

Senate Standing Committees on Environment and Communications

Retirement of coal fired power stations

Address to Senate Committee, 23/02/2017

Mr Laurence Capill,
on behalf of Bunbury Against Coal Exports

My background

- A qualified geologist, forester and natural resource scientist
- Presently employed as a practising forester in SW WA
- Previously employed in farm forestry extension and forest industry development
- A member of the Australian Institute of Foresters and Australian Forest Growers association
- A founding member of Bunbury Against Coal Exports – an association established in response to proposals by Griffin Coal and its Indian owner Lanco Infratech to significantly increase coal production from its Collie fields and export this through the Port of Bunbury
- The views expressed in my submission and this presentation are my own and not necessarily the views of any other person or organisation.

The objectives of my submission and presentation

- ***To stress the seriousness of the climate change issue, and the depth and urgency of our mitigation strategy, if crisis is to be averted.***
- ***To appraise the Committee of the WA context with respect to retiring coal-fired power plants, and the implications of this for the regional economy, including the Collie coal industry, the renewable energy sector and the local communities.***
- ***Draw some parallels between the situation here in WA and in other parts of Australia.***
- ***To identify some of the related issues that must be simultaneously addressed if retiring of coal-fired power stations is to successfully contribute to achieving the Paris Agreement goals***
- ***To highlight some ways that forestry and wood production can assist the transition to a decarbonised economy and contribute to a revitalised future for Collie and the WA community at large.***

My contribution today is founded on recognising the seriousness of the global climate crisis. The impacts of global warming are likely to be cumulative and compounding, and it is becoming apparent that the costs will be far greater than previously thought.

We need to decarbonise the whole world economy, and this will require a smooth transition via actions that are early, co-ordinated and ethically fair. Lack of, or delayed, response will result in much greater impacts and costs to the environment and the economy.

Of fundamental importance is the need to greatly reduce carbon emissions to the atmosphere.

Modelling has shown that if the Paris Agreement goals of limiting global warming to less than 2C or 1.5C are to be achieved, then a very constrained global carbon budget requires that large quantities of fossil fuels must be left unutilised. The International Energy Agency (IEA) acknowledges just how challenging a task this will be for the world community. Globally, we are talking about one third of oil reserves, 50% of gas reserves and 0% of coal reserves. For Australia, as part of the Pacific OECD, the constraints on coal are greater, with only 7% of current reserves available for use by 2050. The key question is, which resources should be developed and which forfeited?

Given the scale of these required cuts in coal production, and the relatively low (sub-bituminous) grade of WA's Collie coal, it is most doubtful that a case based on equity principles could be made for continued mining of the Collie-Muja deposits. And there are major technical issues with implementation of carbon capture and storage (CCS) technologies, energy efficiency is greatly impaired, and the costs are likely to be prohibitive, relative to alternative energy strategies.

Therefore, these reserves should be regarded already as stranded assets on the books of their current Indian and Chinese owners.

Currently, most but not all of the coal is burnt to generate electricity for the WA grid. The mines also supply coal to other large firms, including Worsley Alumina and the Simcoa silicon smelter. If it went ahead, the proposed Collie urea plant would depend on coal as both energy and feedstock. Griffin Coal has been planning to open up a whole new mine at Muja South, with major exports through the Port of Bunbury.

Retiring WA's coal-fired electricity generators is likely to undermine the economic viability of the mines, with serious implications for the other coal customers.

It would be counterproductive for the coal companies to find new markets for their resource. What would be the point of retiring coal-fired power stations, if the coal is still extracted and burnt, locally or abroad?

I argue, therefore, that the mines must be closed entirely. The transition strategy needs to extend beyond just the electricity sector to include:

- Transitioning the electricity sector from coal (and gas) to alternative, low fossil-carbon fuels;
- Restructuring the grid infrastructure to accommodate alternative, variable and dispersed energy generators, with associated changes to power market design and electricity security;
- Decommissioning the coal mines, with necessary minesite rehabilitation and restoration of the water catchments that have been heavily impacted by coal mining over many decades;

- Considering the other major coal users, and how their energy needs might be met from fossil-free sources. Indeed, can they remain viable?
- Assisting the coal-reliant Collie community to transition to a new economic future.

Some important issues that need to be dealt with include:

- Putting measures in place that will ensure that the companies and organisations that own the fossil carbon resources, the mines and the coal-fired power plants are not able to avoid their fiducial obligations;
- Evaluating future energy options on an equitable basis, including ensuring that the full costs of fossil fuels, including the adverse social, economic, environmental and intergenerational effects of climate change are internalised. The IMF has assessed the climatic and public health costs of coal to be around \$70/tonne.
- Not unduly constraining the opportunities for re-engineering the WA electricity grid by privatising Western Power at this critical phase.

The post-coal future of WA is not gloomy. WA has numerous world-class alternative energy resources that offer pathways for regional economic restructuring, development and industry:

- Wind and domestic solar are already rapidly developing
- There is scope for concentrating thermal, geothermal and ocean energy
- There is potential for significant contributions of bio-energy, produced from:
 - Forest thinnings and harvest residues
 - Wood and timber industry residues and wastes
 - Agricultural bio-mass, including crop residues, energy crops and farm forests (eg oil mallees)
 - Municipal waste streams

While not a panacea, the potential for biomass in the alternative energy mix is significant.

Bioenergy complements the alternative energy mix by providing a dispatchable energy supply, while the fuel can be easily stockpiled until required.

Existing power plants can already use bio-mass (eg Worsley Alumina), or can be retrofitted to do so, as part of the energy transition plan.

Trees and wood are a great alternative energy fuel to fossil fuels. But in addition, even while the trees are growing, they are reducing global warming by extracting carbon out of the atmosphere. And durable wood products and timber in buildings can store carbon for a centuries.

Forest establishment, tending and harvesting employs large numbers of people. Also construction and operation of wood processing and manufacturing plants, including bioenergy plants, employs many more.

Consideration should be given to the opportunities for:

- Pyrolysis plants, which can break down wood into a range of energy, carbon and industrial chemical products
- Wood pellet plants, which produce a better quality of bioenergy fuel that can be easily stockpiled and transported for local or export markets.

Attention is drawn to the pilot integrated oil mallee processing plant at Narrogin, which has demonstrated the feasibility of processing the existing 40,000ha oil mallee plantation resource in the WA wheatbelt.

Using forest, plantation and sawmill residues for bioenergy enhances options for the forestry sector and can underpin the expansion of the forest estate and the entire timber industry. Farm forests help diversify and improve farming businesses and rural economies. Expanded forests will assist catchment restoration and improve the quality of water resources.

Thinking about post-coal futures for Collie, forestry has much to offer:

- Collie has a strong historic and cultural link to the timber industry
- Forest biomass (with natural gas) can provide short-medium term fuel supplies for existing coal-fired power plants in the lead-up to their eventual decommissioning.

I draw the Committee's attention to the following plans and strategies that are relevant to both Collie and WA more broadly in the transition away from coal and invention of a new economic future for the workforce and the community, with a particular emphasis on opportunities in the forestry sector:

- ***ENERGY 2029: The Greens 100% Renewable Stationary Energy Plan for WA. Australian Greens 2013.***

This report canvasses technology options for the rapid decarbonisation of the electricity grid that lights up the South West of Western Australia.

- ***Collie: A Renewable Energy Zone. Australian Greens 2013.***

The Australian Greens have identified Collie as one of five regional sites in Western Australia for renewable energy development. Doing so would create jobs in clean growth industries and secure Collie's future in the face of concerns over the viability of the coal industry.

- ***Reimagining Collie. Collie Economic Development Task Force, Draft Report, Nov. 2016***

- ***The case for renewed development in plantations. Forest and Wood Products Australia, 2012***

High upfront costs, high opportunity costs due to the long time period before harvest and insufficient revenue stream to compensate for risk makes investment in long rotation plantations economically challenging for many investors.

Stage one of the report assesses the case for investment in long rotation forestry and confirms that the level of investment in Australia could be below the economically efficient level.

The report considers the environmental values of forestry; analyses factors affecting the markets for environmental and wood values; discusses the capacity of different forms of forestry in supplying sawlogs; and draws conclusions and inferences on the key identified constraints for investors and the scope to improve the case for renewed investment by removing the identified barriers.

Stage 2 of the report considers 13 distinct groups of policy options covering

values such as carbon, biomass, salinity, mixed environmental values as well as options including taxation reform and the removal of pricing distortions.

All options will require government intervention either through the provision of resources or through regulatory/policy reform. Industry will also have to stay involved to ensure the target objectives are achieved without compromising other objectives, and that policy design reduces the risk of unintended consequences.

- ***Transforming Australia's forest products industry. Forest Industries Advisory Council, June 2016.***

Outlines a vision and strategies for addressing the opportunities and challenges for the forest industry to 2050 and beyond. It makes recommendations to industry and the Australian Government on how best to position Australia's forest products sector for the future.

- ***When Money Grows on TreesWhy aren't we planting? Ernst & Young, 2016***

With a strong vision and coordinated thought-through policy framework, Australia's forest, wood and paper product sector could be more internationally competitive in terms of its investment attractiveness, price-premium products and highly skilled workforce.

Our forestry industry could make a very significant contribution to economic, environmental and social wellbeing across regional Australia.

- ***Growing a strong future – a policy for Western Australia's native forest industry. Forest Industries Federation Dec 2016.***

Makes six key strategic recommendations to ensure the WA native industry can invest and grow to be able to meet the growing national and international demand for timber.

- ***WA Plantations the Missing Piece of the Puzzle. Forest Industries Federation, Oct 2016.***

Plan aims to deliver a total plantation estate of 225,000 ha within three WA hubs. The policy proposal would see state and local governments recognise the strategic value of industry hubs, and work with industry to develop and implement well-targeted policies to reignite investment in plantations in WA.

Contains 12 recommendations to reignite investment in plantations, addressing factors including reducing fire risk, reversing salinity, investment in infrastructure, developing a WA bioenergy market and investing in training for young recruits to the industry.

- ***Oil mallee industry development plan for Western Australia. Prepared by URS Australia Pty Ltd for the Oil Mallee Association and WA Forest Product Commission, Nov 200.***

The development potential of the mallee industry in Western Australia is comprehensively described in this 200 Australian Government publication. The plan describes the mallee's potential uses and products, which include biofuel, wood pellets, bio-oil and bioelectricity.

- ***Forests for Life. WA Forest Alliance 2017***

A timber industry development and restructuring plan proposed by an alliance of WA environmental groups comprised of 3 main components: Farm forestry, plantations, and salvaging native timber for fine woodcrafts

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