While the Marsden Point oil refinery has ceased refining, it has no plans to undertake heavy demolition work for about a decade and could be restarted. Photo: Nikki Mandow

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ENERGY

We need to get serious about fuel supply resilience – and fast

This week's extension of excise cuts on high pump prices highlights the vulnerability of NZ's fuel supplies. It would cost hundreds of millions of dollars a day if we were to run out of fuel, but we have yet to work out any proper insurance against that risk or a linked plan for transitioning to renewables. Determining the role of Marsden Point is a key step in constructing such plans

Opinion: Supply chain fractures from the pandemic, war involving oil supply as a weapon and closure of the country's only refinery. You would think there are more than enough red lights going off to get us serious about fuel supply resilience.

And yet we are no closer to a resilience plan than before any of these arose, and we don't even have the baseline analysis needed to prepare such a plan.

Neither do we have more than the first few ideas for the plan's vital twin – one to transition the economy to zero-emission fuels. This is needed to protect the climate and deliver high levels of true resilience.

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While the Government has begun study into one key aspect – setting minimum onshore holdings of fuel and promised to give it priority after the Ukraine invasion – nothing has emerged beyond a consultation paper in January. That initial paper put up a weak defence for stock levels remaining at less than a month's worth of fuel.

There is no overarching framework for delivering on the broader idea of fuel supply resilience.

At the point a crisis did strike, there is a well-documented National Fuels Plan for what procedures apply and "critical customers" are identified. But we don't even have figures for how much fuel those critical services use in normal times to plan for them in advance.

Somewhere recognition has been lost of the need to properly assess how to manage a risk that would cost the country hundreds of millions of dollars a day were we to run out of fuel. The accompanying social costs and tearing of the social fabric would be simply horrifying.

The Cabinet has accepted that "while the likelihood of such an event is low", the costs could be high – but Government has still to do the insurance work to square that.

The bulk of homeowners take out fire insurance even though the risk of any sort of house fire is about 0.3% – a one in 330-year prospect. But as a country, it's as if we have not even got to the point of valuing the house or asking for an insurance quote when the risk of running out of fuel is arguably higher and the consequences so much greater.

Muddying the waters is that the fuel retailers want to "manage stockholding decisions on a commercial basis rather than this being set by the government", and would rather the Government stores any additional stock beyond the thin cover they are willing to hold for commercial purposes.

Z Energy outright opposes building additional storage capacity and wants to instead share reserves with Australia. Now owned by the Australian oil company Ampol, Z's interests are presumably better served by using its assets across the Tasman in normal times. But the point of having domestic reserves includes covering for when Australia is facing a supply crisis at the same time as us, or if shipping is blocked.

Z also made clear its view last year that the Marsden Point refinery should close, but even it may be ruing that thinking now.

Refining Profitability at Record Levels

The returns from refining were already fast recovering in March when production at Marsden Point ceased. They are now at record levels globally.

Although the plant's owners cited a downturn in refining margins as the key driver for the closure, a cyclical recovery was fully expected by the company – rebranded in April as Channel Infrastructure.

Its independent financial adviser even projected last year that this recovery would make it more profitable to keep the refinery open than running the site as just a terminal for importing fuel product, as it is now.

But the expected recovery has arrived faster than projected and on top has come a further tightening of the market nobody expected – as a result of complex dynamics stemming from the Ukraine war.

Overall, excess global refining capacity has been squeezed out to the point there is now a deficit, and this is separate from the effect of the war.

At current product prices, the refinery would be earning at the very top of what the company could make under the agreements that used to be in place with the fuel wholesalers who are also its biggest shareholders – Z Energy, BP and Mobil.

These shareholders oversaw a decision to close the refinery last August for what were ultimately corporate strategic reasons.

Resolving its future in light of changed circumstances is a key step in constructing a resilience plan, as different pathways unfold depending on that decision.

Australia Prioritises Supply Resilience

Ceasing refinery production was expected to reduce the country's already meagre fuel storage by up to 30% without a change of settings, MBIE warned in January.

However, its proposed response was for minimum onshore stocks of just 28 days of diesel and 24 days of petrol and jet fuel, when most European countries insist on 90 days' worth of fuel stocks.

MBIE suggested those levels would be adequate as this is what Australia requires. But such a 'stocks only' view of the picture leaves out that Australia has the capability to use its own refineries and domestic crude to provide a significant proportion of its fuel (19 percent in 2019). This allows indefinite resilience for a sizeable chuck of demand, regardless of stock levels.

Further, the Australian Government has not only committed A$2.3 billion to underwrite the operation of its two remaining refineries, it has promised another A$250 million to modify them and increase their ability to produce more fuel from local crude.

The New Zealand Government in contrast didn't take forward a proposal before Cabinet to lend Refining New Zealand enough to see it through the cyclical downturn. A proposal that was low risk for payback then has only become less risky since.

New Zealand produces enough crude to meet about a fifth of current demand. There are limitations on how much fuel the Marsden refinery could extract from this at present, and the smaller volumes available in a crisis mean the plant would need to run batches and rest in between.

But it's clear that in a crisis the existing refinery configuration could still keep the most essential services running for years. And the plant could be reconfigured to allow much more of the local crude to be processed efficiently, just as Australia has committed to.

The Government asked Channel Infrastructure about reconfiguring the refinery but the company will not disclose the cost and the Government does not appear to have pursued this and related security of supply investigations beyond first base.

This is in part because, unlike its Australian counterparts, the Government doesn't seem to believe there is sufficient risk of the country being cut off from tanker deliveries for more than a month.

Ministers are also rather fond of the local carbon accounts having a million tonnes a year shaved from them as a result of the refinery closure. That cut represents about 25 percent of the total emissions savings required under the new Emissions Reduction Plan – and replacement cuts could be more politically painful.

Linked Plans, Emissions Reduction and Supply Resilience

But at root, the Government has not done the baseline analysis needed to make informed choices on a series of interlinked issues.

That analysis would begin by moving on from a review looking at just "onshore stocks" and expanding the focus to look at "reserve capability" and emission reductions. This wider frame allows more than just storage tanks to be thought about. It recognises renewable energy vehicles and refining domestic crude are also important options.

The core of the analysis involves working out:

* The cost to the country if fuel ran out

* How much reserve capability is it therefore worth holding to insure against such fuel exhaustion

* The least-cost way to deliver that amount of reserve capability

The output from this becomes part of a desperately needed plan for transitioning to zero-emission transport fuels. Emissions reduction and fuels resilience are so interdependent that the plans need to be developed side by side.

While the Emissions Reduction Plan landed some key principles, it hasn't yet developed anything like the level of detail needed to reveal how much carbon a particular policy is going to cut at what cost – let alone what contribution that would also make to fuel supply resilience.

In the critical area of diesel transport – the one vital for keeping food on supermarket shelves in a crisis – the ERP has got no further than proposing that government "provide funding to support the freight sector to purchase zero- and low-emissions trucks".

So there is a lot of baseline work to catch up on. Once complete, it would first inform what shape and scale of programme is optimal to assist the uptake of zero-emission trucks.

Allocation of state assistance could then, for example, be based on tenders for delivery of the best combination of fuel resilience capability and emissions reductions. Such an approach would be shaped to ensure trucks that got assisted would be good fits for the roles most required in a fuel-supply crisis.

However, even an ambitious roll-out of such a programme is only likely to build resilience slowly and selectively. A reliable plan will also need to provide cover for petroleum fuels during a transition to 100% renewables.

And that is where the capability to put Taranaki crude through a domestic refinery is also likely to stack up as an early part of a least-cost insurance policy, ahead of additional storage.

It would extend the life of existing infrastructure and minimise the extent to which expensive new storage tanks are built – ones that may only be needed for a relatively short period.

It would also provide a type of perpetual storage that doesn't run out and would be ideally suited to ensuring reserve supplies for the most essential of services.

A Marsden Point Restart?

The bulk of these supply security benefits would be available whether the refinery is mothballed or was run full time for a transition period – so long as the mothball arrangements allow for a restart at a few weeks' notice.

While the company has ceased refining, it has no plans to undertake heavy demolition work for about a decade – expected to cost $50-$60m. What it has focused on recently and completed in May is decommissioning – making the site safe for when the plant is out of action.

For the company, entering into an arrangement with the Government for the refinery to be kept in standby mode would transform equipment it has valued as $34m of scrap into a profitable income stream.

For the Government, it would likely be more economic still if it could persuade the company to run the refinery again, while guaranteeing it a minimum refining margin for a time – as Australia has.

Last year the company told shareholders that Marsden Point – revamped in the 1980s via a tax on fuel users and with a replacement cost of over $9b in today's money – was "one of the safest and most reliable oil refineries in the Asia-Pacific region".

Whether the company would be willing to run it again depends on a number of things, particularly the views of its major customers/shareholders.

As well as looking at much stronger refining margins on the one hand and big issues associated with a restart on the other (including staffing), the company will again be looking at the issue in strategic terms.

The Government has multiple ways of influencing and even determining the outcome if it wants a functional refinery on the scene.

It first needs to do its insurance homework, and if the numbers stack up, it can even keep the emissions reduction on the domestic carbon accounts by opting for just a mothballed refinery on standby.

What makes no sense is having no serious plan in the face of a very different security of supply climate than has been counted on in the past.

European leaders are now being forced to contemplate what would happen if Russia's shutdown of the Nord Stream I pipeline last Monday were to remain permanent, as France's finance minister has predicted.

"Freezing pensioners, hungry children, empty supermarket shelves, unaffordable cost of living increases, devalued wages, strikes and street protests point to Sri Lanka-style meltdowns" is the assessment of the Guardian columnist Simon Tisdall.

And that is just from losing less than half Europe's natural gas supply.

Transport fuel shortages can be more damaging still, and we need to properly contemplate those scenarios to get serious about resilience planning.

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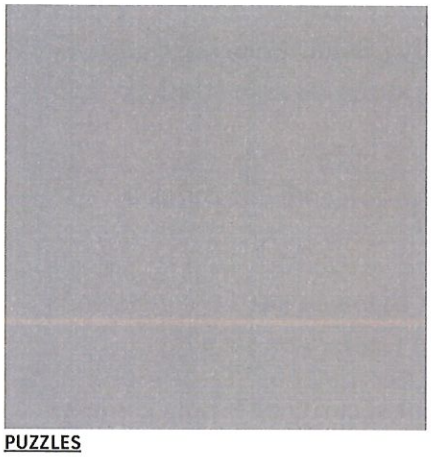
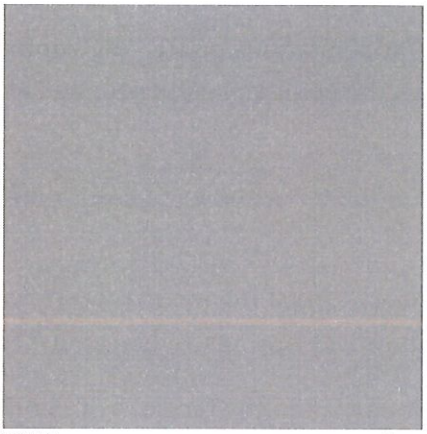


PUZZLES

Newsroom daily quiz, Monday 14 November

Which New Zealander directed the films: Shrek and Shrek 2?

Newsroom Puzzles 11 HOURS AGO

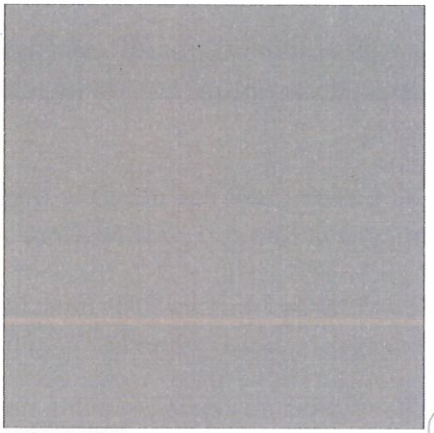


COP27 7

NZ absent on COP27 agriculture day

Rod Oram reports from the world climate summit on a notable absentee

Rod Oram 8 HOURS AGO

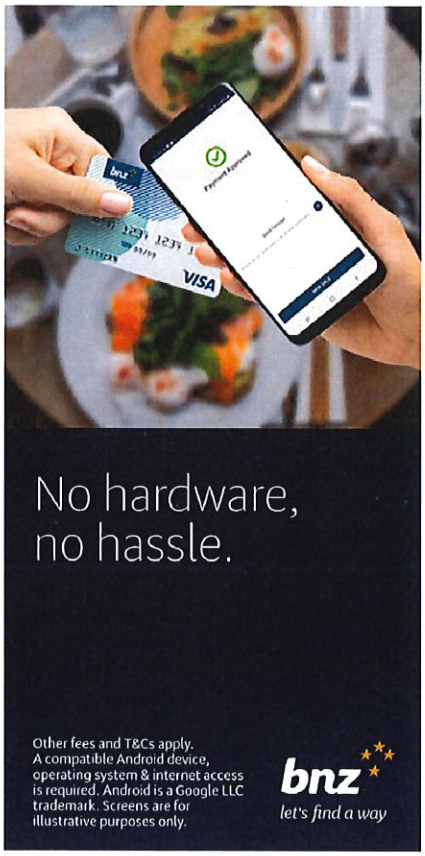


LOCKERROOM

Cup success didn't happen overnight

Having played her part in the unprecedented success of the Rugby World Cup, Kiwi Katie Sadleir has come home to speak at the world's largest women in sport conference this week, on the importance of male allies in female sport.

Merryn Anderson 10 HOURS AGO



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