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## **“Making sense of the mess”**

**Article by  
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“It’s all Max Bradford’s mess.” “Power companies are profiteering.” “Government is not to blame.” “We look like a Third World country.”

It has been quite a media fest. Supposed experts, business leaders, lobby groups and politicians going hammer and tongs. “It is your fault!” “No, it’s yours!” Punch and jab. Duck and dive.

Are you confused? Frustrated? You are not alone.

To most people, the electricity system is just a big jumble of wires, pylons and slabs of concrete. “Who knows how it all works, so long as I get power when I turn my switch on and it doesn’t cost too much.”

If it goes haywire, who’s to blame? “The Government, of course!”

NZ’s power is nearly the cheapest in the Western world. This is because rain is free. Over two-thirds of our electricity comes from river water. The rest is mostly from natural gas. A little comes from geothermal steam.

Very few countries make their power mainly from water. So NZ is a bit special. Not only is water free, it is also very ‘green’.

But while water is free, it is not risk-free. Every year, the same question arises: will it rain enough? And of course, no one knows.

Our hydro system is an annual gamble with Mother Nature. Terrific when it’s wet, but not so good when it’s dry.

The problem we face now is not a lack of power stations – we have enough physical capacity. The problem is a lack of fuel.

Lack of water, due to drought. Lack of gas, due to smaller than expected reserves in our main gas field, Maui.

So we need to insure efficiently against these real physical risks, just as we need to insure against other random acts of nature.

The question is how do we insure, to what level and who decides? These are the issues the Government is grappling with.

The traditional approach – for the last 100 years, in fact – has been to put the whole shebang in the hands of a few people in one organisation – the Government. Until 1988, the Electricity Department, then ECNZ until 1996, provided enough generation capacity and fuel to cover the worst known drought over the previous 20 years. (This was increased in 1992 to the worst known drought in 60 years).

If a drought was worse than the system could cope with, the Government would call for voluntary power savings (as it is now). If that wasn't enough, the Government would then cut power supplies for certain periods of the day. Some readers may remember the shortages and 'Brown Outs' of the 60s and 70s.

Power prices increased, but only up to a limit: the Government set price caps. Signals of a shortage were therefore very weak. (Until 1998, electricity prices were largely determined by Ministers at a senior political level).

The old system was based on a traditional view that *only* the Government needed to worry about security of supply. We had a small group of bureaucrats who decided what the risks were, their likely costs and how best to insure them for everyone.

We had just one view on how serious the risk of shortage was, and only three tools for responding if a shortage occurred: building more stations, appealing for national savings and enforcing power cuts.

In today's terms, it would be like requiring every Americas Cup team to do-away with their own weather strategy teams and follow the same weather advice from a single group of Government officials.

It is a basic rule of risk management is that the people who face the cost of risk are best placed to decide how to insure against those risks. Their solutions are more likely to be cheaper and better suited to their situation than a solution imposed by someone else.

This is the crux of the problem.

The costs and risks of a power shortage are different for different users. Some factories can make more money selling their power back to the grid for a few weeks than continuing production of their normal products. Many offices can turn off non-essential equipment without loss of productivity. Some manufacturers have their own back-up power plants. Others will want to buy financial insurance in much the same way we buy insurance for our house and property.

A good electricity system will absorb electricity shortages in a way that causes the least possible cost to businesses and communities.

After 100 years of expecting the Government to manage the risk, it is hardly surprising that our leading electricity producers and consumers still think the Government will look after them if they don't insure.

Old habits die hard, but it is no reason not to change to a better system.

The Government's challenge is to lead the transition. This is more about political culture than physical engineering. Another example is how the Government is leading a campaign to get people to protect their homes against the risk of earthquakes. The Government needs to encourage large consumers and competing retailers to think about electricity in the same way.

If large consumers and retailers 'own' the risk, they will set about finding the best insurance mechanism for their circumstances. This will set off a new dynamic among buyers and sellers of electricity, which is vital if the transition is to succeed.

The Government also needs to lower the barriers to retail competition. Solving various issues relating to the transmission grid is key. Solutions are well known, but industry in-fighting has prevented timely action.

Another important issue relates to Genesis, which owns Huntly, our largest power station. Critics say they failed to stock-pile enough coal. Genesis says this is a “public good” activity and the costs should be shared by everyone. Genesis claims its job is confined to looking after its customers, not those of its competitors.

This argument is flawed. Genesis’ mission should be to use its assets in the best possible commercial manner. Owning the Huntly power station, Genesis is well positioned to offer insurance contracts against dry year risk on a commercial basis. Selling insurance contracts to its competitors would be a very rational business strategy, using assets to their best possible commercial effect.

More to the point, not offering these contracts – and not buying enough fuel to deliver on them – is, in my view, a significant failure by Genesis to operate as a successful business.

Since it started back in 1986, the electricity reform process has been vigorously opposed by various powerful vested interest groups. Much of their opposition was and still is driven by narrow self-interest, not consistent with the country’s wider interests. This has led to many poor quality compromises over the years.

I sense these forces are at work again now.

Some people opposing the reforms are well-intentioned. Part of the problem arises from trying to merge two different disciplines: engineers often do not understand economists and visa versa.

The traditional engineering school thinks in terms of bricks and mortar, ‘physical’ power contracts and central control. By contrast, the liberal economic school thinks in terms of financial hedges, clearing prices and diversity of risk-management.

For traditionalists, this liberal view feels like a right handed person trying to use their left hand – it just does not feel right.

However, moving to a more flexible electricity system is not a fanciful economic experiment. With good judgement and sound leadership, there is no reason why the NZ Government should not also be able to declare with pride in a few years, as Tony Blair did last year in the UK: *“The introduction of liberalised and competitive energy markets in the UK has been a success, and this should provide a cornerstone of future policy.”*

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