

CAM

COAL ACTION MURIHIKU

News Update No 2 July 2012

Keeping it pure

This was posted by Southland Mayor, Frana Cardno, on 15 October 2011.
We think it's worth reading again.

In today's world it is all about the global economy and global environment, but I think we must start being aware of possible issues in our own country first. New Zealand is sold overseas as 100% Pure, but that marketing slogan is very much at risk.

We are a wealthy country compared to the third world and we should be looked upon as leaders. I believe strongly we are only borrowing the land from future generations and as such, the resources we are so fortunate to have in Southland do not have to be used by this generation. In the future I am sure we will come up with alternative energy sources which are environmentally friendly.

New Zealand is responsible for only 0.2% of global greenhouse emissions, but that is still quite high per head of population, compared to other countries. We cannot expect to continue to market our agricultural exports to the rest of the world, using our clean green image to promote them, unless we show some commitment to reducing those emissions.

Of grave concern to me personally and to many others I talk to in Southland is the mining of our lignite resources. I know there are sceptics in the world who do not believe in climate change and the effects on our environment, but why take the risk?

Lignite mines of the scale proposed will be visible to any visitor and will affect our landscape and reputation to tourists and consumers in our overseas markets.

I guess it is hard to believe on a beautiful day in Southland that there are problems, but I am equally certain in the reality of climate change, particularly after the large number of in-depth studies on climate change and the various side issues, including fuel use, that surround it.

Not least in this list of studies is that recently released by Parliamentary Commissioner for the Environment Dr Jan Wright. *Lignite and climate change: The high cost of low grade coal* discusses lignite as a

resource, New Zealand's climate change obligations, options to mitigate greenhouse gas emissions and the impact of lignite use on those emissions.

In her overview, Dr Wright states that the Government agreed to reduce its annual greenhouse gas emissions to between 10% and 20% below the 1990 level by 2020. At the rate we are going at the moment,

the emissions are on track to be 30% above the 1990 level by 2020.

"The production of diesel from lignite on the scale contemplated would increase New Zealand's greenhouse gas emissions, significantly," she says.

The report goes on to say that lignite is a carbon-intensive energy source and large-scale lignite use can result in greenhouse gas emissions much larger than other fuel

sources. However, the production of diesel and urea from lignite are both new activities that could qualify for support from the Government in the form of free carbon credits. "But it makes no sense that the Emission Trading Scheme rules would lead to taxpayers subsidising, even at a modest level, new investment in outdated dirty technology," the report summarises.

Dr Wright goes on to make recommendations to the Government, but I want to emphasise to all Southlanders that if they do not want large-scale lignite mining, they need to voice their opinion to Central Government now.

Importantly lignite will not deteriorate while left in the ground until future generations discover technology to use it with less environmental impact.

For the present we need to capitalise on our New Zealand Pure image to maximise returns for the food products that we produce so efficiently from our land here in Southland for markets around the world.



Chemistry & the RMA



A major legal issue at present is whether or not the Environment Court, when considering a consent for land use for coal mining, can take into account the contribution to climate change that will result from eventually burning the coal. However, there appears to be no reason why, under the Resource Management Act (RMA), councils could not be asked to consider the effects on ocean acidification of increasing emissions of carbon dioxide.

Ocean acidification has had a much lower profile than climate change (and is a totally different process) but also has huge potential for causing ecological damage. To understand climate change, talk to a physicist or meteorologist; to come to grips with ocean acidification you need to know a bit of chemistry and biology.

First the chemistry:

- The acidity of a solution depends on the concentration of hydrogen ions that it contains—as the concentration increases, so does the acidity.
- Acidity is measured on the pH scale and (the confusing bit) the *lower* the pH number the *higher* the acidity. Pure water has a pH of 7.
- This scale is logarithmic, which means that (the other confusing bit) a solution of pH 5, for example, is 10 times as acidic as a solution of pH 6.
- When some gases such as carbon dioxide dissolve in water, a chemical reaction takes place that produces hydrogen ions—the solution becomes more acidic.
- The oceans have dissolved about 25–30% of the extra carbon dioxide that humans have produced since the Industrial Revolution, resulting in a decrease of about 0.1 pH units (a further decrease of 0.2–0.5 units is predicted by 2100).
- Seawater is slightly alkaline; the decrease of its average pH from about 8.25 to 8.14 means that it has increased in acidity by about 30%.

AND JUST TO LIGHTEN THINGS UP A BIT

Q: How many climate sceptics does it take to change a lightbulb?

A: None. It's too early to say if the light bulb needs changing.

Robert Butler, environmental blogger

And now for the biology:

- Each kind of living organism functions best at a particular pH.
- Changing the pH of the oceans puts marine organisms under stress—they will have to use more energy for survival, growth and reproduction.
- Life will become especially difficult for the many marine organisms such as corals, foraminiferans, molluscs, crustaceans and some algae, whose skeletons contain calcium carbonate. (As the water becomes more acid it gets harder for them to make and maintain their skeletons.)
- The reduced productivity of many of these organisms is likely to have major harmful impacts on ocean food webs.
- Southern Ocean food webs are likely to be affected first—gases such as carbon dioxide are *more* soluble in cold than in warm water; but the calcium carbonate which the calcifying organisms need is *less* soluble and so less available.

So what about the Resource Management Act?

The effects of ocean acidification are contrary to the purpose and principles stated in Part 2 of the RMA. For example, any action that increases these effects would fail to safeguard the life-supporting capacity of water (Sec 5 2b). There is no known practicable way of remedying or mitigating the effects; so they must be avoided (Sec 5 2c).

Section 6 requires that matters of national importance shall be recognised and provided for, including the protection of habitats of significant fauna (6c) and the relationship of Maori with their taonga (6e). Section 7 (Other Matters) requires that anyone managing the use, development and protection of natural and physical resources shall have particular regard to kaitiakitanga and stewardship (a & aa), the intrinsic value of ecosystems (d), the maintenance and enhancement of the quality of the environment (f) and any finite characteristics of natural and physical resources (g).

All in all, it would seem that when using the provisions of the RMA as a weapon to fight coal mining, we really are spoilt for choice.

Jane Young

With thanks to Geoff Keey for his ideas

WANT TO GET INVOLVED?

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If you would like to make a donation to local or national campaigns, cheques may be sent to:

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Newsletter items to Jane Young by August 10:
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