

PILBARA

The boom continues

November 2012 special report
by Omega Investments
for MACRO Realty

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Australia's Infrastructure Spotting Specialist

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>> SUMMARY

This report details why the best days are ahead for the Pilbara iron ore boom towns of Port Hedland and Newman and how the recent pull back in expansion plans for BHP Billiton (BHPB) and Fortescue Metals Group (FMG) are actually good news for property investors. Contrary to sensationalised headlines, neither China nor the Pilbara are facing economic collapse and the underlying strong fundamentals of their growth remain.

Over \$69bn in infrastructure projects are planned and committed for these two towns, with \$12.3bn currently under construction in Port Hedland and \$6.6bn in Newman which will require over 4,000 new dwellings in these towns by 2015 to house thousands of highly paid workers.

The findings of this report include how:

1. Global demand for iron ore is underpinned by the greatest economic event in the world's history – the urbanisation of China and the emerging world, which is driving unprecedented demand for iron ore (the key ingredient for steel production);
2. The commodities boom is actually a three phase sequential boom in prices, then investment and finally volumes. While the first phase may have seen prices peak, the largest creator of new jobs is the investment phase and we are only one third of the way through this phase of the boom;
3. Chinese demand for steel is to double by 2025, which is forecast to drive global exports of iron ore by over 80% in the same time (with the Pilbara in Western Australia being the leading global source of exports);
4. The Pilbara is the heart of Australia's iron ore boom and accounts for over 90% of iron ore exports;
5. BHPB, Rio Tinto and (to a lesser extent) FMG are the lowest cost iron ore producers in the world – despite labour costs being far higher than international competitors. This has seen very enthusiastic expansion plans from Australian iron ore exporters who will dominate global market share of iron ore exports;
6. The Pilbara property boom has been driven by the rapid influx of Australia's highest paid workforce and lucrative mining and construction contracts; this created a chronic undersupply of housing, fuelled by a workforce and companies able to pay almost any rental price;
7. The shortfall in dwellings in Port Hedland and Newman are forecast to hit approximately 2,950 and 832 dwellings by 2015. Despite ambitious new dwelling targets by the State government, historic annual dwelling constructions have been far lower than the dwellings required by 2015, making it a difficult task for a balanced market to be achieved;
8. The Western Australian government's Pilbara Cities initiative is actively seeking to transform Pilbara communities from frontier towns to liveable cities through massive investments in health, education, utilities and other public amenities, with \$1.1bn planned for Port Hedland and \$800m for Newman under the Newman Revitalisation Plan;
9. The chronic housing undersupply in the Pilbara will be difficult to resolve in the next five years and is being made even more difficult due to the likely shelving of development projects intended to deliver hundreds of new dwellings flowing from the recent scale back of Pilbara projects, media speculation and the post-GFC funding environment.

>> THE GREAT CHINESE URBANISATION

Over the next 15 years the primary driving force behind the global economy will be urbanisation. Like industrialisation before it, urbanisation is producing a tidal wave of economic growth and driving the booming commodities industry.

Expected to double in size over the next two decades, the global economy is predicted to grow by around US\$50tr by 2025. Leading this growth is China; a country that is urbanising so fast it is forecast to capture a whopping 28% of all future economic growth. That's triple the growth of the United States and Canada combined, and seven times that of Western Europe!

The dramatic impact of industrialisation and urbanisation in China is visually best demonstrated by the growth and change over the last 20 years of Shanghai, China's largest and most modern city.

Shanghai 1992



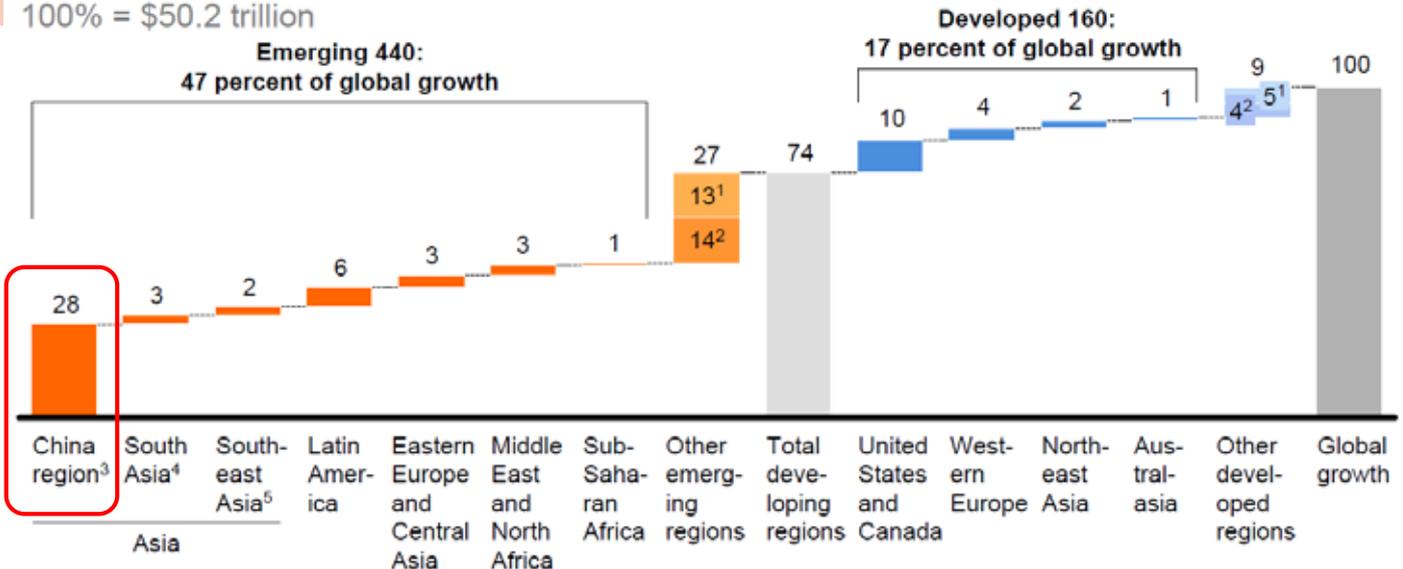
Shanghai 2012



Chart 1: Global economic growth between 2010-2025 (100% = US\$50 trillion)

GDP growth at real exchange rate by geography, 2010-25

100% = \$50.2 trillion



Source: McKinsey & Company

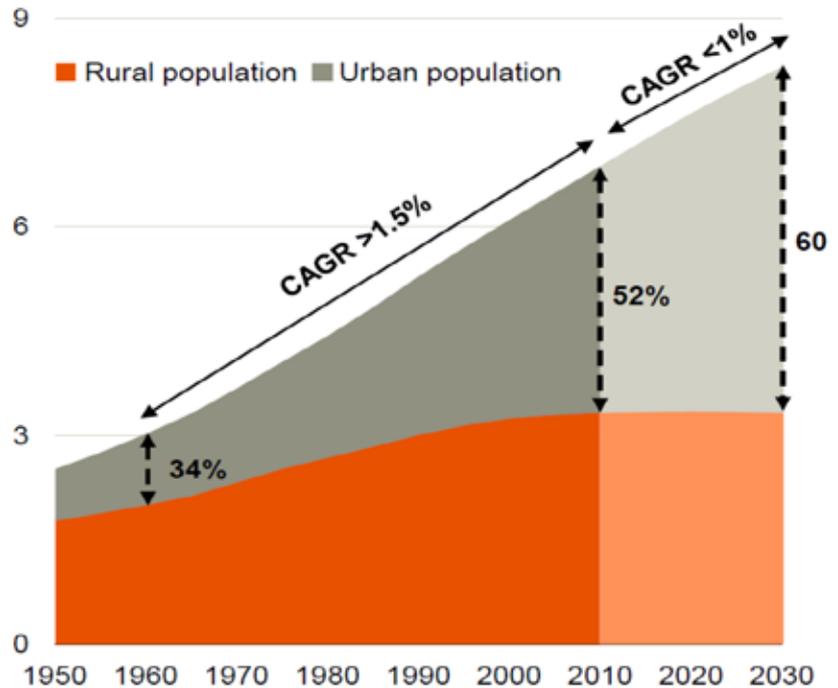
>> URBAN MIGRATION FUELS GROWTH

While the world's rural population is forecast to stay constant at around three billion over the next 20 years, the United Nations' Department of Economic and Social Affairs is forecasting an increase of 1 billion in the number of people living in urban regions.

The most dramatic growth in urbanisation is occurring in China. Global management consultants McKinsey & Company are forecasting a migration of nearly 255 million people from rural regions into Chinese cities over the next 15 years.

This mass migration is expected to see approximately 17 million people become urban dwellers each year and will require the creation of 37 new cities the size of Perth to accommodate them over the next 10 years.

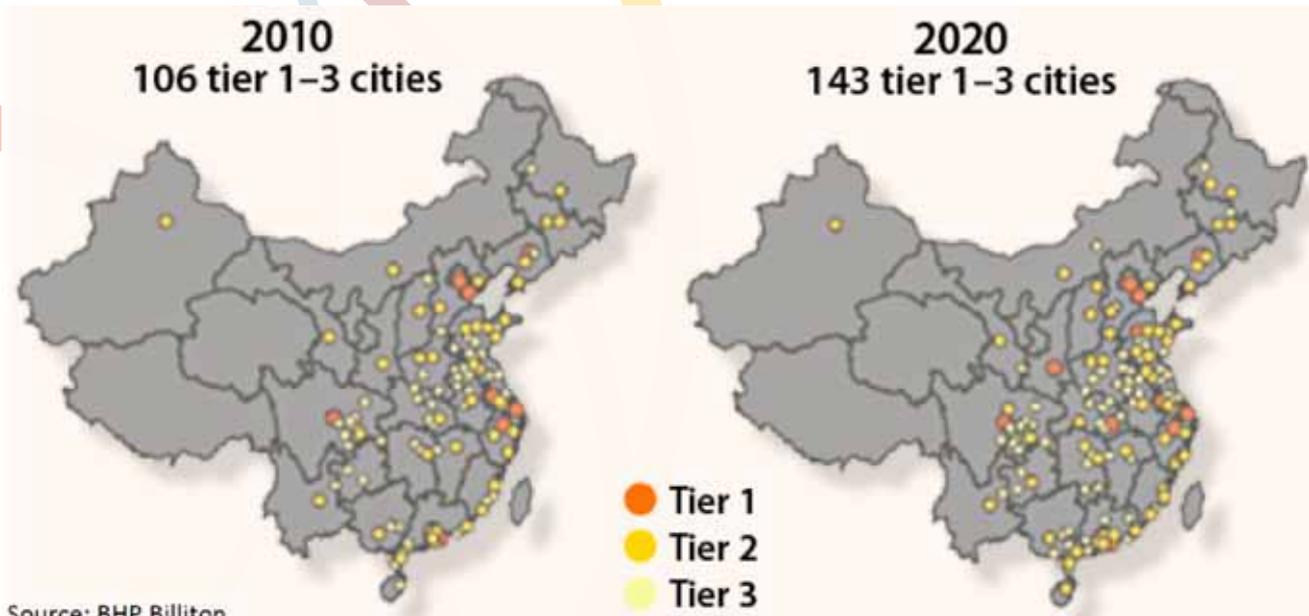
Chart 2: Global urbanisation, billion people



Source: McKinsey & Company

Note: CAGR = compounded annual growth rate (ie, average annual growth rate over the time period)

Chart 3: Growth in Chinese cities



Source: BHP Billiton

Note: Tier 1 = 5.0m+ people, Tier 2 = 1.7m to 5.0m, Tier 3 = 1.7m to 5.0m (but lower nominal GDP/capita than Tier 2)

Source: BHP Billiton

STORIES OF GHOST CITIES GREATLY EXAGGERATED

Many investors have been rattled by reports of so-called 'ghost cities' being built across China – huge, brand new metropolises that lack nothing but people. Like any great myth there is an element of truth to the claims of empty cities, however the circumstances are much more complex than the theory that 'China is building cities no one will ever live in' and therefore the Chinese economy (and Australian iron ore exports) are headed for a collapse.

The inner Mongolian city of Ordos is often cited as an example of a Chinese ghost city that is relatively uninhabited but has been built for a capacity 300,000 and infrastructure for one million.

On the one hand, like any government, some Chinese politicians have been successful in getting major infrastructure projects built in regions barely feeling the effects of urbanisation in return for their support of other government legislation (also known as pork barrelling).

However, in the case of Ordos, the Wall Street Journal detailed a report by an analyst of Bank of America-Merrill Lynch who visited the city in 2010 and discovered the real story behind the empty buildings and streets.

Ordos, Inner Mongolia



Source: Times magazine

The analyst found Ordos was China's richest city on a per capita basis due to the region holding 1/6 of China's coal reserves and 1/3 of its natural gas reserves. Naturally, the local government lobbied (successfully) for money from the local resources industries to be 'spent locally' rather than elsewhere through China (in a similar fashion to the Royalties for Regions initiative by the Western Australian government).

This resulted in a brand new city being rapidly constructed from the billions in Yuans being generated by the local resources sectors. In itself, the new city would have needed years to be populated.

However, the city was also built near a river 25km away from the existing town (due to water restriction problems) and this has acted as a disincentive for people to move to the new city.

Consequently, while the newly built dwellings have nearly been completely sold to Chinese buyers, the location of the new city has made attracting buyers and renters to actually move in difficult – further slowing the rate of the city's population growth for the city.

Another ghost city example is Zhengzhou New District in the inland city of Zhengzhou. The sub-city is regularly touted as further evidence of rampant building of vacant cities. However, the existing city of Zhengzhou (the CBD is less than 5km away from the New District) has 2.5 million people and is rapidly expanding.

Again, the Chinese are investing ahead of the population growth but numerous on-the-ground visits by Western analysts (including global property research firm, Demographia in 2011) have revealed that this new section of the city is by no means vacant and is now semi-filled with residents and new businesses.

>> THREE PHASE COMMODITIES BOOM

While investors may be wary of the recent drop in the iron ore price, the commodities boom is anything but over. In fact, it is only now underway.

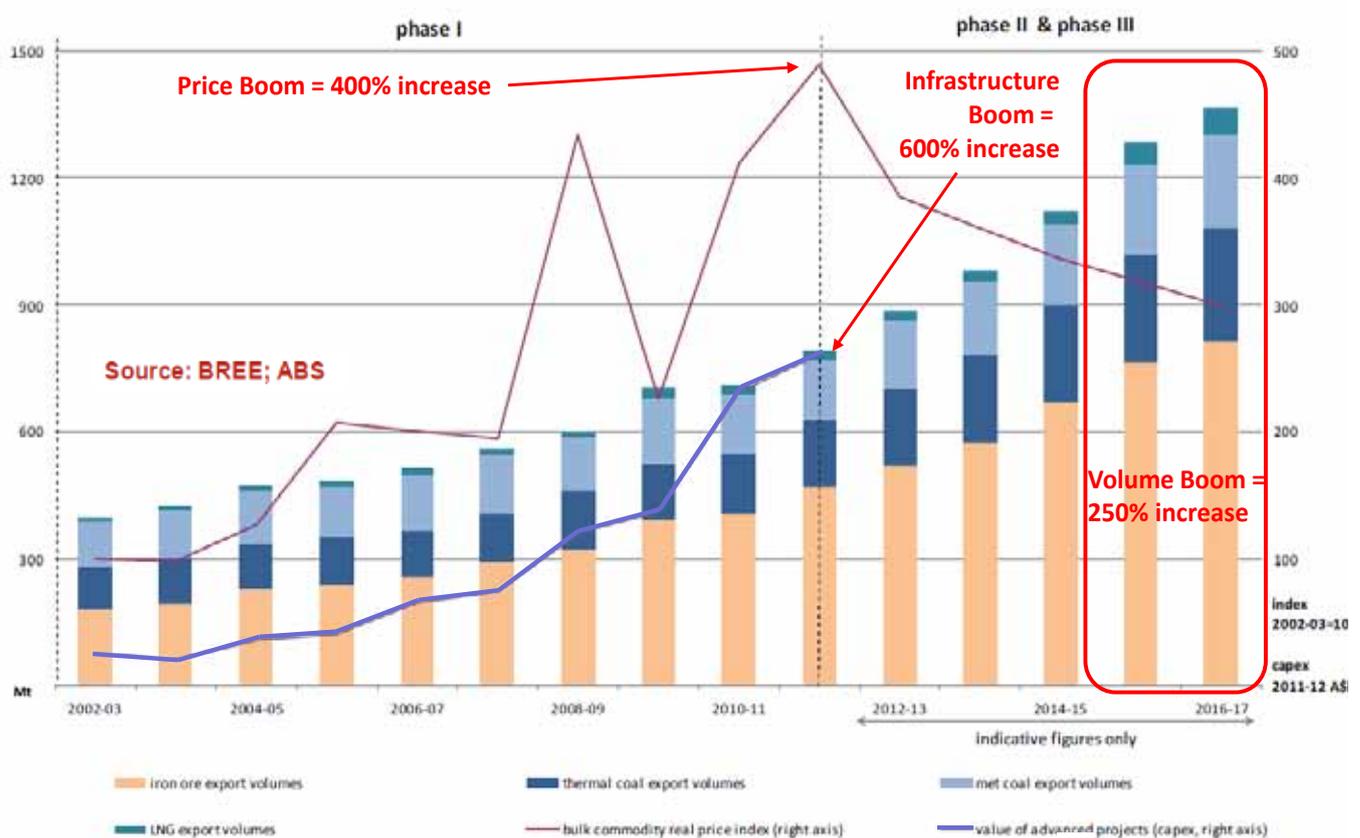
Mainstream media may be peddling fear with their reporting on a moderation in Chinese growth but according to Federal Treasurer Wayne Swan, China's growth is doing anything but stalling.

"China is now 40% larger than in 2008 so its growth rate can be 20% lower for it to make the same contribution to global GDP growth," says Mr Swan.

"We are only part of the way through the current mining boom, which can be characterised as three overlapping phases. A boom in prices, then investment, and then in exports," he says. While Mr Swan says we have passed the peak in prices, the second and third phases still have a way to run.

According to Mr Swan, the "industrialisation

Chart 4: Three stages of the commodities boom



Source: BREE

and urbanisation of China is a long-term trend as powerful as any the global economy has ever seen."

"The peak steel requirement for Chinese residential construction is not expected to be reached until around 2023, a decade from now," he further said.

His views on the mining boom was confirmed by Professor Quentin Grafton, Chief Economist of the Federal Government's Bureau of Resources and Energy Economics (BREE) at the Sep-2012 Australian National Conference on Resources and Energy, when he said the investment phase "began before the 2011 price peak and has yet to reach its maximum."

"Projects that have passed final approvals and final investment decisions currently amount to about \$260bn. Thus, even if there were to be no new additions to the Major Projects list, Australia is still only about a third of the way, in value terms, through the investment phase of the boom", he concluded.

You see, while commodity prices have increased by 400% since 2003, approved infrastructure project spending has risen by 600% and this is going to drive export volumes way out in 2017 to levels more than 250% higher than when the boom started.

The reality is that China has become so big that it cannot grow as fast as it may have once done, however this does not mean that it will produce smaller waves. The vast Chinese economy will continue to bring waves of prosperity to Australia for years to come.

What the world is seeing now is not just a boom, but a revolution. As countries continue the move to more urban populations, demand for commodities will extend far into the future.

Mining giants such as BHPB, Rio Tinto and FMG are advancing major projects, including the recently approved \$5bn Rio Tinto Cape Lambert port expansion and \$1.4bn in September 2012 awarded by FMG to Leighton Contractors to manage of one its mine expansions. These are not signs of a slow-down – they are signals that the industry is growing and expected to continue along its upward trend (albeit, some projects have been deferred).

East Pilbara iron ore operations - BHP Billiton



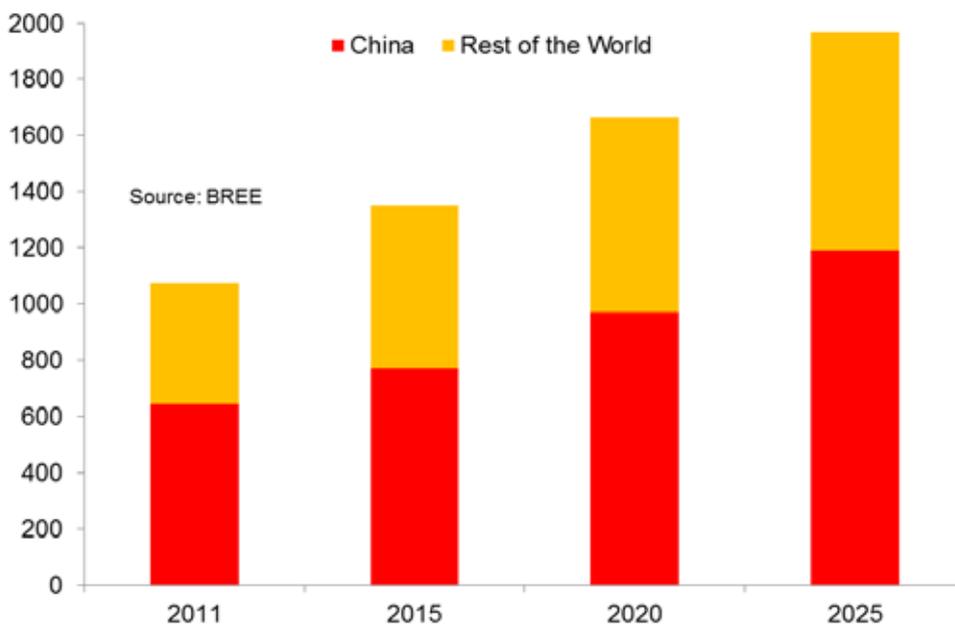
>> DEMAND FOR IRON ORE TO SOAR 85% BY 2025

The urbanisation of China - and other developing countries such as India, South Korea, Malaysia and Indonesia - is creating an immense thirst for iron ore for steel manufacturing.

Specifically, the production of steel in China alone is currently nearly equal to the rest of the world combined at a staggering 650Mt per year. With 37 new cities being built in China alone over the next 15 years it is expected that its steel production will reach a mammoth 1.1bn Mt by 2025.

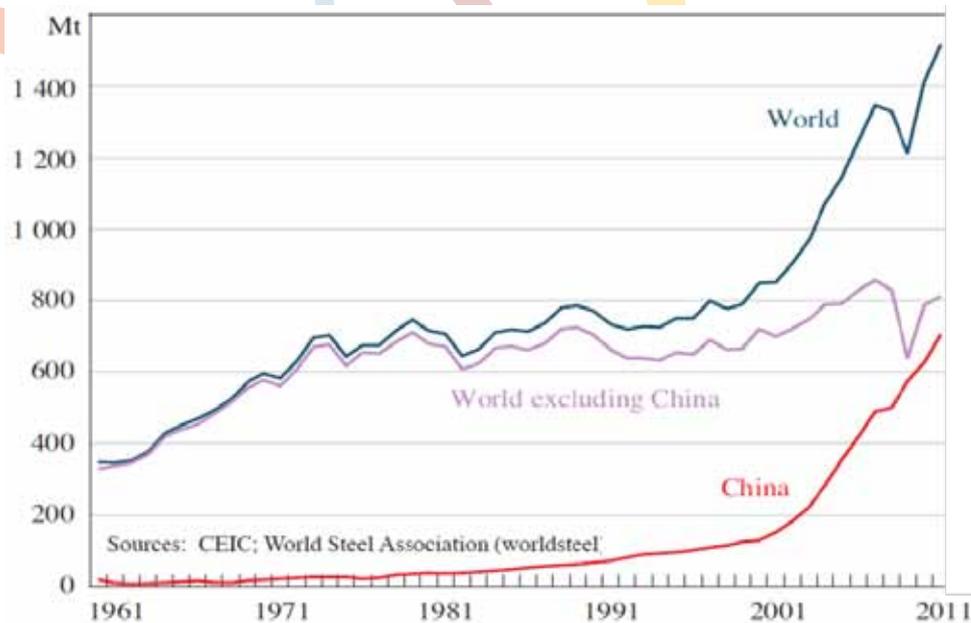
This rapid increase in steel production will drive immense demand for iron ore exports, which are expected to increase by approximately 85% between 2011 and 2025 according to BREE.

Chart 5: Destination of global iron ore exports



Source: BREE

Chart 6: Global iron ore exports



Source: CEIC; World Steel Association (worldsteel)

>> HIGH PRICES LOW COST

The very big winners from rising iron ore demand are Rio Tinto (#1 exporter in the world), BHPB (#3 exporter) and FMG (#4 exporter), who are not only producing more and more tonnes of iron ore annually but at much higher prices than a decade ago.

Today – even after the pull back in prices – iron ore is trading over seven times its pre-boom price level. Australian iron ore also enjoys a premium price from reduced transportation costs due to the close proximity to China (the world's largest buyer of iron ore).

In addition to being able to produce large amounts of iron ore to meet global demand (at very high prices), Rio Tinto and BHPB also have an overwhelming cost advantage relative to international iron ore producers – despite the rapid escalation in employee costs due to the commodities boom requiring thousands and thousands of workers for new projects

Chart 7: Iron ore prices



Source: Index Mundi

Additionally, FMG has extensively used debt funding to build its infrastructure and the required interest payments significantly increase its production costs. Consequently, while FMG's production cost are approximately \$55/tonne, it struck problems with its large debt burden in September 2012 as its bank covenants required sale prices to be at \$100-110/tonne to support its interest payments.

These difficulties led FMG to announce in September 2012 one thousand redundancies, realise \$300m from the sale of a power station and slow down expansion plans to reduce its debt. These difficulties were however resolved when FMG refinanced its debt and its shares have since jumped more than 30%.

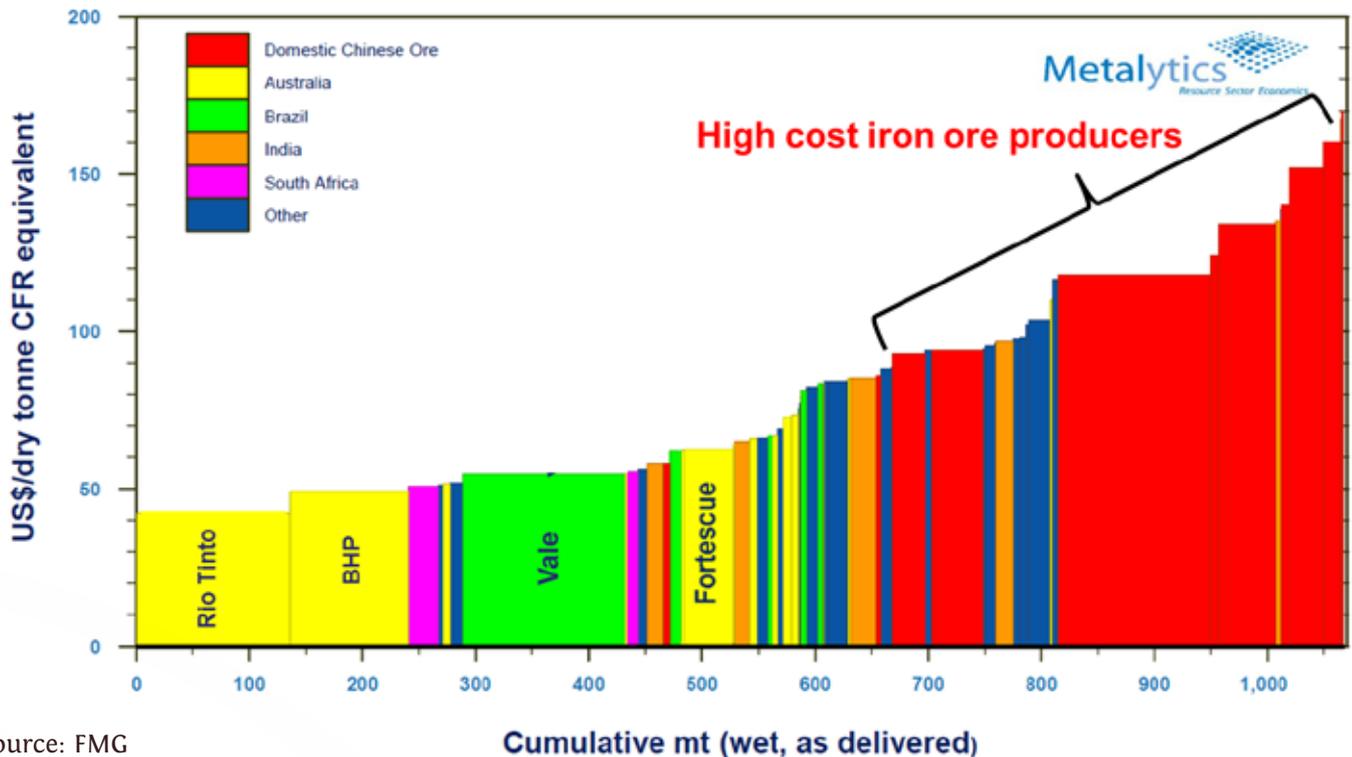
and the very high rents paid in the Pilbara – at approximately \$40/tonne.

The reason for their cost advantage is the fundamental fact that Australian iron ore is located in flat regions (ie, no mountainous terrain) and shallow depth (you can literally mine with a pick and shovel in many regions).

The iron ore also has a very high 'Fe' (ie, iron) content, meaning limited processing is required, and this commands a price premium to iron ore with lower Fe content.

However, Australia's third largest iron ore miner, FMG, has a higher production cost than BHPB and Rio Tinto, principally because it has been forced to build all of its own infrastructure (ie, rail ways, ports and mines) whereas these were built decades ago by Rio Tinto and BHPB.

Chart 8: Cost curve



Source: FMG

China stimulus to drive continued demand

In addition to China's rapid urbanisation, it has also periodically engaged in vast stimulus programs to maintain growth that in turn boosts demand for iron ore. This commitment to growth was vividly highlighted during the GFC when China launched a 4 trillion yuan two year stimulus program to keep the economy powering on.

Investors need to understand that social stability – that is jobs for all the villagers and farmers heading to the cities due to urbanisation – is paramount and that, unlike Europe or the US, China has more than enough firepower to stimulate its economy.

Again, in September 2012 China announced a 1 trillion yuan (\$152.5bn) stimulus package covering 55 infrastructure projects – ranging from 25 new urban railways to 13 new highway projects and 7 new port and channel projects. These will all require immense amounts of iron ore.

In announcing the package, Chinese Premier Wen Jiabao told the World Economic Forum that the Chinese government had a further \$15bn special reserve fund that “we will not hesitate to use for the fine tuning of the economy” and for, quote, “pre-emptive” measures.

PILBARA: THE HEART OF A 60 YEAR BOOM

The Pilbara is the heart of Australia's mining and economic boom. It is a large, dry and thinly populated region in the north of Western Australia, known for its red earth and vast mineral deposits.

It is more than twice the size of Victoria at 508,000km² and is the economic powerhouse that produces about 30% of Australia's \$390bn GDP - this from only 2% of the nation's population.

The Pilbara also accounts for over 90% of Australian iron ore exports due to it being home to one of the largest deposits of easily accessible iron ore on Earth.

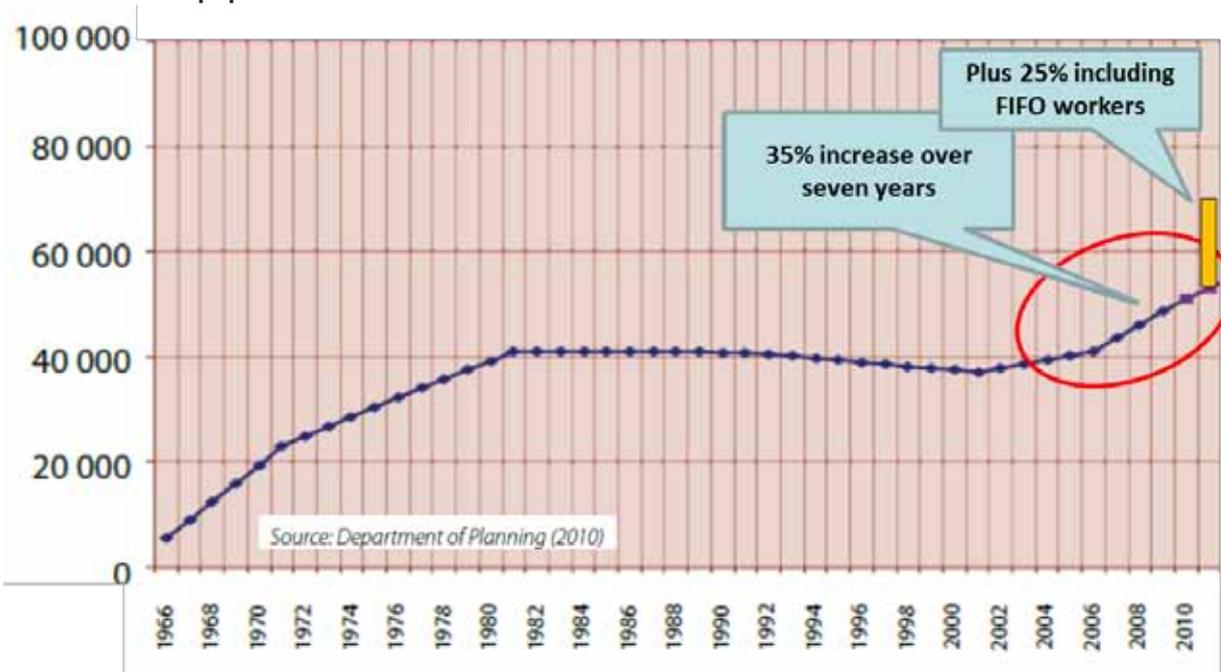
The massive boost in the demand for commodities is also closely tied to an immense population boom in the Pilbara region. After 20 years of a marginally declining population, some \$20bn in infrastructure investments in the Pilbara has resulted in a 16,000 person permanent population increase over the last seven years.

While the total population in the area has grown from 39,000 to 53,000, Pilbara's actual population is closer to 73,000 once the fly-in/fly-out (FIFO) population is taken into account.

Impressive as this population explosion may be, it has resulted from a mere \$20bn in infrastructure spending. The Pilbara region has a slated \$192bn in infrastructure projects to come (\$59bn related to Port Hedland and Newman), which will result in a population increase of approximately 25,000 by 2020, with some 20,000 consisting of the highly paid FIFO and construction workers.

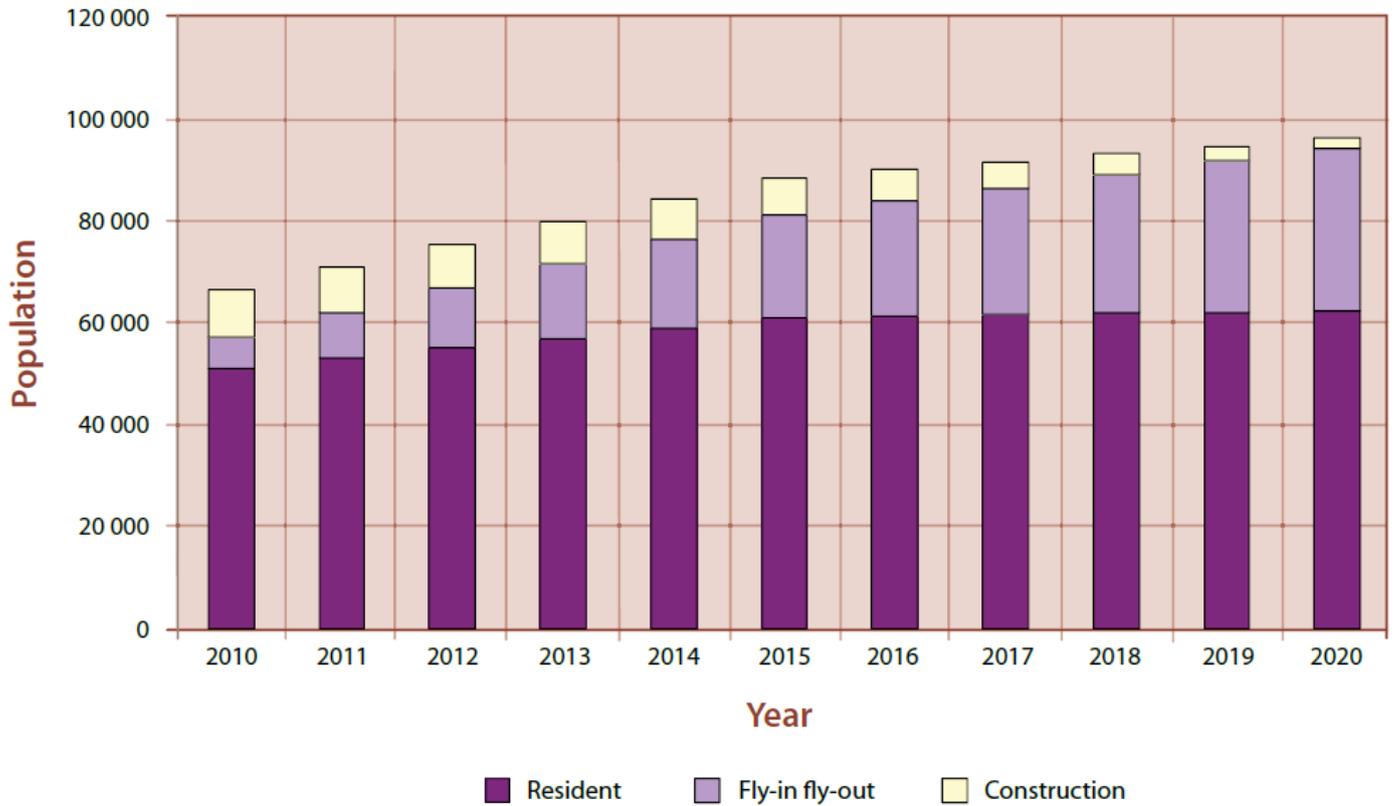
Consequently, the population explosion of the Pilbara region is expected continue, with a further 30% rise from approximately 73,000 today to 95,000 or more by 2020.

Chart 9: Pilbara population



Source: WA Government (Pilbara Planning & Infrastructure Framework 2012)

Chart 10: Pilbara population - forecast (including FIFO and construction workers)



Source: WA Government (Pilbara Planning & Infrastructure Framework 2012)

100-Carriage Plus Iron Ore Train

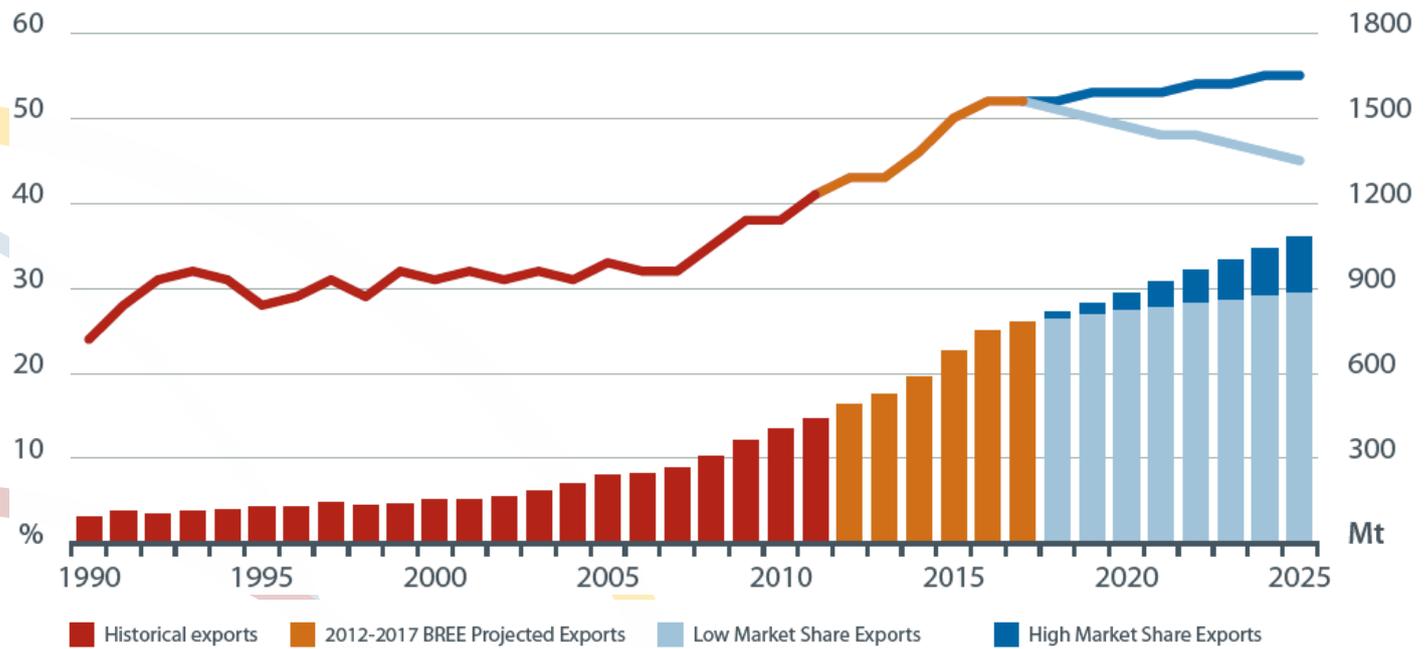


>> MARKET SHARE LEADER

Because of the low cost position, Australian iron ore exporters have been enthusiastically implementing expansion plans that will see iron ore exports rise from 429Mt in 2011 to approximately 800Mt by 2016. This will see Australia cement its dominance of global seaborne exports of iron ore, lifting its global market share from approximately 40% to between 45-55%.

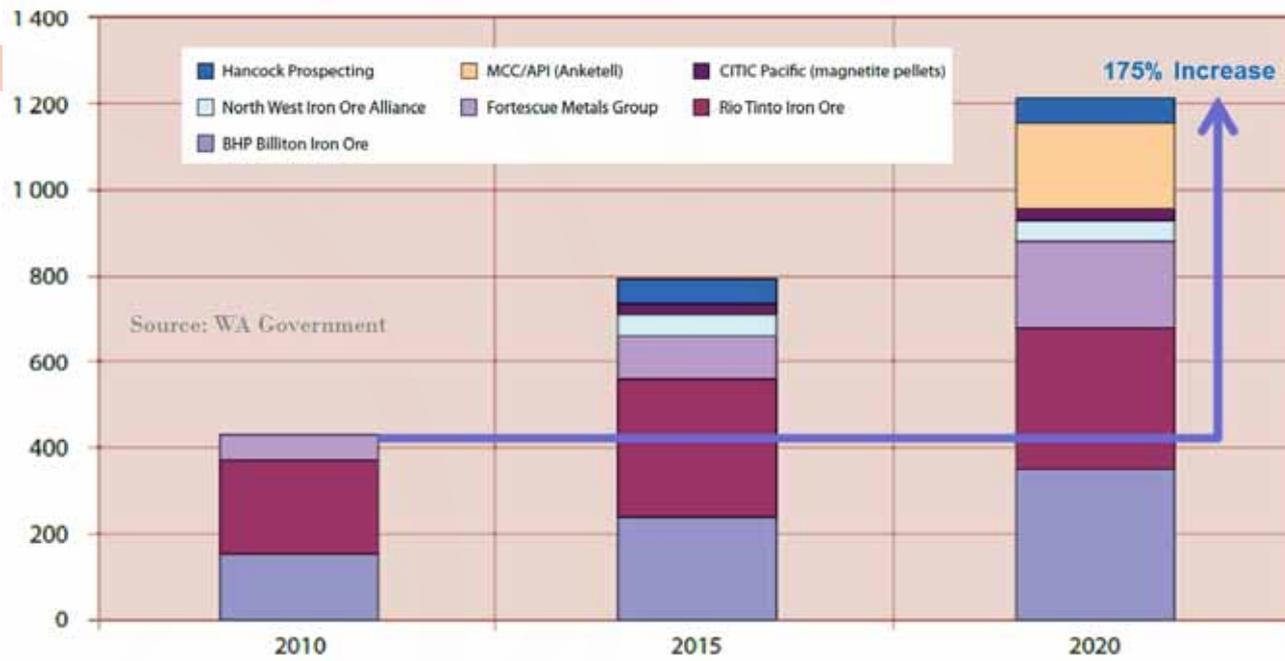
Even where other international competitors constrain Australia's market share, Australian iron ore exports are forecast to be 60% higher by 2016 than 2011 levels and will continue to rise year on year through to 2025 according to the latest 2012 BREE estimates. Indeed, the combined iron ore export targets of the three major iron ore producers and other smaller Australian miners will potentially total 1,200Mt by 2020.

Chart 11: Australian iron ore exports and global market share



Source: Bureau of Resources and Energy Economics

Chart 12: Iron ore export targets by company (Mtpa)



Source: WA Government (Pilbara Planning & Infrastructure Framework 2012)

>> AUSTRALIA'S WEALTHIEST WORKFORCES

Thanks to soaring global demand for commodities, salaries in the mining industry are continuing to rise.

A recent report by Suncorp Bank has found that miners are the new elite of Australia's workforce, out earning all other industries by an average of \$60,000 per year.

These 'fluoro' collared workers, alongside their blue collared brothers, have overtaken their white collar counterparts in the wages war. Among them, the FIFO miners are now known as the highest paid workers in Australia.

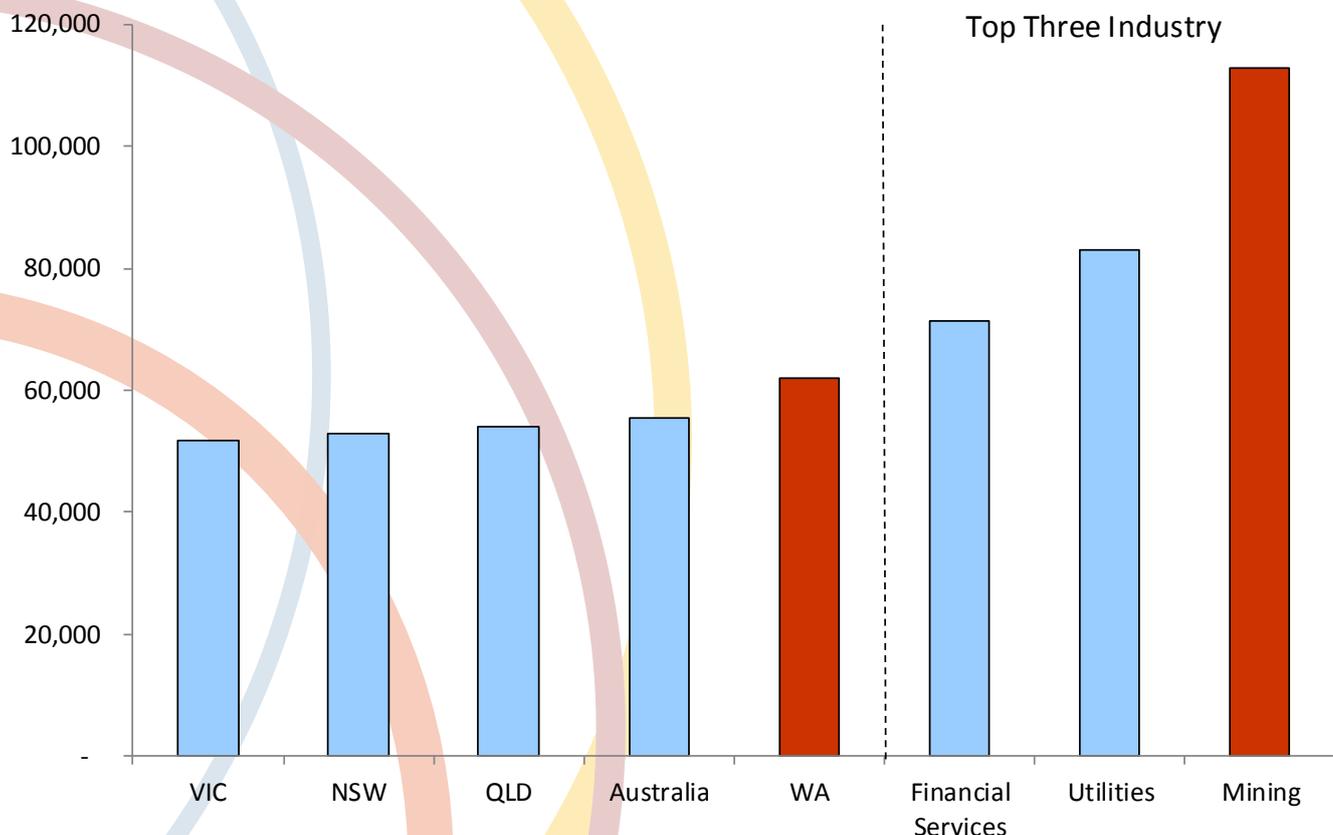
Commonwealth Bank research also shows that salaries in Australia's north-west are, on average, 62% higher than the national average.

Those who work in the Pilbara towns of Port Hedland and Karratha earn the most, with the median individual income in Port Hedland resting at around \$146,000. Note that this is the median, so households with two incomes are likely to be much higher.

Arguably no other industry has impacted the Australian economy more than the mining industry over the past 10 years. Ever since the resources boom of the early 2000s, Australia's mining industry has been at the forefront of wage growth in Australia.

As the mining sector has increased production, it has raised its employment levels and wages to attract new workers. According to a study by Commonwealth Bank, over the year to June 2012 the largest wage increases in Australia were in the mining sector at +5.2%.

Chart 13: Average wages by state and industry



Source: Suncorp Bank Wages Report 2012

>> PILBARA'S PROPERTY BOOM

Despite the 60% rise in the Pilbara's population in under a decade, mining companies have shown limited interest in actively providing accommodation for their workers. This has resulted in an acute and chronic housing crisis that has seen median rents rise by over a staggering 1,000% in a decade, in both Port Hedland and Newman. According to the Real Estate Institute of Western Australia ('REIWA') median rents in June 2012 for Port Hedland were \$2,200/week and \$1,800/week in Newman.

The annual growth rate for median house prices over the last 10 years has also been outstanding at 19.2% for Port Hedland and a whopping 32.0% in Newman, according to the REIWA. These are more than 2 to 4 times the national average of 6.9% per annum over the same period and are well above the strong Perth average of 10.1%. Unsurprisingly, the median house prices in Pilbara's mining towns are far above the national average.

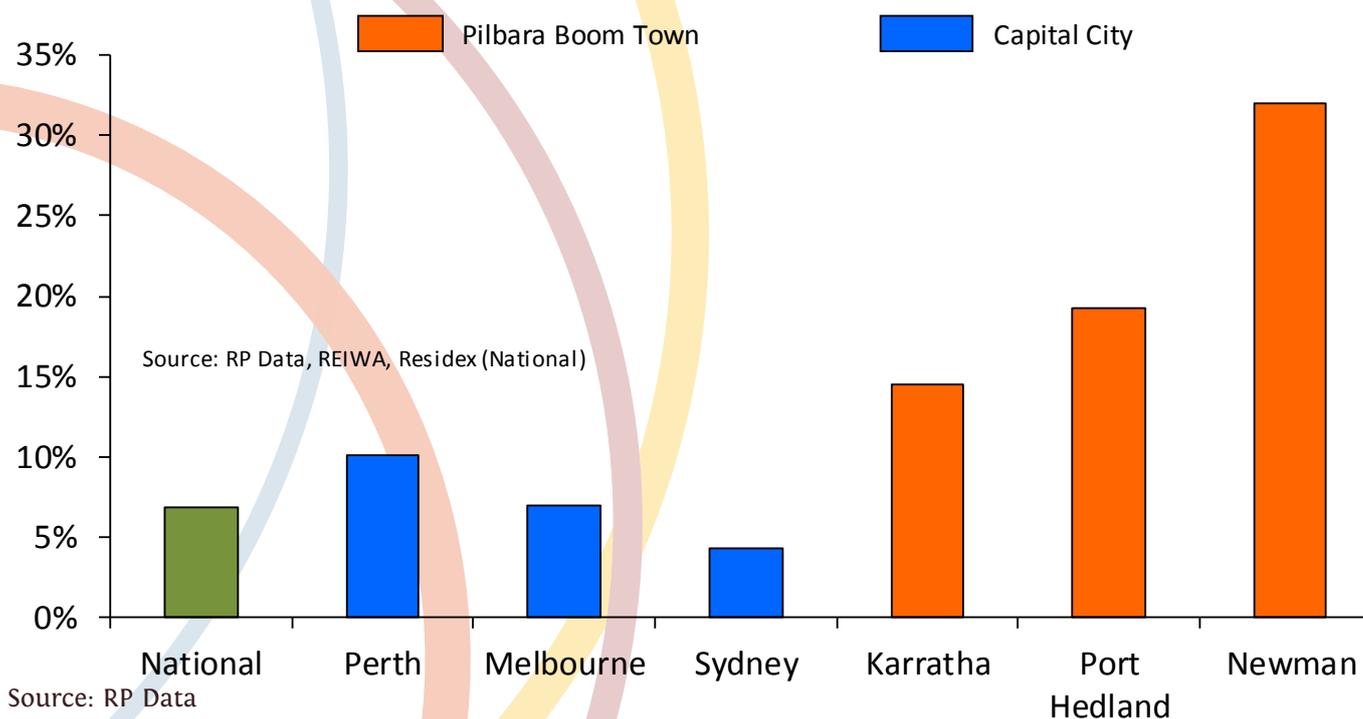
Aside from the surge in highly paid workers to the Pilbara region, land constraints are also working to exacerbate the property boom.

Flood plains, native title issues, limited labour and a sluggish development approvals process all constrain the construction of new housing in the area. This is causing the rent on available housing to increase further as demand surges the population and commodities boom.

Construction workers are also in short supply in the area. Hot and arid conditions coupled with tropical cyclones make the Pilbara environment a relatively unattractive place to live. High wages paid by mining companies also means that construction workers are more likely to be drawn to working for the mining industry, rather than in the construction of new housing.

This shortage of workers, combined with inhospitable conditions, the lack of available land, accommodation and skyrocketing labour costs makes building new houses incredibly difficult. These conditions have all contributed to the limitation of new housing in the area, which, in turn, has resulted in high median rents.

Chart 14: 10-Year Average Annual Median House Price Growth- Pilbara vs Capital Cities



>> CHRONIC UNDERSUPPLY OF DWELLINGS

The shortfall of dwellings in Port Hedland and Newman has been estimated by the Western Australian Department of Housing to have been approximately 1,400 and 400 dwellings respectively in 2010.

The continued expansion of these towns due to the billions of dollars in commenced and planned infrastructure projects will require a cumulative total of approximately 2,950 and 830 new dwellings to be built by 2015 in Port Hedland and Newman respectively to 'normalise' the property markets (i.e. reduce rents and prices).

This equates to an impossible requirement for 590 dwellings per annum required to be constructed in Port Hedland and 166 dwellings per annum in Newman. However, the Western Australian government has announced very optimistic construction targets for new dwellings as their goal to normalise the rental market.

Despite having released the land and having attracted numerous 'big name' developers to announce projects, the government fails to understand the near absurdity of such unrealistic targets. Fierce competition for labour and limited accommodation already means finding the workers necessary to construct these dwellings will be near on impossible.

In addition, obtaining planning approvals for new dwellings typically takes a year and the new state government Building Act introduced on 1 April 2012 is slowing the process further.

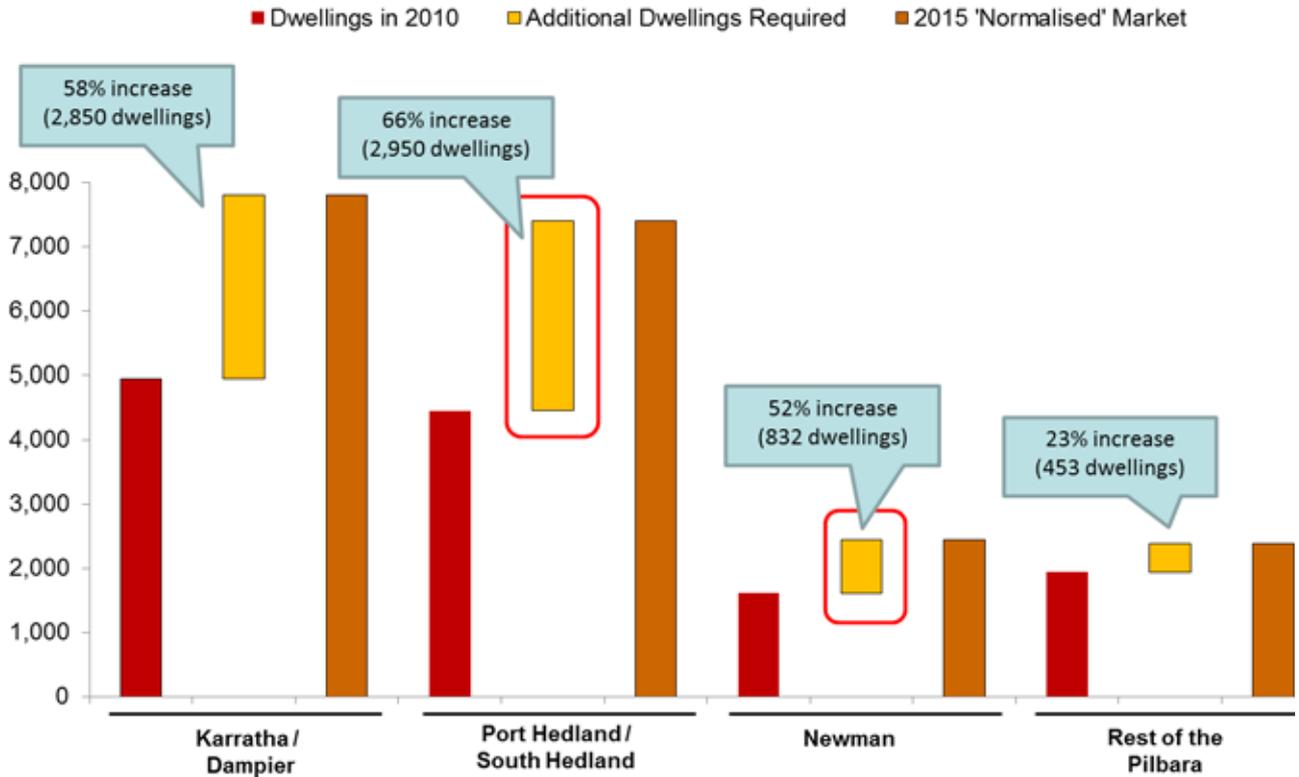
As an example, empirically, over the 20 years to 2008, an average of only 25 new dwellings per annum have been constructed in Port Hedland.

The government is proposing to increase this to 590 dwellings a year from 2011 – a clearly unrealistic goal as less than 320 properties were sold in Port Hedland (including its sister township of South Hedland) in the 12 months to June 2012 (according to the REIWA). Moreover, most of those sold were existing dwellings rather than new properties.

Whaleback mine

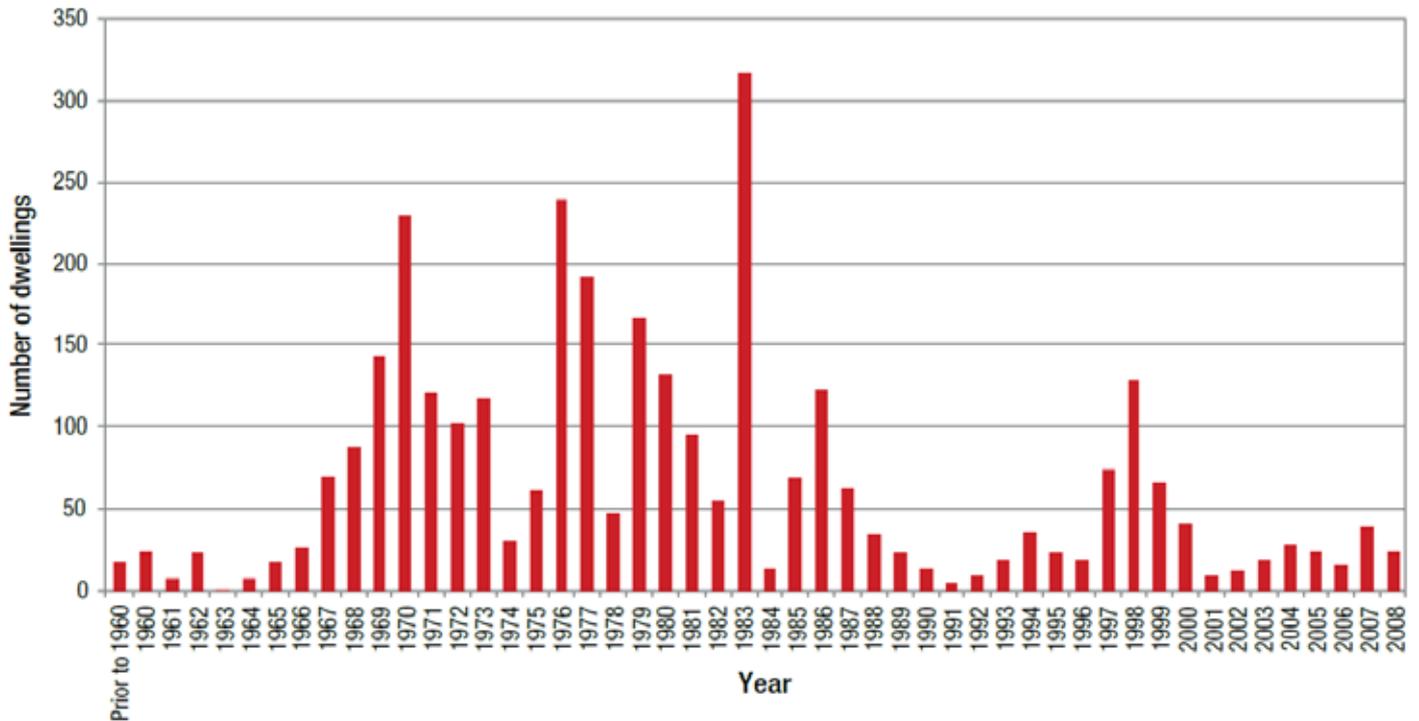


Chart 15 Dwellings required to normalise the property market



Source: Pilbara Cities (2012)

Chart 16: Hedland Dwellings Built Per Year



Source: WA Government Planning Commission (Port Hedland Hotspot Land Supply Update)

>> PILBARA'S \$1.2BN LIVEABLE CITY INITIATIVE

The Pilbara may be Australia's mining hub and home to some of the country's highest wage earners, but due to its remote location and lack of amenities it has not been considered the most desirable of locations to call home for many miners and their families.

However, with over \$30bn in projects coming online over the last decade, and a further \$192bn to come (including major liquefied natural gas projects), the thousands of workers who will shortly migrate to the area are demanding a higher standard of living.

Investment in health, education and general public amenities have been sorely lacking to date, however these services are essential in supporting sustained growth. Locals, too have voiced their concerns that a number of towns in the Pilbara region have 'lost their heart', catering only to FIFO workers with little thought given to their future.

In 2009, the Western Australian government decided to start giving back. It announced \$300m in funding as part of an ambitious new 'Pilbara Cities' blueprint plan that would transform regional cities and towns into vibrant and attractive places to live.

By 2010 the Pilbara Cities Office had been formed to coordinate the spending of these funds to provide new schools, education centres, hospitals and entertainment facilities to Western Australia's iron ore communities.

Today, the budget allocated to the Pilbara Cities initiative has grown to \$1.2bn and plans are in place to turn Port Hedland into a large regional city of over 50,000 by 2020. Newman is set to follow suit and will become a sizeable regional community home to over 15,000 people.

Four key areas will be targeted to accommodate this growth. These are:

1. Additional infrastructure
2. More community projects and engagement
3. A diversification of the economy
4. An improvement in land availability and development.

All of these factors will create more liveable cities and communities well into the future.

Pilbara Cities – South Hedland City Centre Concept



>> DIFFICULT FUNDING ENVIRONMENT CREATES INVESTMENT OPPORTUNITY

A key feature of the \$1.2bn Pilbara Cities initiative, beyond massive upgrades to hospital facilities, roads and utilities such as water and power, are its grandiose visions of delivering thousands of thousands of dwellings by 2015, such that the vacancy rates of 0%-1% in Port Hedland, Karratha and Newman would 'normalise' towards 8%. Indeed, the WA Government envisaged some 7,085 dwellings being constructed by 2015 across the Pilbara.

These ambitious targets and proactive action by Landcorp (the government land authority) to make land available for development have encouraged numerous developers to 'announce' they will be coming to town – including the Hilton chain, who are intending to open the first five star hotel in the Pilbara. For the first time in the Pilbara's history, it looks like hundreds of new dwellings could be built.

While these targets are decidedly unrealistic given the number of dwellings historically delivered each year into Pilbara towns, these projects now face the combination of the harsh reality of a post-GFC world and the very public deferral of BHPB's \$20bn mega project the Outer Harbour in Port Hedland and FMG's deferral of part of its expansion and mass redundancies.

This has meant that bank funders have become much more cautious in their lending and big residential projects in the Pilbara have become much more difficult to secure debt funding.

In particular, many of the huge projects are apartment towers that require tens of millions of debt to be committed prior to a single apartment settlement. Consequently, only smaller more modest developments are likely to be funded with the larger 100+ apartment towers likely to never be built.

The upshot of this is that while the demand for dwellings would continue to increase, the potential number of new dwellings for the Pilbara will dramatically fall.

Naturally, this is likely to cause the continuation of the acute mismatch between demand and supply, which will see rents and dwelling values rise even further.

Pilbara Cities Projects



>> NEWMAN: THE LITTLE TOWN WITH THE BIGGEST MINE

About 1,186km north of Perth and 456km south of Port Hedland lays Newman, an inland mining town of the Pilbara region. Originally established in 1968 by a subsidiary of BHP to support the Mt Whaleback mine, Newman has become a bustling town of 6,000 and is set to grow in the near future.

Famously, Newman is home to the largest open cut iron ore mine in the world. Mt Whaleback is over 5km long and 1.5km wide and supplies over 100Mt of iron ore each year.

This mine, and the satellite mines surrounding it, supply Port Hedland with much of its iron ore for export via a privately owned railway.

But Newman isn't just a one mine town, rather the East Pilbara region consists of four BHP iron ore mines and FMG's Christmas Creek mine about 120km to the north, for which Newman is the major service hub.

About 10km out of town is BHP's Orebody 24 iron ore mine – set to receive a US\$822m development to increase production to 17Mt per annum. Newman also services the Roy Hill project, about 100km to the north, which represents the last of the large low phosphorous ore bodies in Australia, which will employ over 3,500 workers.

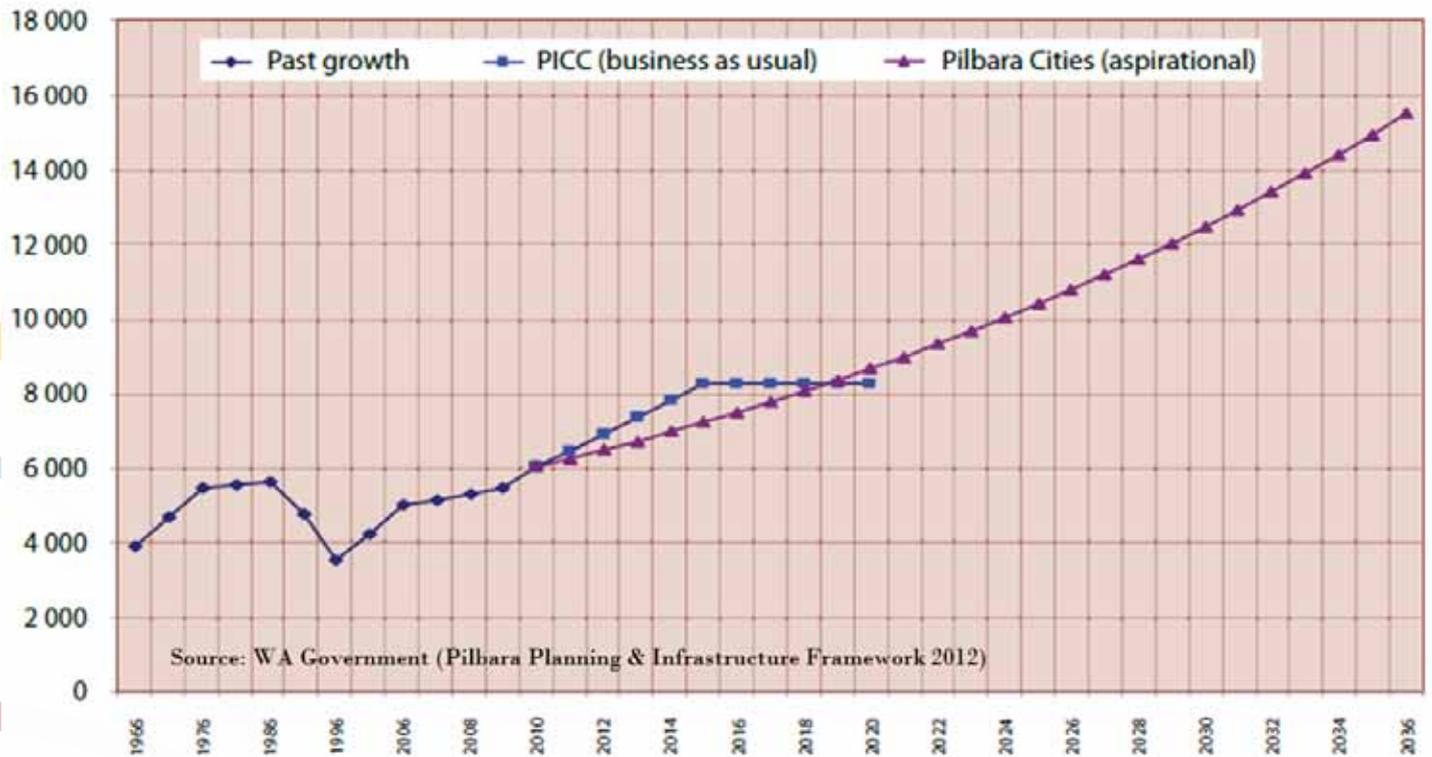
Map 1: Newman mines



>> A RAPIDLY EXPANDING POPULATION

With a current population of 6,000 residents, Newman’s population is set to more than double to 15,000 by 2035. Thanks to the Pilbara Cities initiative and strong demand for iron ore exports, Newman’s population is predicted to reach 8,000 in the next few years alone.

Chart 17: Newman population forecast



Source: WA Government (Pilbara Planning & Infrastructure Framework 2012)

Newman, WA



>> \$9BN OF FUTURE GROWTH FOR NEWMAN

Newman has a very strong economy and a bright financial future. Its economy is solid, based on the profitability of two huge iron ore mines and an assortment of smaller mines throughout the area, for which Newman is the only service centre.

Table 2: Newman infrastructure projects

Project	Proponent	Location	Status	Cap Ex \$M	Peak Workforce	Operational Workforce
Jimblebar mine and rail (WAIO)	BHP Billiton	Pilbara, WA	Commenced	3,300		
Hope Downs 4	Rio Tinto/Hancock Prospecting	30 km N of Newman, WA	Commenced	2,000	600	600
Marillana	Brockman Resources	100 km NW of Newman, WA	Feasibility	1,900		
Jinidi Iron Ore Mine Project	BHP Billiton	55km N of Newman, WA	Pre-feasibility	1,000		
Orebody 24	BHP Billiton	9km N of Newman, WA	Commenced	806		
Yarnima Power Station	BHP Billiton	Newman, WA	Commenced	590		
Total	Source: Company website, Omega Investments			\$9,596M	600	600

As part of the Pilbara Cities initiative, there are more than \$124m in civil infrastructure projects underway or planned for Newman. These amenities will add to the growing list of civic and recreational precincts around Newman, which include several large sporting fields.

Table 2: Newman civil projects

Project	Proponent	Value \$M	Project	Proponent	Value \$M
Newman Hospital Upgrade	WA Government (Opposition Promise)	\$54M	Capricorn Sporting Complex	WA Government, Shire of East Pilbara	\$22M
Newman Revitalisation Project (Town Centre)	WA Government	\$40M	Boomerang Oval Upgrade	WA Gov, BHP Billiton, Shire of East Pilbara	\$8M
Total					\$124M

Source: WA government, Press Search,

Whaleback mine



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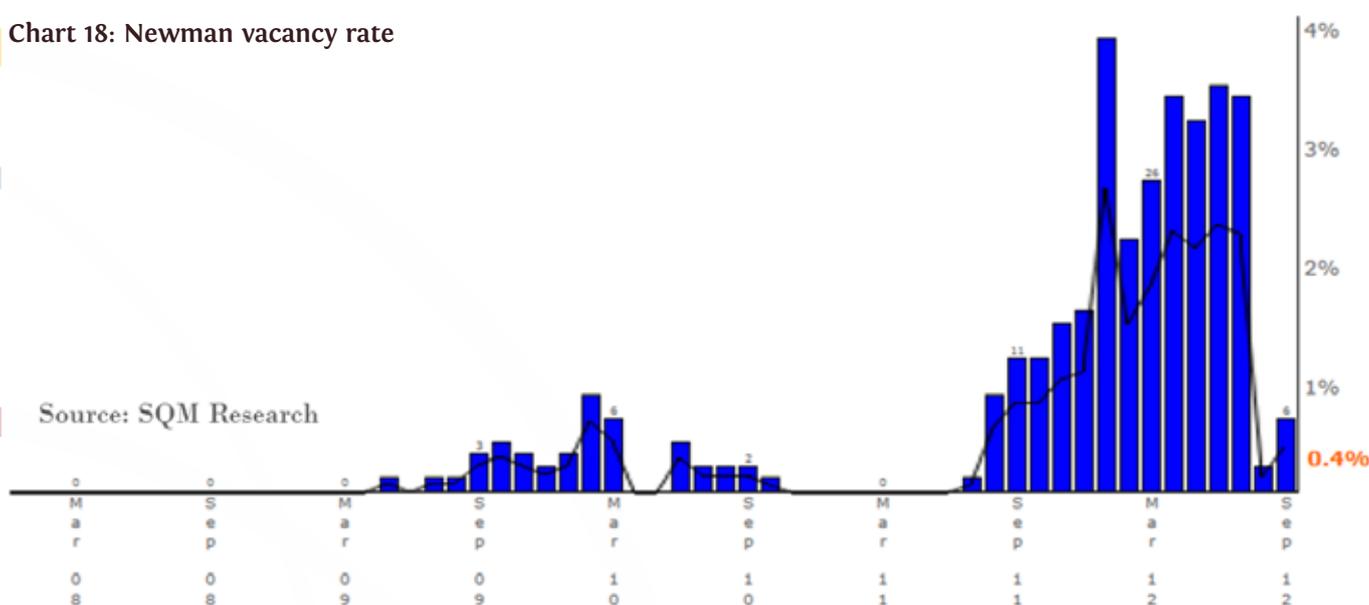
>> NEWMAN'S PROPERTY BOOM

When you think of mining boom towns in the Pilbara you're likely to think of Karratha and Port Hedland. These cities have, undoubtedly, been and remain stellar performers in Western Australia's property market. However, sometimes it is the smaller towns that make bigger waves.

When you look at the numbers, Newman has been the strongest performing property market in the Pilbara region over the past decade. It has experienced a ten year average growth rate of 32% per annum – an extraordinary high driven by a severe shortage in accommodation.

Newman regularly experiences 0.0% vacancy rates – its current vacancy rate is a mere 0.4% – and rents are strong with the median house rent resting at \$1,800 in June 2012, up over 1,000% in a decade (according to Residex). This represents an indicative gross rental yield of around 11.7%.

Chart 18: Newman vacancy rate

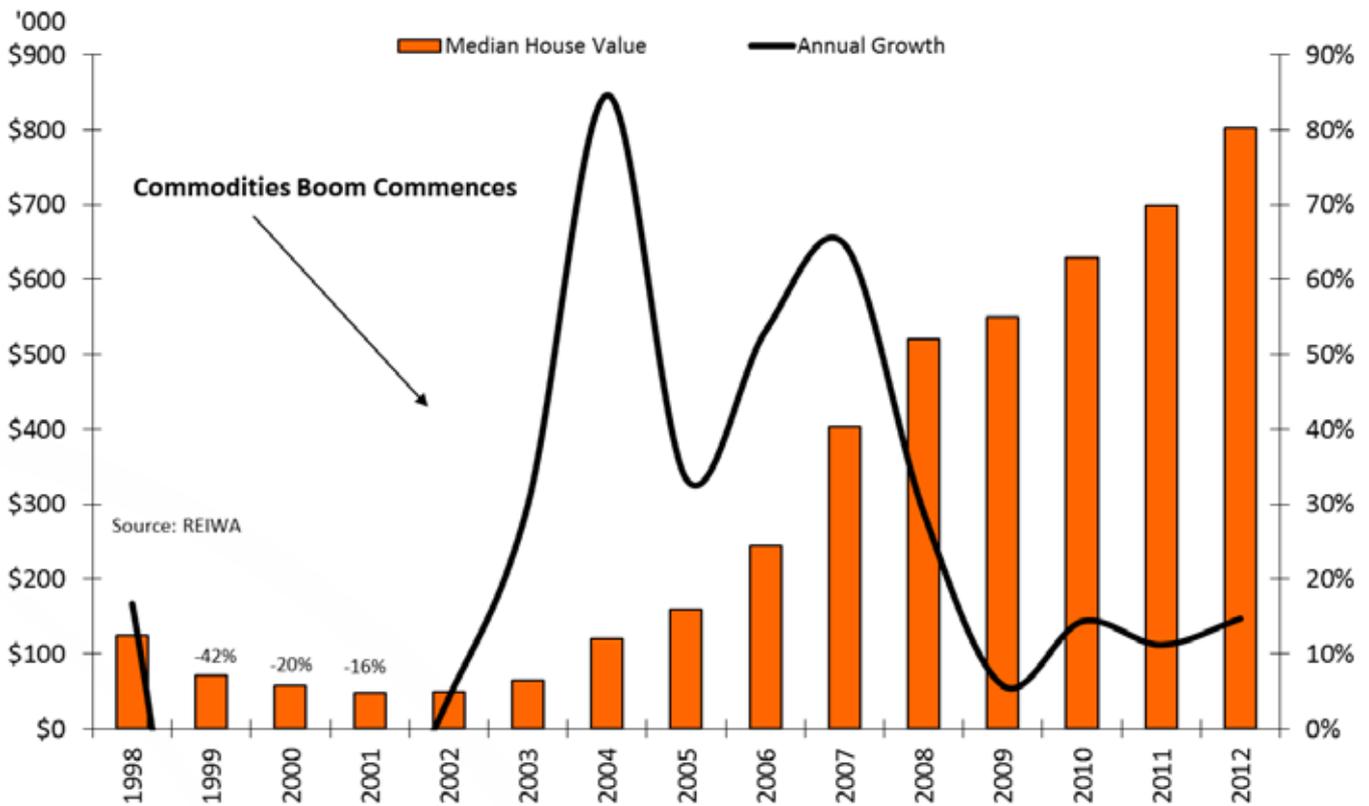


Newman sporting facilities



If that wasn't enough, Newman also recorded the highest median price growth in the Pilbara over the last year with property prices growing by 14.7% to reach a median price of \$802,000 in June 2012 (according to the REIWA).

Chart 19: Newman median house values



>> LAND CONSTRAINTS A BONUS FOR INVESTORS

While the mines in and around Newman have been operating for decades, the Newman property market has been under considerable stress due to land lock constraints.

Native title issues have arisen between mining companies and the Nyiyaparli people who are the traditional owners of the land. However, agreements have been reached with FMG, Hancock Prospecting and more recently BHPB to increase mining and construction activities in the area.

Despite this agreement, demand for housing has risen with an additional 832 dwellings needed in Newman by 2015 (see page 18 for details).

This demand is unlikely to be met with only 79 dwellings forecast to be completed in 2012, according to the Shire of East Pilbara. This is well down on 2011 when 144 dwellings were completed. This will result in increased stress on the property market due to housing shortages which will, again, drive property prices and median rents even higher.

>> PORT HEDLAND: AUSTRALIA'S IRON ORE EXPORT HUB

Perhaps Australia's most well-known resource town is Port Hedland. Established in 1987, Port Hedland is a natural deep anchorage port perfectly suited to accommodate hundreds of extremely large bulk carriers. It is a rapidly growing community of 19,000 and is the world's largest iron ore exporting port.

Port Hedland is an essential cog in the mining wheel of the Pilbara region. The town exports iron ore for leading global companies as well as emerging iron ore player Atlas mining.

95% of Port Hedland's exports are iron ore with a record of 247Mt of exports being produced in the 2011-12 year. The town is also home to Dampier Salt – one of the largest private salt mines in the world – and produces approximately 3.2Mt of salt each year. Port Hedland also acts as a major support centre for offshore LNG gas fields located off the North West Shelf.

Port Hedland may be big but it hasn't stopped growing. According to the Town of Port Hedland (Council), the last three years have seen the value of the Port Hedland's economy increase by 61% on the back of rising iron ore exports. Furthermore, a key project is currently being directed by FMG, the world's fourth-largest iron ore miner – that will see the construction of a second iron ore export berth. This structure follows the recent opening of the Utah berth, as part of FMG's \$8.4 billion project to increase its production by an extra 100Mt by 2015.

BHPB is also planning to double its current export capacity in the inner harbour of Port Hedland, as well as potentially build a \$20bn outer harbour expansion, in an effort to capitalise on the increase in iron ore demand. When complete, these upgrades will allow for the export of more than 200Mt of additional iron ore each year.

Port Hedland



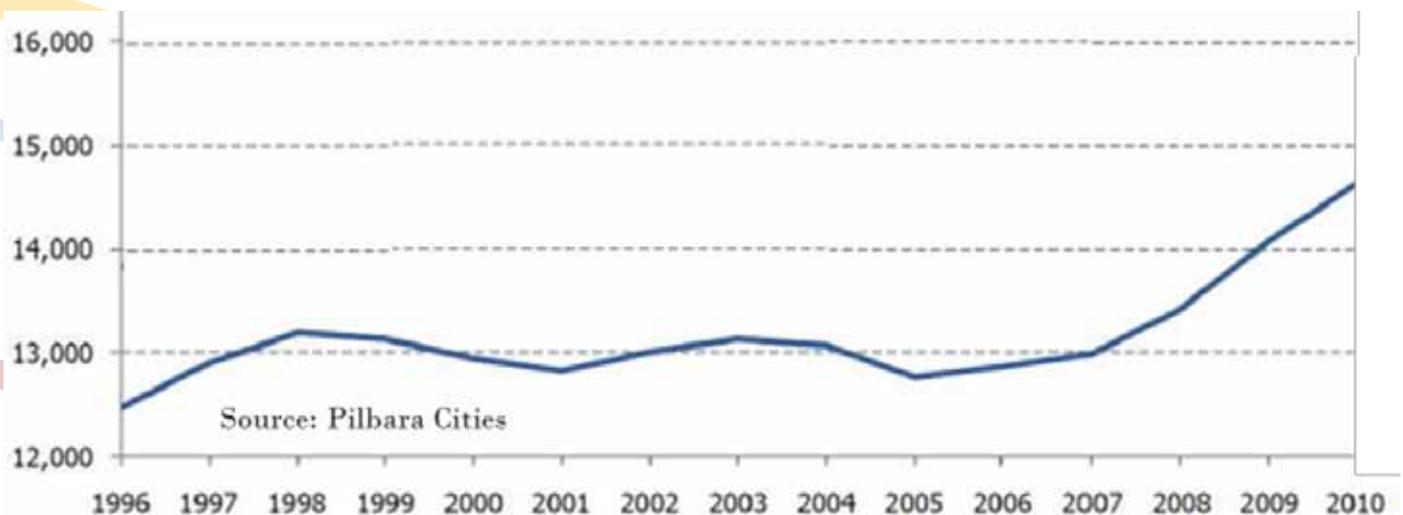
>> A BOOMING REGIONAL CITY

Port Hedland's population first began to grow in 2007 as projects associated with the commodities boom commenced construction.

The town's population had hovered around 13,000 for 10 years when the resident population jumped by over 10% and took off. By the end of 2010 the overall population hit 19,216 – a 50% increase in the 2005 resident population, including some 2,900 FIFO workers.

This increase is showing no signs of slowing. Population forecasts for Port Hedland are strong and are expected to reach 50,000 by 2025. It is predicted that the population will grow by a whopping 5,000 by 2015 alone. A large proportion of this growth will be coming from FIFO workers.

Chart 20: Port Hedland and South Hedland Population,



Source: Pilbara Cities

Iron ore loaders, Port Hedland



>> THE FIFO PHENOMENON

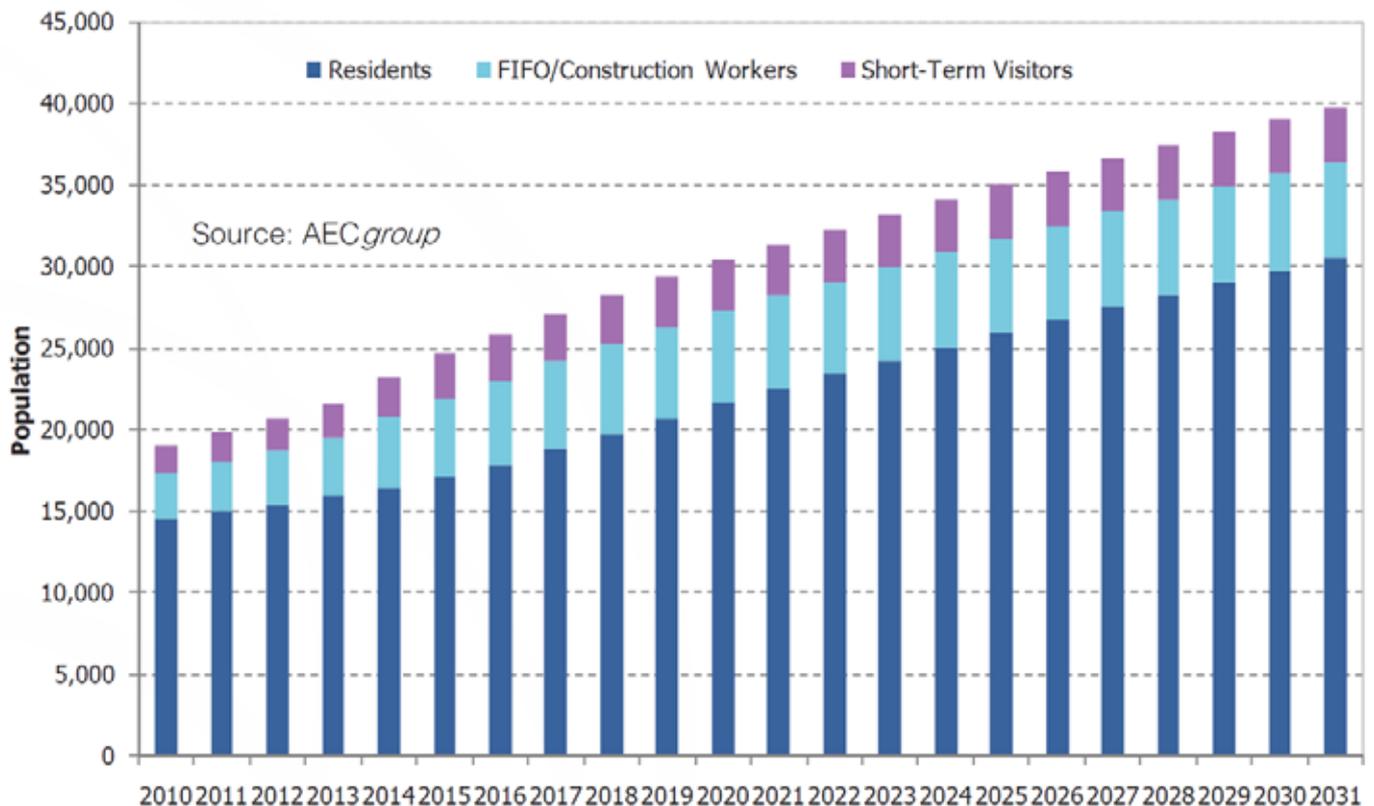
FIFO, or fly-in/fly-out workers, make up a significant portion of Port Hedland's population and have the largest impact on rents and house prices due to their large salaries. Between 2012 and 2016 the number of FIFO workers is expected to more than triple from 4,000 to reach an astonishing 15,000 workers, assuming the \$20bn outer harbour is **not constructed**.

Should the Outer Harbour begin construction, the peak workforce of 15,000 could persist for a further three to five years.

It is expected that once local projects move into their operational phases, the number of FIFO workers will only return to close to the numbers of 2010 by 2031 and will remain over 8,000 (double today's numbers) until at least 2025.

Not only are FIFO workers in desperate need of accommodation, but they also represent some of Australia's highest paid workforce.

Chart 21: Hedland population forecast



>> \$59BN INFRASTRUCTURE BOOM AHEAD

While Port Hedland has benefited from a cumulative \$25bn of direct and indirect (in the East Pilbara) infrastructure projects (\$20bn in BHPB projects alone), this pales in comparison to the pipeline of future projects which have been estimated at \$59bn (\$39bn excluding the proposed BHPB Outer Harbour expansion).

These projects will bring an estimated additional 11,376 workers into the area during the construction phase of development.

Table 3: Port Hedland infrastructure projects

Project	Proponent	Location	Status	Cap Ex \$M	Peak Workforce	Operational Workforce
WAIO Outer Harbour	BHP Billiton	Port Hedland, WA	Feasibility	20,000	2,000	
Roy Hill	Hancock Prospecting	Pilbara, WA	Feasibility	9,500	2,500	
Solomon Hub (stage II)	Fortescue Metals Group	Pilbara, WA	Feasibility	3,700	2,000	
Pilbara Independent Rail	QR National / Atlas Iron	Pilbara, WA	Feasibility	3,500		
Ridley Magnetite project	Atlas Iron	75 km E of Port Hedland, WA	Pre-feasibility	2,800	1,100	750
South West Creek Development	North West Infrastructure	Port Hedland, WA	Feasibility	2,700		
Solomon Hub (stage I)	Fortescue Metals Group	Pilbara, WA	Commenced	2,650	2000	
Port (55 - 155 Mtpa)	Fortescue Metals Group	Port Hedland, WA	Commenced	2,350		
WAIO Inner Harbour	BHP Billiton	Port Hedland, WA	Commenced	2,190		
Rail (55 - 155 Mtpa)	Fortescue Metals Group	Pilbara, WA	Commenced	2,160		
WAIO optimisation (port blending and rail yards)	BHP Billiton	Port Hedland, WA	Commenced	1,600		
Balla Balla project (phase I)	Forge Resources	90 km E of Karratha, WA	Feasibility	1,300	1200	450
Chichester Hub (55-95Mtpa)	Fortescue Metals Group	Port Hedland, WA	Commenced	1,080		
East Pilbara Project (Robertson Range and Davidson Creek)	Atlas Iron	Pilbara, WA	Feasibility	960		
Balla Balla project (phase II)	Forge Resources	90 km E of Karratha, WA	Pre-feasibility	720		
Great Northern Pipeline	Buru Energy	Broome to Port Hedland (550 km), WA	Feasibility	500		
Spinifex Ridge molybdenum/copper project	Moly Mines	50 km NE of Marble Bar, WA	Prefeasibility	490	400	375
Mt Webber	Atlas Iron	Pilbara, WA	Feasibility	420		
Horizon 1 (Phase A)	Atlas Iron	Pilbara, WA	Commenced	252		
Sulfur Springs Project	Venturex Resources	160 km SE of Pt Hedland, WA	Feasibility	236	176	160
Pilbara VMS Province Project	Venturex Resources	120 km SW of Port Hedland, WA	Feasibility	135		
Ammonium nitrate emulsion plant	Incitec Pivot	Port Hedland	Commenced	40		
Total	Source: Company website, Omega Investments			\$59,283M	11,376	1,735

>> PORT HEDLAND'S PROPERTY BOOM

Port Hedland has seen a massive increase in infrastructure investment over the past 10 years. Approximately \$20bn in projects have been built or commenced and the effect of this on the town's property market have been incredibly positive.

In the 10 years to June 2012, the median house price in Port Hedland has risen by an average of 19% per annum to \$1,150,000. Sister city South Hedland has also experienced dramatic growth over the last decade, reaching a staggering 67% per annum in 2007. This rise far eclipses any other property market in Australia and has been a very lucrative experience for a large number of savvy property investors.

Chart 22: Port Hedland - median house price

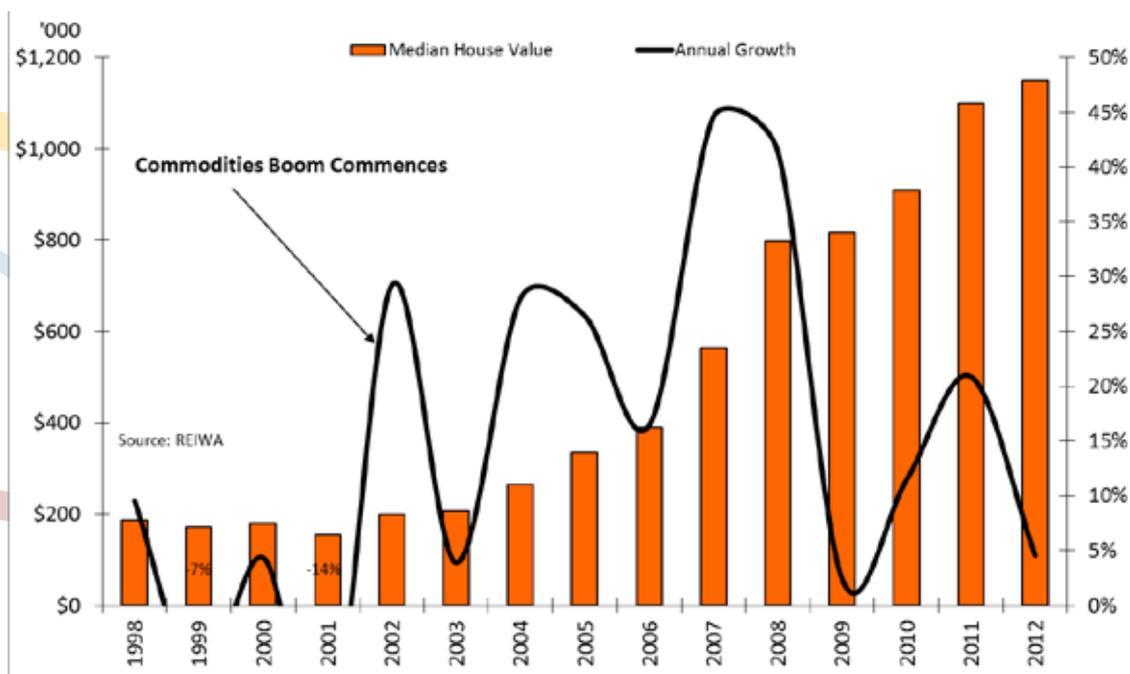
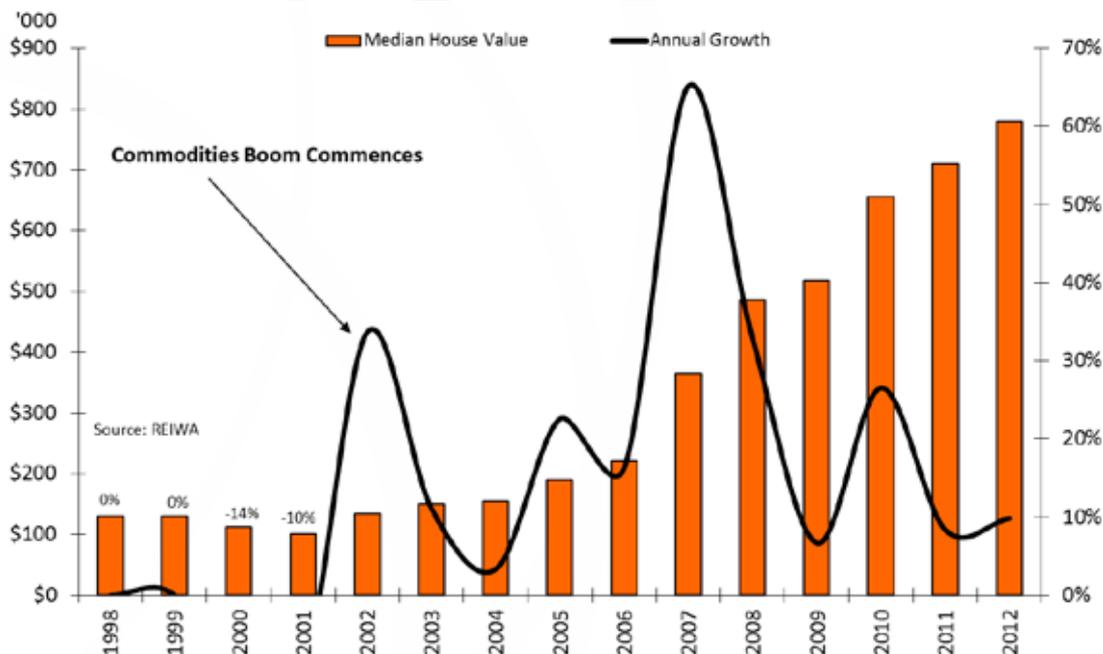


Chart 23: South Hedland - median house price



>> BURSTING AT THE SEAMS

Given the severe shortage in housing – there is currently a shortage of 1,402 dwelling and a requirement for 2,950 dwellings by 2015 - median rents in Port Hedland are now resting at around \$2,200 per week with vacancy rates a low 1.3% and 0.4% in South Hedland.

However, considering the high level of demand for housing and the lack of a residential construction workforce, it is unlikely that this shortfall in housing will be met any time soon.

In fact, this situation isn't likely to ease until 2025 when major projects are scheduled to move into their operational phase of development.

Chart 24: Port Hedland vacancy rate

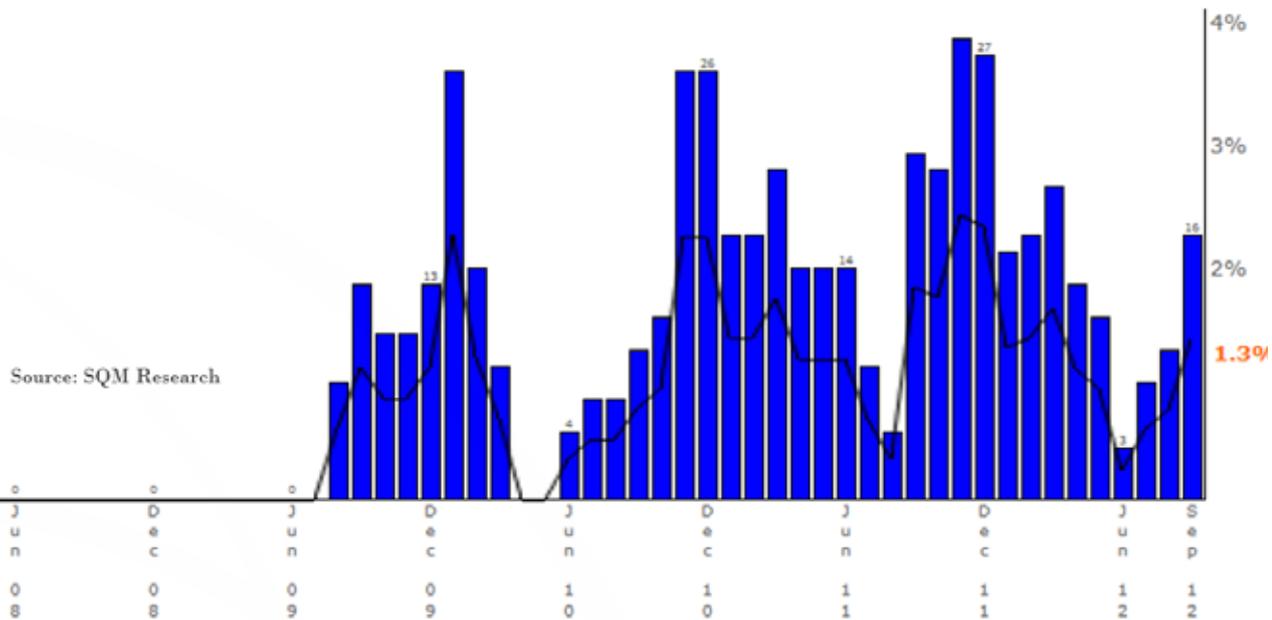
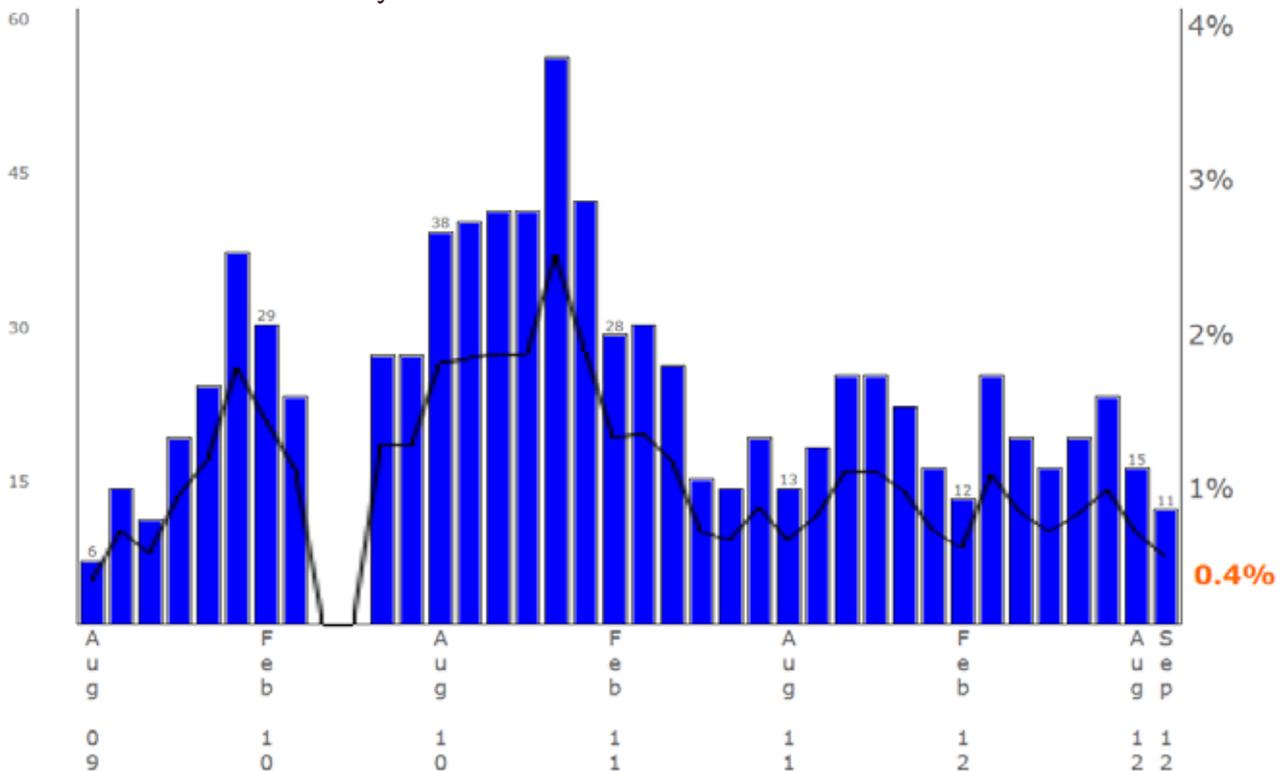


Chart 25: South Hedland vacancy rate



Source: SQM research

>> DWELLING CONSTRAINTS

There are three main factors that are affecting the supply of housing in Port Hedland.

The first is a shortage of labour. Competition for construction workers is putting pressure on the supply of residential housing as the labour force is being swept up by the mining boom. As more mines move from planning to construction, wages are forced up, making it even harder to secure construction workers for residential projects.

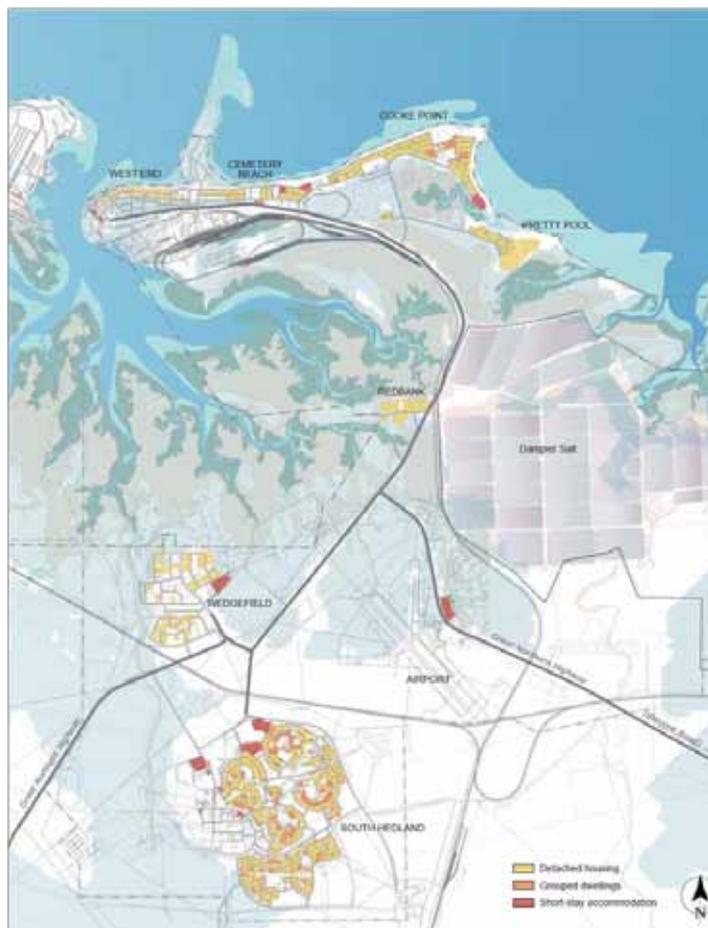
The second is to do with Port Hedland's geography. Port Hedland's failure to provide housing for its residents is in large part due to its location. Flood plains make it impossible to develop with more than 75% of land around the town unsuitable for residential housing. Rio Tinto's Dampier Salt operations also cover an area of approximately 9,000ha (or about another 10% of potential developable land).

Finally, native title issues have also slowed progress in the housing development industry. It was only in August 2011 that the WA Government was able to conclude a native title agreement for the main growth region of South Hedland with the Kariyarra people. A similar native title agreement is still outstanding for Port Hedland and under negotiation.

The main reasons behind Port Hedland's spectacular boom:

1. Population boom: The town's population grew from approximately 14,000 in the five years between 2001 to 2006, a 19,000 by 2011.
2. Rents skyrocketed: Strong rental growth associated with the growing population and high median incomes resulted in 10-22% rental yields over the last decade.
3. Lack of supply: Port Hedland was unable to create new homes for the increase number of cashed up workers due to land lock issues. Flood plains and salt pit works mean that up to 85% of the land around the town is not available for residential development.
4. High cost of construction: Thanks to a competitive construction industry, many workers in this field were snapped up by mining companies to help expand commercial projects. As such, prices rose for both materials and employees in the construction industry, making housing development too costly.

Flood plains



>> \$1.1BN IN CIVIL PROJECTS

Port Hedland has benefited greatly from the commodities boom over the last decade. It has profited from more than \$25bn in infrastructure projects and has a further \$59bn in the pipeline. These projects are expected to bring an estimated 11,376 workers into the area during their construction phases, boosting the local property market to even more incredible heights.

While the economic benefits of the commodities boom are clear, Port Hedland as a city is finally starting to see some of the fruits of its labour. In an effort to meet the needs of a surging population, the state government, council and private developers have earmarked an impressive \$1.1bn in civil infrastructure projects.

These projects are all part of a plan to make Port Hedland into a thriving regional centre that will attract and retain new workers. All of these initiatives are working to create liveable, thriving cities well into the future.

These projects range from large infrastructure developments – such as the \$300m redevelopment of the airport to the \$188m redevelopment of the main highway to and through Port Hedland – to more the mundane but critical new \$110m waste water plan (to support all the new people in town).

Community development projects include Stage 2 of the \$77m revitalisation of the South Hedland Town Centre (following the completion of the \$33m multi-purpose recreation centre earlier this year) and \$10m aquatic centre. The region's main shopping centre is also receiving a \$14m redevelopment.

Table 4: Civil projects, Port Hedland

Project	Proponent	Value \$M	Project	Proponent	Value \$M
Port Hedland International Airport (North-West Intermodal Hub)	Centauri/ Laing O'Rourke/T of PH	\$300M	West Canning Basin Sandfire Project	WA Gov	\$28M
Great Northern Highway Realignment	WA Gov/Federal Gov	\$188M	Kariyarra Mugarinya Joint Venutre	WA Gov/KMJV	\$22M
Spoilbank Marina Precinct Development	WA Gov/T of PH	\$152M	Hedland Senior High School Upgrade	WA Gov	\$17M
Waste Water Treatment Plant	WA Gov	\$110M	South Hedland Shopping Centre Upgrade	Charter Hall	\$14M
Port Hedland Water System Improvements	WA Gov	\$91M	Marquee Park Community Facilities	WA Gov/BHP Billiton	\$13M
Pilbara Underground Power Project	WA Gov	\$60M	Main Street Jetty Extension	WA Gov	\$10M
South Hedland Town Centre Revitalisation Phase 2	WA Gov/Landcorp	\$54M	South Hedland Aquatics Centre	WA Gov/T o PH/ BHPB	\$10M
Hedland Regional Resource Centre – Stage 2	WA Gov	\$40M	JD Hardie Youth Precinct	T of PH /BHP Billiton	\$9M
Total					\$1,118M

Source: WA Government, Town of Port Hedland, Press Search, Omega Investments

Source: WA Government, Town of Port Hedland, Press Search, Omega Investments

>> ABOUT FLYNN DE FREITAS

Flynn De Freitas is the Principal of Omega Investments and one of Australia's leading infrastructure spotting specialist. He has extensive experience researching and working on major residential subdivisions in Australia's hottest areas and, as a result, he offers a unique insider's perspective on boom town property markets.

Omega Investments focuses on 'infrastructure spotting', rather than property hot-spotting: that is, investment in high yield, high growth residential properties located in regional boom towns of Australia with a major impending or commenced infrastructure project.

An active and successful residential property investor specialising in infrastructure towns, Flynn is a former investment banker with US-based Merrill Lynch and management consultant for the international consultancy McKinsey & Company.

He has also spent four years working for a private property developer, focusing on mining town developments. This experience has helped him develop his extensive knowledge and understanding of towns exposed to the commodities boom.

Flynn graduated from the University of Tasmania with a combined degree in Commerce and Law (with Honours). While at Merrill Lynch, he worked as an equities analyst writing buy/sell reports for the Australian banking sector.

He has also worked extensively in the Australian retail banking and property development industries.

Flynn is also extensively involved in developing Australia's first wholesale investor National Rental Affordability Scheme (NRAS) fund and is an advisor to Ethan Affordable Housing, one of the largest holder of NRAS incentives in Australia.



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