

Not cooking with gas

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Altius recently joined other concerned asset managers managing a total of more than US\$52 trillion in assets in making the [2021 Global Investor Statement to Governments on the Climate Crisis](#). This is a joint initiative of peak investor and sustainable finance bodies including the Investor Group on Climate Change (IGCC), Principles for Responsible Investment (PRI) and UNEP Finance Initiative (UNEP FI).

Crucially the statement recognises that a net zero target by 2050 is too little, too late and 2030 ambitions are the key. Integral to the statement is the widely accepted notion that carbon pricing is essential if we are to meet the challenge of delivering on the Paris Agreement.

A carbon price is central to unlocking the vast and exciting investment opportunities in clean technologies, green infrastructure and other assets, products and services needed in this new more sustainable economic growth model. Markets depend upon the free flow of information and transparency in pricing is one of the key requirements of an efficient market. This is especially the case during a massive technology revolution such as that underway in energy.

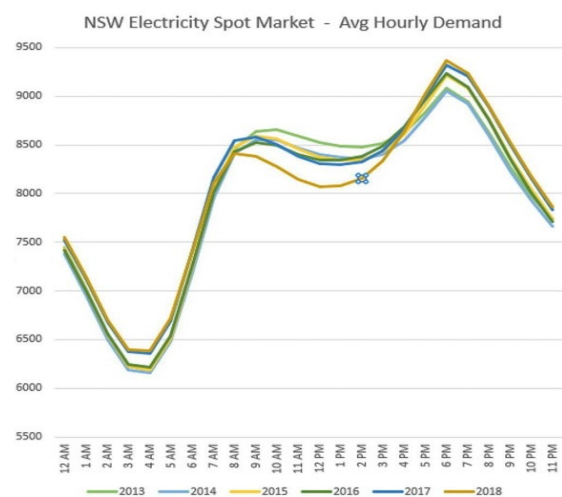
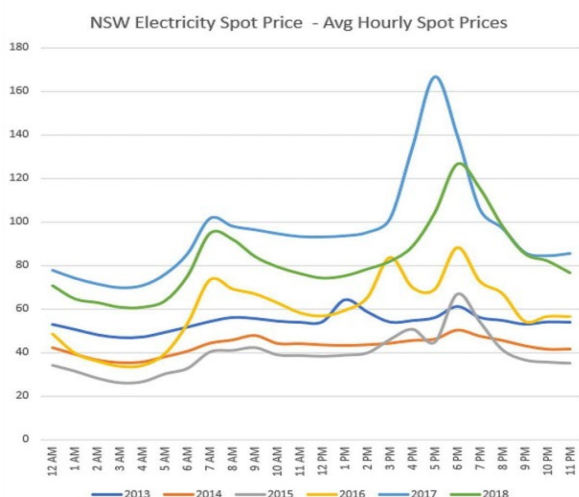
Demand curves for energy are remarkably predictable and similar over most of the world and meeting peak demand peaks is the major problem for governments ultimately tasked with ensuring the provision of reliable critical infrastructure. A common theme is the take up of cheap but intermittent renewable energy eating the lunch of traditional, inflexible so-called 'base load' generation provided by burning coal (Australia), while struggling to cover the dinner time peak, reflective of the solar "duck curve".

And it's getting rapidly more pronounced with Australia installing record high rooftop solar behind the meter, with national installs growing some 30% annually to now world-record setting rates.

At the dinner table of 2030, widespread switching to cheaper induction cooktops mean we won't be "cooking with gas", as we will have abundant, affordable clean power storage. By then I venture we will all agree that it was placing a global price on carbon that really moved the dial, and that it should have been introduced decades ago. We will marvel at how quickly markets found cost effective solutions once it was finally (and permanently) introduced as a central pillar of our economy.

As succinctly noted by the Economist, Utilities have "two main choices to respond to the disruption caused by the mass adoption of solar-generated electricity. One option is to adapt to a more curvaceous duck, by investing in fast-ramping power plants to help the grid withstand sharp variations in its load. The other is to put the duck on a diet, by adjusting electricity pricing with hourly rates to encourage customers to shift their power usage from high-demand to low-demand times, smoothing out unwanted fluctuations".

And the second option doesn't work. At least not on retail demand because consumers (mostly) don't pay the spot price, they pay marked up and smoothed out peak and off-peak rates. These are a pale imitation of the spot market which, as illustrated in this wholesale price graph, is acutely responsive to demand peaks.



Wholesale spot prices provide a powerful price signal to the generation market. Critical infrastructure such as electricity and water must be both instantaneous and uninterrupted. Even a 30 second interruption is a system failure.

Spot prices reflect the “must have” (inelastic) nature of the demand (at least until artificial intelligence, two-way electricity systems and smart meters make modifying consumer behavior automatic). This makes meeting the spike in demand very lucrative business (and why big batteries have been such a financial success). It also means most readily dispatchable technologies are today still cost competitive in the meeting this demand – even dirty, inefficient, and obsolete/unproven technologies.

But our choices have consequences, and we have fatally lopsided price signals, reflective of the absence of a decarbonisation objective in our electricity policy framework. Without recognizing the complete cost of energy production (including externalities like the resulting pollution), supply responses are going to be misguided.

Coal has been the stalwart of baseload generation, but it was never meant to provide flexible output. Old power stations are expensive to maintain, have a massive emission footprint and lack competitiveness during the “duck’s belly.”

Gas can bring more renewables into the grid but comes with damaging methane emissions that have been woefully underestimated in the past and these are 80 times more potent than carbon dioxide over the critical upcoming 20–30 years. .

Other technologies also have some obvious drawbacks. Solar is not generating at the daily evening peak and wind is variable. While battery installs are now surging, green/clean hydrogen, and pumped hydro are some years away from commissioning in scale. Investment and deployment would be greatly aided by accurate price signals to time-shift demand and/or supply. Critically, some solutions add to the burden of eventual decarbonisation. Investment in distributed generation and grid interconnection/firming is crucial and time critical (as high polluting, unreliable coal generators rapidly approach the end of their productive lives). A misstep now will have far reaching ramifications for the resilience and stability of our economy, government, and society.

What’s baked in?

The IPCC update recently delivered some sobering news about the unavoidable temperature increases, extreme weather events, sea level rises and biodiversity crisis already in play.

Meeting peak demand and ensuring system stability is a pivotal for both the industrialized and developing world, because climate change is going to supercharge peak demand. Imagine the number of air conditioners, fans, cooktops, screens, etc. pressed into service as cities cope with summers that regularly have bruising heat waves, droughts, and storms. Coal plants were never designed to meet these seasonal surges in demand and prolonging the life of 50-year-old coal plant clunkers is categorically not the right solution for this key, growing grid reliability issue.

So far, in meeting this imperative without recognising externalities, we have created a cascading “feedback loop” in our critical infrastructure – an unstable system. The more emission intensive energy we create, the more climate change impacts drive the need for more energy, including even more need for redundancy to deal with extreme weather events.

An unstable critical infrastructure system is untenable for governments at every level and the closer the government is to providing the service, the more untenable it is becoming (it’s no coincidence that there aren’t many local or State governments with a blasé attitude to climate risk).

Resilience/Adaptation

Given the certainty of disruptive climate change and the need to adapt and build resilience, there realistically needs to be a broadly applied price on carbon. Without a price signal for the true all-in cost of supplying peaking energy (so as to provide the market signal to incentivize batteries or pumped hydro, or even fossil gas peakers that can be converted to hydrogen gas over time), we have created hugely vulnerable systems (physical, financial, and political).

Believers in financial markets universally agree that a [carbon price](#) is the most efficient and effective mechanism to foster the necessary change. Most also see overt or implied schemes as inevitable as more and more countries introduce their own versions of carbon trading schemes. Our current trajectory of frustratingly slow incremental, disjointed, and piecemeal policies is on a collision course with the capital market and international trade realities of a decarbonising global economy. This will potentially see us miss out on great economic opportunities our natural advantages have afforded us as potentially a serious player in the huge new clean energy industries.

Our current Emission Reduction Scheme and trading system (Australian Carbon Credit Units) aren’t large or broad enough to provide clear and timely direction to our industries as they look toward a world where carbon border adjustment mechanisms or carbon import taxes are going to increasingly determine global competitiveness and, in our case, shine an unwelcome spotlight on carbon intensity.

Market mechanisms are demonstrably effective at allocating resources where fair, transparent trading rules are established by governments and maintained by the rule of law. Where the opportunistic politicisation of carbon pricing has been neutralised, free market governments elsewhere are embracing [emissions trading systems](#). The ideal situation is for the market to eventually become globally fungible and perhaps sensing an opportunity to retain relevance, the OECD is already advocating for a global market:

A globally integrated emission trading system with ambitious annual cap reductions would drive the most efficient and low-cost transition of not just infrastructure though reinvigorated and informed investment, but also innovation in other industries such as manufacturing, mining, transport, and agriculture. This is especially critical for our economy given so many of the exports we rely upon are worryingly carbon intensive. But the investment, employment, and export opportunities in value-adding for green iron, aluminum, green ammonia, lithium et al are huge.

Forward-looking companies (and organisations such as the ACT government) aren’t waiting for regulation and a codified global carbon market. They recognise that inaction will leave them unprepared to deal with the new market opportunities, new regulations, and stranded assets. Higher levels of disclosure and accurate carbon intensity accounting are already being demanded from organisations and regulators are flagging compulsory reporting in line with The Task Force on Climate-related Financial Disclosures (TCFD) recommendations structured around operations: governance, strategy, risk management, and metrics/targets.

Recent research from CDP (a NFP provider of global disclosure systems) reveals that nearly half of the world’s 500 biggest companies are now [factoring carbon accounting](#) into their business plans.

This is the bare minimum that is demanded by [sophisticated investors](#), who are also implicitly or explicitly testing and shaping their own investment portfolios after application of a [shadow carbon price](#).

The [Altius Sustainable Bond Fund](#), [Sustainable Short Term Income Fund](#) and [Green Bond Fund](#) all have a keen weather eye (pun intended) on climate risk as part of our analysis for ESG factors that increasingly influence the risk return profiles of investment portfolios. In all these funds, fossil fuel exposures are avoided, and businesses assessed for their alignment with Paris Agreement in terms of [climate policies](#) and operational risk management.

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The pressure will only build as other countries adopt net zero emission targets and announce credible pathways incorporating immediate and meaningful action, given our current course is aimed squarely at least 3 degrees of warming. International diplomacy and trade pressures will push even reluctant economies like Australia to eventually join global markets that price and trade carbon.

Like bankruptcy this will likely happen gradually, then suddenly.

Moving to a more systematic carbon pricing system would avoid the continued slide into direct government intervention in the energy sector, which would undo the bipartisan policies of the past three decades where governments of all persuasions have seen through, at times painful, adjustments to achieve privatisation of the industry. Wholesale government entanglement in “free markets” as a participant, sponsor, regulator, and banker of last resort is worse than outright nationalisation. It creates a corrupted market model, ripe for moral hazard, crony capitalism and rent seeking. The last decade has demonstrated the slow rate of progress achieved so far without a comprehensive climate policy and the wide-ranging social and economic stresses of climate change are accelerating, not moderating.

Even the current government’s blueprint recognises the pivotal role for carbon price “acknowledging Australia cannot and will not get to net zero by 2050 without a [carbon price](#) of some form”.

Fool’s paradise

The current state of denial at an economic policy level is reminiscent of the Australian car industry in the 1970s. Falling way off the pace, shielded behind a wall of tariff protection, the industry had a rude awakening when opened up to efficient, innovative international competitors able to operate at scale. A lack of carbon pricing in the cost structure of our industries will encourage the same lack of discipline and an increasing loss of competitiveness in export markets. Political isolation and economic stagnation will be a sobering wakeup call for countries not facing up to the realities of the global decarbonisation.

Investors constantly price risk and with greater uncertainty comes a higher cost of capital. Many investors now implicitly or explicitly test and shape their investment portfolios by applying a shadow carbon price. The move to price carbon by our trading partners and the sources of international capital makes our lack of a clear price signal dangerous. We are left to jump at shadows, with our economic and environmental decision makers relying on a mishmash of subscale carbon credit schemes, border adjustment taxes and voluntary shadow price regimes – a “carbon vibe” to quote Dennis Denuto in *The Castle*.

Export exposed industries will be the first to feel the pressure to decarbonise to compete with lower emission competitors, but how many other opportunities will be lost in new sectors across our whole economy by not having widespread low emission infrastructure critical to the economy in energy, transport, buildings, steel, cement, agriculture and so on?

And if economic own goals are not enough, uncertainty, and the consequent delay in transition will continue to wreak more damage on Australia’s already fragile climate.

Get in touch

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