



## February DRREA 'Big Picture' News

### Liddell Power station

At our February 12 Energy Forum there was discussion of Hazelwood and closure of other aging power stations such as Liddell and Yallourn W. Advance planning and set in concrete closing dates would help. Liddell's owner AGL it seems is planning ahead to replace its generation capacity prior to its 2022 closure. The excerpts below from Renew Economy on Feb 13 provide a little more detail.

"AGL is taking the next step in its plans to replace the ageing and increasingly unreliable Liddell coal generator in NSW, and is about to seek expressions of interest (EOI) for around 500MW large scale wind farms".

"The company plans to close Liddell in 2022, and said in December it would build around 1.6 gigawatts of wind and solar, plus some storage and other capacity, arguing that it would be significantly cheaper than keeping Liddell open, as the Coalition government had demanded".

### New York, New York

Leading BP news is the decision of New York City to sue 8 global fossil fuel companies for the damage caused by climate change. An interesting and significant development.

See commentary below from Bill McKibben and Naomi Klein for 350.org on January 10.

"New York City Mayor Bill de Blasio has just made an announcement of gigantic proportions in the fight to stop climate change".

"Just moments ago, we stood with Mayor de Blasio as he announced that New York will divest its city pension funds from the fossil fuel industry. As if that wasn't a big enough moment on its own, there's more. He also announced a lawsuit against some of the biggest oil and gas corporations for the damage caused by climate change".

"For a city as iconic as New York to take a public stand in such a big way shows the tide is beginning to turn in our climate fight".

### Snowy 2.0 under question

In Renew Economy on Jan 24 Giles Parkinson reported the following. "French renewable energy and battery storage developer Neoen has reached financial close on its 150MW Coleambally solar project in NSW, and has begun construction barely a year from forming the initial idea". Read on to get to the interesting bit

Interestingly Franck Woitiez, the CEO of Neoen's Australian operations, later said, "You could build 2,000MW of solar, add storage, and provide reliable and dispatchable and cheap electricity in half the time of hydro, and at a lower cost." I wonder what Malcolm would say to this????????????????????????????????????

## 19 GW of solar farms in pipeline

On January 23 RenewEconomy and consultancy Sunwiz announced the commencement of a new service tracking Australian solar farms.

“SunWiz and RenewEconomy are now tracking 161 solar farms through their development cycle. There is currently 19GW worth of solar projects that have been publicly announced”. Big Picture News will pass on updates as we get them.

## Battery recycling

The short update on battery recycling below is from industry insider and DRREA Energy forum presenter Jim Happ. From what I have heard and read this is a real issue.

“The world is quickly developing a big problem with battery recycling. I refer mainly to Lithium type batteries which are predominant in storage and EV applications and for which there are minimal or no recycling technologies in place”.

[Robin, Michelle, Peter](#)

Have a look at this paper; a thorough review of various methods of recycling these batteries Umicore is a specialty precious metals recovery business, spun off from the parent company of the new smelter at Port Pirie; Umicore's process involves smelting the stripped batteries in a furnace, using a special slag. There has been a lot of discussion (I've been involved in the flowsheet modelling) about treating ~ 5000 tonnes/annum of recycle batteries at Port Pirie, which could include electronic scrap (e.g computer boards, Mobile phone boards, lead/acid batteries, Lithium battery material etc.)

It's not worth using the special slag in the Pirie furnace; about half of the feed material will be sulfide concentrates; the other half will be residues from the zinc smelters in the parent group (e.g. Hobart in Oz, Budel, Auby, Balen in Europe) . These residues would normally be dumped; but leakages from the storage ponds into groundwaters have prompted a change of policy to smelt all these residues at Port Pirie in the new furnace. This will prevent local pollution and recover valuable metals (zinc, lead, silver, gold, copper, cadmium, germanium etc) into saleable products ; and send the waste materials (silica, alumina, iron etc) into an inert slag which doesn't leach out toxic metals into groundwaters.

The lithium in batteries can't be recycled in this approach; it goes to slag; the graphite is burnt out; but the copper, nickel and cobalt in lithium batteries is recovered for sale in products. Other processes being worked on by Umicore may eventually succeed in being commercial for recovering values from lithium -ion batteries. But right now lead-acid and zinc-air batteries are much better prospects for recycling. Some remote off-grid mining companies have set up solar (PV) power plants, with diesel backup for night time, and zinc-air batteries for frequency /voltage control and stabilisation. An ideal combination, with substantial savings in diesel costs.

Jim Happ