop once construction of the large-scale liquefied natural gas projects is completed.

Patrick Coquerel, head of natural resources at Westpac, summarized the state of the market: "Westpac's Chief Economist Bill Evans looks at three phases to three phases to the boom. The first is the free lunch, when commodity prices skyrocket and resources companies make a lot more money at no extra expense. Over the last ten years commodity prices rose sixor seven-fold; now they are down to five times their original level, still relatively high. The second phase, which the industry is at the end of now, is the construction boom, in response, in this case, to high demand from Asia. This led the Australian Dollar to soar and to the high costs and productivity issues we have seen... Westpac does not believe there will be any more greenfield LNG developments in Australia for quite some time now... This will release more capacity for mining. The third phase will see income start to enter Australia from new production, which will continue to create great wealth for the country for many years. Having said that the corporate tax revenue will be limited by large depreciation allowances in the immediate stages of the production boost so it's not all a bed of roses in stage three. However, if the Australian dollar comes off further, costs will reduce, and it will still be a very positive story."

Inevitably, West Australian **mining** companies will have to adapt to economic circumstances. Once confidence returns, the industry's key players agree that the state will continue to benefit from its blessed mineral endowments and strong expertise. "Western Australia is still a great place to explore," said West Australian Minister for Mines and Petroleum Bill Marmion. "One only needs to see the success of the major companies operating in the region in order to understand how much potential exists in the state."

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