

Market Strategy Update – Carbon Tax

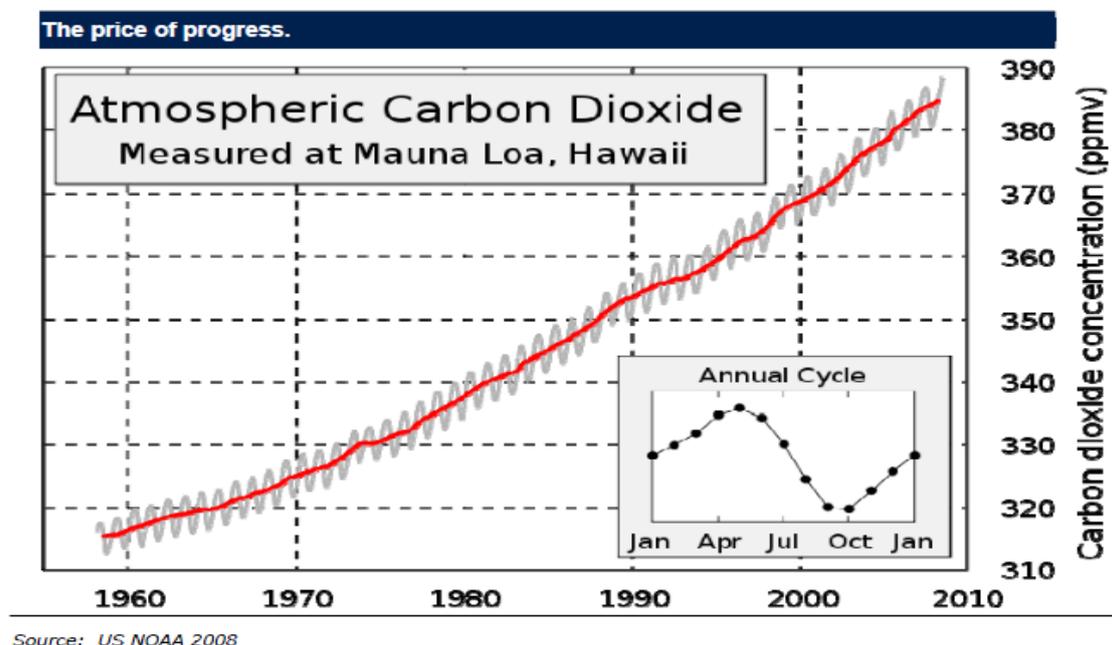
Details of the long awaited Labor/Greens carbon tax have arrived. As Australia embarks on this course, not necessarily shared at the present time by major trading partners and competing economies in south-east Asia, the cause and effect implications are extremely complex for business, employment and households alike. Hence, flow through impacts to company profitability will be difficult to assess and some time will elapse before clear impacts and trends emerge.

Our primary concern, however, is that many parts of the Australian economy are already under significant strain as a result of high Australian dollar exchange rates. The impact of the Labor/Green carbon tax proposals will be to make Australian products and services more expensive and this we fear will keep Australia in a kind of economic limbo. We are already seeing evidence of this in financial markets when comparing the performance of Australian equity markets against contemporaries such as the US’s Dow Jones or UK’s Financial Times Stock Exchange.

We are very sceptical about attempts to reduce emissions (not about the greenhouse thesis). That humans emit a lot of CO₂ is a fact. That CO₂ absorbs infrared radiation is a fact. That we can do anything to change those facts is going to be very difficult. The science of climate change is compelling and the threat is real. **However, without global mandates and enforcement, declines in demand for fossil fuels in one country will mean lower prices and therefore increased usage in other countries.**

CO₂ is bound closely to almost all we do but Taxes, Credit Trading and Offsets are all artificial products that will depend on politics that are not durable. Emission reductions require a totality of geography that will be near impossible to enforce.

The chart below shows the trend in atmospheric carbon dioxide concentrations over the past 50 years.



A reduction in total emissions is possible but it will be far from painless. A low Carbon price and compensation do little to change energy consumption behaviour and thereby lower emissions – in the short and longer term they just serve to raise prices and will place most Australians under further financial pressure. In order to substantially reduce emissions, one needs a CO₂ price of around \$100/t to knock out coal altogether and make solar and wind commercially profitable. The problem with this however, is that we would be living in a very different world to the one currently occupied –

that is an economy with energy prices at triple what they are now. Page 94, table 5.7 of the report prepared by the Commonwealth Treasury on modelling a carbon price (Strong Growth, Low Pollution – Modelling A Carbon Price which can be found at <http://www.treasury.gov.au/carbonpricemodelling>) outlines many of the gross output losses impacting industry expected by 2050. Some of the modelled output losses are quite dramatic. For example, under the scenario termed 'High Price', coal mining is 31.9% lower than it would otherwise have been. Alumina mining is 54.3% lower, Aluminium is 74.0% lower, iron and steel manufacturing is 31.1% lower and gas production is 14.8% lower. However, there are some winners. Gas fired electric power generation is 97.6% higher than it would otherwise have been and passenger rail transport is 13.9% higher than it would otherwise have been.

The main details of the proposed carbon pricing scheme are:

- Starting 1 July 2012, an initial fixed carbon price of \$23/t to be paid by non-exempt companies that produce at least 25,000 tonnes of CO₂ equivalent a year at a given facility. The government estimates this affects around 500 companies. The price will rise by 2.5% real p.a. to 1 July 2015 at which time the price will be set by the market. From this point, there will be a floor price of \$15/t rising by 4.0% plus inflation a year and a ceiling price of \$20/t above the expected international price increasing by 5.0% plus inflation a year. The lower and upper limits will help companies to forecast the impact but the range is quite large.
- The price of non-aviation transport fuel is not affected for households and business though businesses operating in rail, and diesel generators at mines, will see a reduction in their fuel tax credit from 38c/litre to 32c/litre. Large road transport is to be captured from 1 July 2014. Domestic aviation will see an increase in fuel excise costs equivalent to the carbon price.
- Compensation is available for industries classified as emissions intensive trade exposed (EITE). These industries would trade at a severe disadvantage to overseas competitors without compensation. Highly intensive emitting industries, those that emit more than 2,000t CO₂ per million dollars in revenue will receive 94.5% of average industry cost compensation while medium intensity industries, producing above 1,000 t CO₂ per million dollars in revenue will get 66% of average industry cost compensation. These industries include metal, glass, cement, lime and paper products production.
- Liquefied natural gas producers will receive 50% compensation, reducing by 1.3% per annum.
- Additional compensation packages for the closure of 2,000 MW of emission-intensive electricity generation capacity and issue of free carbon permits over six years to other coal-fired power generators totalling up to \$5.5 billion.
- Funding availability for businesses to invest in energy efficient capital equipment.
- The steel-making sector to receive \$300m over four years.
- A \$10 billion Clean Energy Finance Corporation (CEFC) to provide finance to approved "green" energy projects.
- In addition, as a means of assisting low income earners to pay for the pass on cost rises in electricity bills etc, the tax free threshold will rise from \$6,000 to \$18,200 (and to \$19,400 from 2015/16). However, the marginal tax rate at \$18,201 rises from 15% to 19% and from \$37,001, it rises from 30% to 32.5%. It provides an incentive for low income earners to work but will see higher taxes at the top end.

The carbon pricing and tax reform documentation is quite complex. It has to be to ensure a wide range of Australian businesses and employment opportunities are not severely limited by these environmentally driven initiatives. Of course, only time will tell in terms of actual economic impact with the Government estimating a 0.7% one off rise in the CPI in 2012/13 - which the RBA will hopefully treat as a once off.

Cutting CO₂ will be extremely difficult

The first thing that everyone needs to know is that there is no free energy (refer to The First Law of Thermodynamics). There are efficiency gains that we can make but only to a limit. To illustrate, to move a 1t car for 1km will theoretically take the same amount of energy if a horse pulls it, the driver gets out and pushes, the engine turns a shaft, or a battery turns the wheels.

Our civilisation is built on extracting ever more energy to put to our own devices and generally we have become cleverer and cleverer at both extracting and using it so that more work can be done with less energy. However, we use ever more energy in total and we have reached a point where the costs to the environment have become noticeable and so worthy of preventing.

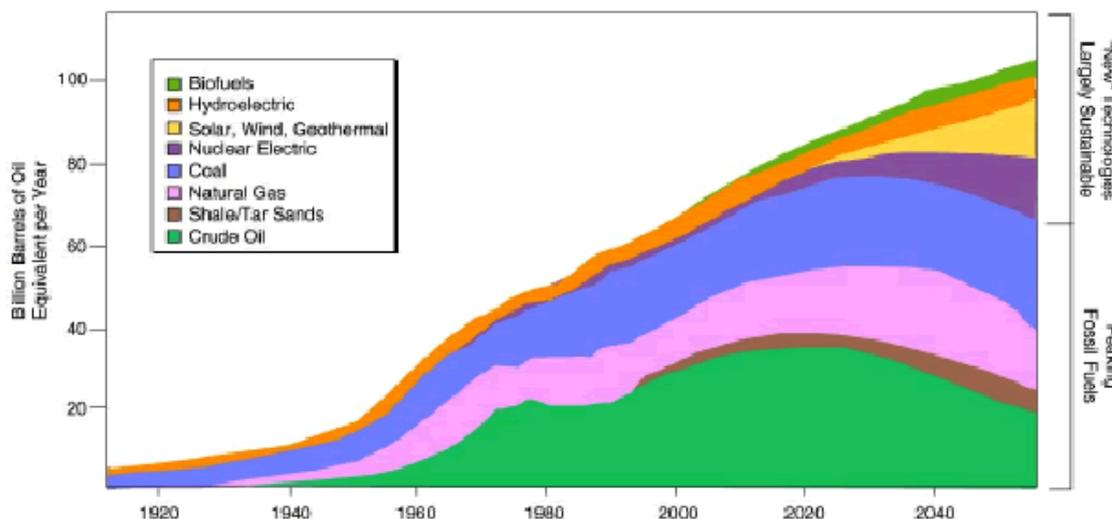
We would also make the point that people will buy big houses far away from their place of work, buy a big car, buy air conditioners, eat too much and generally over populate. Then they complain about the price of electricity, petrol and food. These are all forms of energy and if everyone around you is similar to you, then the price of energy will likely rise. We would strongly argue that climate change, house size, obesity and especially human population growth are all interrelated.

The proportion of Carbon in the atmosphere is tiny – but it has grown

CO₂ used to make up less than 0.028% by volume of the atmosphere before the Industrial Revolution. Yes, less than a thirtieth of a percent. It is now 0.039% of the atmosphere, an increase of almost 40%. That a change in such a tiny constituent of the atmosphere can potentially cause the melting of all the ice caps and a flooding of the world’s major cities is incredible. Yet, that is what the science tells us. The main Green House Gases (GHGs) are CO₂ (Carbon Dioxide) and CH₄ (Methane) with CO₂ the biggest contributor. CH₄ being less common but important because it is 25 times more potent in trapping heat. The warmth of the Earth is related to the closeness to the Sun and the ability of GHGs to trap some of that warmth. Concentrations of CO₂ in the atmosphere have ranged between 0.018 – 0.021% during the ice ages and range between 0.028 – 0.034% during warm periods. Put simply, more GHG’s equals more warmth.

The reason for this growth in atmospheric GHGs is blamed on human economic activity. Natural process in the biosphere (plants and animals) and the geosphere (volcanoes) move many times more volume of GHGs than human activity but are assumed to be in balance and so the net change has been due to human industrialisation. The reasoning can be summarised by the graph below which shows the rapid increase in fossil fuel consumption (oil, gas, coal) over the past century. Burning of fossil fuels has grown from about 5 billion barrels of oil equivalent (bboe) per annum to 70 billion bboe per annum. Notice that even with big growth projections for renewable energy sources that fossil fuel consumption (oil, tar sands, natural gas, coal) is still at a very high level of 60 - 70 billion bboe per annum by 2050.

World Energy Sources 1910 to 2050

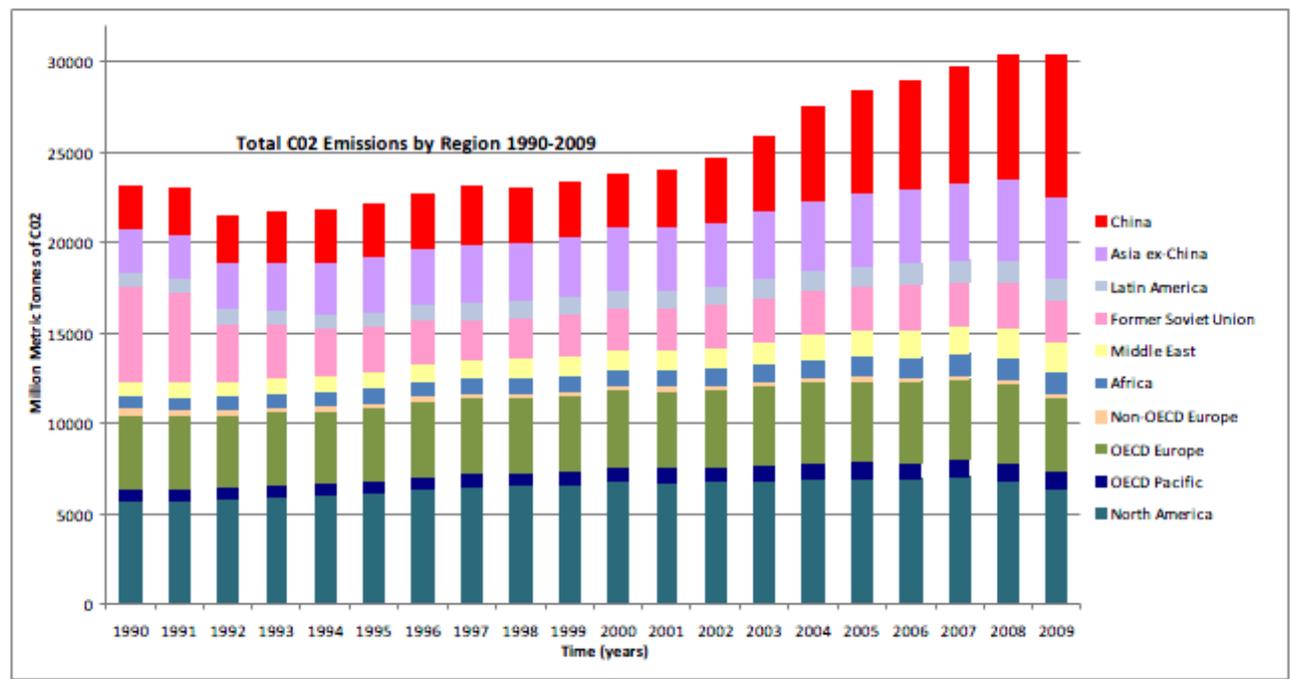


Source: Lynn Orr, *Changing the World’s Energy Systems*, Stanford Global Climate & Energy Project, SRI Consulting

Record level of emissions means some warming is locked-in

Despite technological improvement, total GHG emissions keep rising and 2010 was another record year for emissions. The total was 30.6Gt (that’s Giga tones which is 1,000,000,000 or more commonly a billion) and under current thinking the ceiling on total emissions needs to be 32.0Gt in order to limit global temperature rises to less than 2 degrees Celsius. Note that a temperature increase is now locked-in, the work to reduce emissions is just to limit the increase. Without a global agreement we see it as highly improbable that poorer countries, which have been the dominant source of the recent surge in emissions, will forsake their economic development while richer countries, which are responsible for the majority of ongoing emissions to date, maintain their level of economic development. Since 1990, total emissions have risen by 31% and the trajectory is for ongoing increases. This is graphically displayed in the chart below which shows the total CO2 emissions by region from 1990 through to 2009.

CO2 Emissions by Region 1990-2009 (Mt)



Source: IPCC

GHGs reduction is very tough because they are bound closely to almost everything we do – especially CO2. Emission reduction requires a totality of geography and time. We believe that this sort of totality is almost impossible to implement let alone enforce. Totality means the whole planet. Forever. No exceptions. It needs to be emphasised that forever is not a straw man – it is the necessity of the global warming problem. There is no point in paying someone to not-emit or capture CO2 today that will be emitted or released tomorrow.

Unless the whole world imposes a carbon price, coal suppliers that sell to domestic Australian power stations will move to export their coal. That is, if the CO2 price rises enough to make Australian domestic thermal coal unprofitable, it will become another export (but lower prices) product to jurisdictions that don't have carbon prices. While mining coal remains economic, it will continue to be mined and total global emissions will be unchanged.

If a global emissions regime were to be formed, from a practical view point we also doubt how credible any promise would be to make up for any breached caps in subsequent years when promises to return budgets to surplus have failed to materialise in the best of times?.

Pink Batts, Magic Puddings and Unintended Consequences

The reality is that the majority of the population doesn't want to pay for a sufficient adjustment in CO2 pricing to make a real impact on client change. The public at large will apparently not even invest to insulate their homes despite what one would think is the easy calculus of \$1 invested in insulation today will save many times that amount over the life of the insulation. Then, governments try to bribe us with our own money and are shocked to see people sprinting after the free goods by fair means and foul. It's beautiful doublespeak when programmes have to be cut because they are "too" successful.

The worst case was the Solar Homes and Communities Plan that started in 2000 as an \$8,000 rebate to install solar panels. \$1.1 billion later, the government subsidised a total of 107,000 new rooftop solar panels. After an audit revealed that the panels reduced Australia's emissions by just 0.015% and cost up to \$301/t of carbon saved the Rudd government suddenly cancelled the scheme in 2009.

Because politicians live in a magic pudding world, consuming much, producing little, and handing out other people's money, the concept that switching to higher cost energy sources in isolation will have a substantial cost appears little understood by politicians. There will also inevitably be unintended costs and consequences. Surely, if we build more roads, congestion will decrease. Surely, if we tax alco-pops, youth consumption of alcohol will decrease. It is very likely that carbon will show similar dynamics – highly inelastic and society will bear the added cost without a consequent reduction in emissions.

Taking the economy to wind and solar has its attractions - chiefly zero fuel cost. Though they appear attractive at small scale, the large scale manufacture and installation of solar and wind plants will have their own pollution drawbacks exposed. However, the key concern is that back-up fossil fuel plants will be required for periods when the wind and sun are insufficient, meaning that the cost of infrastructure is likely to be a multiple of just having the fossil fuel plants alone.

Conclusion

The Australian economy will not be better off with a carbon tax. The Australian economy and thereby most of Australia's industrial base will be smaller than it otherwise would have been. Alternative energies will cost more – that is why they are alternative – and that means that more money spent on cleaner energy is not spent on other parts of the economy. Lower energy costs have been at the heart of the improvement in lifestyles and if this long term trend is about to reverse then there will be a large number of feedback effects through the economy. A carbon tax is only effective in reducing carbon emissions if other countries are also prepared to make payments as large and at the same time as we do.

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