

Thank you for undertaking this Inquiry . As an ex-employee of the Hydro who worked on power station construction , including the pump – hydro installation at Lake McKenzie , I was totally bewildered by the engineering folly of the Tasmanian pump hydro proposal . The original proposal of the Marinus link was to use surplus power from solar produced in Western Victoria during the day to pump water to be used to re-generate power later . That proposal is totally flawed in the Tasmanian context as it is simply not necessary to pump water as we have multiple dam storages – this means that imported power can be used directly into our network , and closing down the same capacity in hydro generation while that solar input is available . This is the same opportunity we use in managing wind power generation in the state and would mean no loss of efficiency , with our existing dam storages still acting as a battery .

The original 14 possible pump hydro sites were reduced to 3 proposed sites with detailed plans provided to the public to show how the underground pump/generators would work . These plans had a basic flaw – the generators were at the wrong end of the tunnels –i.e. at the top . I first raised the issues with the Hydro working party in 2018 , but it took 2 years of continued work before they acted by reducing it to the one site at Cethana , and only recently has the announcement been made that Cethana is off the table whilst the Marinus Link uses one cable . It should be realized that Tasmania will never need to use pump hydro systems until we reach a position where the total of wind/solar power available exceeds Tasmania’s requirements in total and we can turn off all of the Hydro power stations . If we ever reach that level of renewable generation we have several river run power stations where a small dam immediately below the existing dam/power station would allow for a pump hydro system by simply pumping water back up into the dam it has just come from . There would be no need to go underground , and the roads , transmission lines and switchyards are already in place . This is what Snowy 2 does , and the only reason they use tunnels is because their intakes are on one side of the mountains and the discharge on the other side for irrigation .

This can only be termed a fiasco that should mean that we scrutinize very carefully any policy put forward by the Hydro , particularly since they managed to run us out of water reserves with only one Basslink cable . The original Basslink cable had a nominal rating of 600mw , [800 for 4 hours only] , and since the repair has a reduced safe capacity and is currently being used mainly at 450mw . However , used in conjunction with just one 750mw Marinus cable , the combined capacity of 1200mw is about Tasmania’s total load requirement , but that also means they may run us out of water very quickly , particularly as our Hydro has effectively lost control of the decisions – it is the Federal Regulator that will decide how and when the cables are used . Those decisions will most likely be based on the use of the cables to give a return on the cable costs , that is a ‘must use’ clause , not whether it benefits Tasmania or not.

MARINUS ;

It is clear that the use of Marinus will dominate our market arrangements and that it will be of great benefit to Victoria in particular . However , just like the present use of Basslink , the power being brought into the state for the foreseeable future is of the Victorian mix , which is between 60 and 70% coal produced . This reduces any claim we have of being 100% green , and in turn we cannot expect to attract industries that wish to make that claim . This will become critical in the future as it is the emissions issue that is driving all the changes and it is certain that all

businesses will have to be mindful of the source of their power and most likely there will be some form of emission trading rules imposed .

The Victorian situation is a fundamental risk as it is very much in their own interest to control their own power industry , including the jobs on offer by establishing their own pump hydro schemes. They are in transition from being a net power exporter to a net importer , and currently have to sort out their transmission line issues , and only when they have done that can they investigate where they can install their own pump hydro or storage options .

Victorian prices will continue to rise , and ours with it if we continue with mainland pricing links , because they have to first exit coal , build gas generators to replace it , then in turn exit gas and change to solar or wind as the final step . It is the time frame of reducing emission targets which drives this process and Victoria has no choice but to follow that path . As more progress is made by all states in changing to solar and wind generation the cost difference in power will decrease , and the trading cost benefit that underpins Marinus will almost certainly reduce . The present high mainland prices are in large part due to manipulation by the larger producers acting as a cartel , and as the market Regulator gains more control over that aspect the price differentials will reduce .

If continuing with a pump hydro business model there is a 25% loss in efficiency – 15% is lost just pumping up and down a pipe due to inherent machine losses , rising to 20% due to friction if pumping in a tunnel, which is what Snowy 2 assumes , but a further loss in practice because of loss of effective height . It is clear that the model promoted to date benefits the overseas owners of windfarms in accessing a market , but will struggle to show any trading profit for Hydro sales to the mainland market and is clearly detrimental to Tasmanian customers .

PRICING ;

It is very much in Tasmania's best interests to break the link to mainland prices – it is inflationary at a time of crisis in cost of living problems . It is simply an increase in State tax , and it is not proportional to ability to pay or to income . The cost of heating and running a home with electricity is much the same for a pensioner or a highly paid person , but the ability to pay is not . At the time that the Hydro ran us out of water the dividend was a regular \$40 million per year , but the current intention to use the link to mainland prices to raise the dividend to \$150 million is a rise of nearly 400% in a manner not proportional to income . That is truly appalling , and the benefit to the Hydro balance sheet is coming not from trading on the National market but from Tasmanians.

There should be no problem at all in charging Tasmanian customers at a reasonable level above cost of production , yet still exporting excess green power to the mainland market at the price applicable at the time in their market .

BIO-MASS GENERATION ;

Tasmania is missing out on a golden opportunity to generate power from wood waste from our forest industry . Providing it meets the requirement of re-planting trees , which our industry does , power generated from wood waste is now recognized as green in the same way solar or wind is regarded . The largest coal fired power station in England has been changed to a wood pellet fuel , with the pellets sourced from the Gulf states in America , and the basis is an emission trading scheme of world wide significance . These bio-mass generators are available in various sizes and in turn-key form . Three of these, one each in the North East , North West and South could be used and as part of the fuel mix they can work on any flammable material that goes to landfill at present .

Bio-mass generation can add to our green power mix and has added benefits in reducing waste and smoke from re-generation burns , and by giving a dollar value to waste we can turn the present woodchip driven plantation industry to one focused on sawlog production . The process lends itself perfectly to both pine and hardwood plantations , but also has benefits to conventional logging and to any shredded waste from landfill or agricultural waste .

If the Committee is taking verbal submissions , I would like the opportunity to speak to them or to the new Minister about these issues in more detail .

The present policy of encouraging privately owned wind farms should be abandoned in favour of the Hydro building and operating the wind farms as part of an integrated business . The power available when the wind blows takes precedence in the grid and is best managed by the Hydro . At the moment the private wind farms depend on access to Basslink for their profits but directly or indirectly it is the taxpayer who pays for the cable to make it possible .

SUMMARY

- [a] There is a need to break the link to mainland pricing .
- [b] We must ensure that any power brought into Tas. is green and not coal based so that we can maintain the claim to have 100% green power generation .
- [c] We need to foster bio-mass generation .
- [d] It is the Hydro that should build and own any future wind farms .
- [e] Marinus Link should face intense scrutiny -- it benefits overseas owners of windfarms , most likely will not show a real trading profit and is clearly detrimental to the Tasmanian customers.

Malcolm Eastley.