



MIM Insight

Will Chinese pollution issues affect Australian iron ore companies?

Pollution is now a serious problem in China and the Chinese Government has recently outlined real targets in its environmental policies. One of the key targets of new legislation is a planned reduction in the number of polluting steel mills. This MIM Insights looks at the potential flow on affects of this legislation and the potential reduction in steel production in China. Will this change in China's environmental policies impact Australian Iron Ore producers?

Growing pollution issues in China

Increasing levels of pollution are generally expected as countries industrialise. Ownership of electrical goods rise which drives the need for power generation. More cars driving on the road also means more pollution. To put this in context, in 1999 there were 15 million passenger cars on the road in China. Today there are over 120 million according to the Ministry of Public Security.

Traditionally, while countries will choose a mix of fuels to power the grid, the Chinese fuel of choice has generally been cheap, abundant and polluting coal.

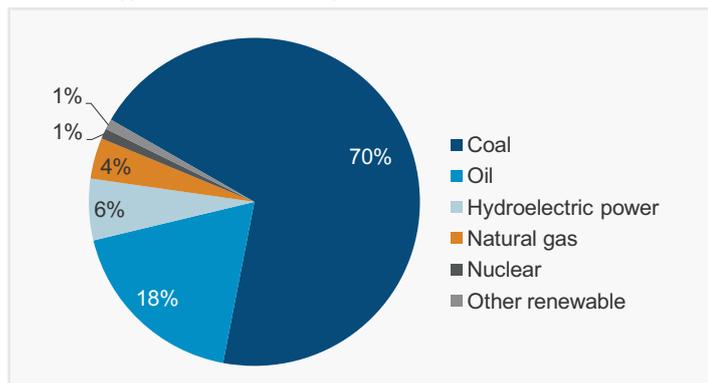
China has built significant downstream manufacturing capacity in steel, aluminium and other finished goods to ensure security of supply and lower costs. These industries have one thing in common – the need for massive coal fired power stations.

As a result of China's rapid industrialisation, pollution is a now serious problem. And the problem isn't going away with an estimated 15 million people urbanising each year. The benchmark for measuring pollution is the Air Quality Indicator (AQI) which measures particulate matter with a diameter of less than 2.5 micrometres. This type of pollution is a focus because it is thought to remain in the lungs after being inhaled.

The air in Beijing is frequently rated unhealthy with more frequency at hazardous levels. To put it in context, on 14 April 2014, the AQI in Sydney & Melbourne was rated 'Good' with an average reading of below 20. At the same time Beijing was 330, in the hazardous range.

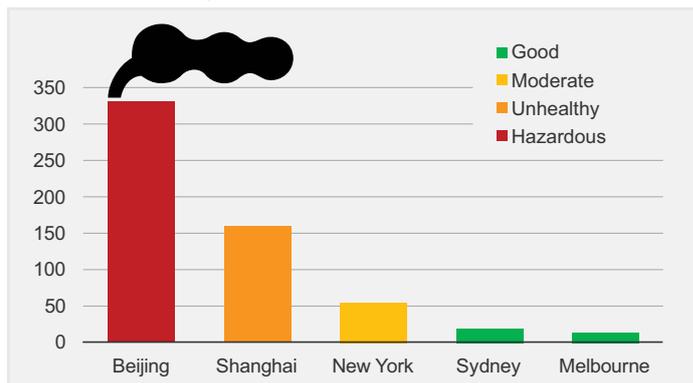
And we're not just talking about poor visibility. Serious health risks are now being faced by the broader population. In November 2013, Shanghai schools were closed because the air quality put people at risk of 'early onset of certain diseases'. And the smog is also affecting the China based employees at multinational companies.

China energy mix – dominated by coal



Source: U.S. Energy Information Administration

Real Time Air Quality Index (AQI)



Source: AQICN.org

Panasonic Corp of China has said that it is paying a “hazard bonus for those foreign employees located in a challenging environment”.

The Chinese Government has been forced to act. They have outlined explicit targets in their environmental policies, including the aim of significantly reducing air pollution in major Chinese cities. For example the primary energy contribution from coal is expected to reduce from 70% in 2010 to 63% in 2015, while the contribution from ‘clean energy’ will increase from 11% to 19%. But what are they doing and how will it affect Australian iron ore companies?

**WE WILL RESOLUTELY
DECLARE WAR AGAINST
POLLUTION AS WE DECLARED
WAR AGAINST POVERTY**

Li Keqiang addresses the Legislature (5 March 2014)



How will China's response affect Australian iron ore companies?

Of the ten worst polluted cities in China, seven are located in the Hebei province. Hebei is responsible for a quarter of China's steel output. Frequently, pollution travels and clogs up neighbouring Beijing – a buzzing metropolis with a population around the size of Australia.

In the past four months, Hebei has been the focus of Government policy to reduce pollution. This Government policy is particularly blunt. Shut polluting steel mills. The Government has outlined a target to reduce steel output in Hebei by 65% by 2020 but are acting now.

Faced with these aggressive targets it would be reasonable to conclude that this will lead to less steel production in China and therefore less iron ore demand from Australia. This would be a major negative for Australian iron ore miners.

We don't believe this is the right conclusion and below we outline our argument.

In 2013, China steel plant utilisation hovered around 78%, a meaningful overcapacity of plant. It is this excess supply that will mean any announced shut down of steel mills in Hebei will likely be picked up by other regions with spare capacity. The shutdowns would reduce pollution in Beijing, but will likely

increase pollution elsewhere in the country. We don't believe total steel output will be affected.

Secondly, some of the announced shut downs relate to capacity rather than output. On a recent visit to China we learned that in one specific area where 16 steel blast furnaces were shut, only 6 had actually been operating! These shutdowns appear to be much more symbolic than they are effective.

In summary, we do not believe that the reduction in steel output in Hebei will have a major impact on Chinese steel demand. Shutdown capacity will simply be replaced by an underutilised China-wide steel fleet.

What more can China do to create a pollution solution?

In our mind there are a number of potential paths that China can go down, and it is likely that multiple approaches over multiple time periods will be needed to have a chance to sustainably curb pollution. Below we outline some of the options in the form of short term policy, medium term energy mix and long term technology.

In the short term, China's leaders will need to continue down the path of policy led constraints on emissions with the Hebei steel shutdown as a perfect example. Looking back to the 2008 Beijing Olympics – the country made aggressive cuts to industrial output. The directive from above was to shut construction sites, chemical plants, manufacturers and cement plants. The results were amazing with blue skies all around, but were unsustainable from a GDP growth and employment perspective. Eventually, the plants re-opened and the air quality declined again.

Medium term, we believe pollution can be reduced by China building more nuclear power, gas plants and renewable energy to diversify its energy mix. The constraint on near term benefits results from the long lead time to build power generation facilities. For example, nuclear power plants can take up to 7 years to get from planning to operation. Clearly, shifting the energy mix is not something that can happen quickly.

Wearing a long term hat, we see innovation as the way to handle pollution without harming the economy. Globally, there are certain technologies that are proven, but are still struggling with economics or scale. Examples of these technologies include Electric Cars and Carbon Capture and Storage (CCS). Electric cars require a network of refilling stations to be built out, while CCS, which involves capturing carbon at the power plant and storing underground, is expensive in the current form.

Conclusion

Pollution is a serious problem in China. And it's getting worse. The Government has responded to public concerns via a series of policy moves focused on shutting down steel mills in Hebei. These measures are likely to reduce pollution in Beijing, but total pollution in China is likely to remain high. Additionally, we see limited effect on iron ore demand as the impact on steel production is muted thanks to an underutilisation of steel mills.

While the problems are acute and appear to have no quick fix, the prize for fixing pollution is too large and the cost of doing nothing is just too great. The future of the country is at stake.