

**Submission  
No 153**

## **SUSTAINABILITY OF ENERGY SUPPLY AND RESOURCES IN NSW**

**Organisation:** Correct Planning & Consultation for Mayfield Group  
**Date Received:** 14 September 2019

Partially  
Confidential

## Correct Planning and Consultation for Mayfield submission to

### The Environment and Planning Committee of the NSW parliament Inquiry into the Sustainability of energy supply and resources.

*The Committee is examining prospects for renewable energy, trends and markets in energy supply and exports as well as the environmental, social and health impacts of energy supply and exports and opportunities for diversification in coal communities.*

#### **Terms of Reference**

- 1. The capacity and economic opportunities of renewable energy.*
  - 2. Emerging trends in energy supply and exports, including investment and other financial arrangements.*
  - 3. The status of and forecasts for energy and resource markets.*
  - 4. Effects on regional communities, water security, the environment and public health.*
  - 5. Opportunities to support sustainable economic development in regional and other communities likely to be affected by changing energy and resource markets, including the role of government policies.*
  - 6. Any other related matters.*
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#### **A. Introduction.**

**Correct Planning and Consultation for Mayfield Group (CPCFM)** was formed in 2010.

It is a not for profit and non-aligned community group, established to represent the views of the **residents in Mayfield, and adjoining Inner - City Harbour side Suburbs of Newcastle**, particularly in relation to Planning and Consultation matters, and more widely in matters relating to the Environment, and Climate Change.

2. This submission is jointly prepared for CPCFM by the Undersigned – John L Hayes, and Rick Banyard.
3. We request the Committee hold hearings in Newcastle and the Hunter, and we request that both of us have a chance to address the committee.

#### **B. Good News.**

Before we get into some very detailed proposals, we thought that Committee would be interested in **two** very recent good news stories:

1. where **Rail in Germany** is leap-frogging old Carbon technologies – Coal fired power and diesel, to now using Hydrogen fuel for power:

German Hydrogen Train

The first hydrogen-powered train in the world has started service in Germany. The bright blue Coradia iLint trains will replace conventionally powered diesel trains that currently operate on a 100km route.

The hydrogen-powered vehicles can travel about 1000 kilometers on one tank of hydrogen. The French built Alstom made Hydrogen powered trains began running the 100km route between the towns and cities of Cuxhaven, Bremerhaven, Bremervoerde and Buxtehude in northern Germany. It is the same route normally operated by diesel trains. Hydrogen trains are equipped with fuel cells that produce electricity through a combination of hydrogen and oxygen, a process that leaves steam and water as the only emissions.

Excess energy is stored in ion lithium batteries on board the train.

The Coradia iLint trains can run for around 1000 kilometres on a single tank of hydrogen, similar to the range of diesel trains.

The Germans have 14 more blue hydrogen trains on order.

Take a look at this video <https://youtu.be/ael-31dOULY>

and

2. **Steelmaking in Newcastle** is using new tried and true technologies – PV and Wind, to replace more than 50 % of its high Electricity needs, previously being 100% from Coal Fired power:

## **Molycop LANDMARK SUSTAINABLE POWER PURCHASE AGREEMENT**

*19 AUGUST 2019*

Molycop, incorporating Comsteel, has announced the signing of a long-term Power Purchase Agreement (PPA) with energy retailer, Flow Power.

This agreement runs until 31 December 2030 and is backed by offtake agreements with the Bomen Solar Farm and the Sapphire Wind Farm, both located in regional NSW.

Under the PPA, Molycop's **expected offtake of renewable energy is 100,000 MWh per year which covers more than half of its electricity consumption in NSW.**

This will make Molycop one of the largest purchasers of renewable energy in Australia.

from Molycop website: <https://molycop.com/why-we-do-it/landmark-sustainable-power-purchase-agreement/>

### **C. It is sometimes said that the BHP Closure in Newcastle was done well.**

There is a good deal of research, and much anecdotal evidence to dispute that.

#### **Regretfully the Hype was just that – HYPE**

According to the hype, the company was not really dumping thousands of workers on the unemployment scrap heap at all. Rather BHP was bequeathing a real benefit for the whole region—a highly skilled, retrained and disciplined workforce that would be picked up at a moment's notice and utilised by other employers and investors drawn to the Hunter Valley.

Very many Sad stories. So, the BHP template is not what is needed here in Newcastle and the Hunter in 2019. Read on for much better models

**D. Burning fossil fuels is fundamentally *unsustainable* so Imperative to ramp it down ASAP**

**Climate Change and Global Warming - IPCC references, Upper Hunter itself in prolonged drought etc.**

**Social, economic and environmental costs of coal and gas**

1. The Committee should consider the environmental, economic and social costs of burning coal and gas for electricity and how renewable energy can improve air quality, lower electricity prices and strengthen regional economies.

2. Coal mining and burning are two of the chief causes of poor air quality in the Hunter region, which is damaging people's health.

EPA NSW. Clean Air for NSW consultation paper. 2016. <https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/air/clean-air-nsw160415.pdf>

3. Coal mining and burning consume large volumes of water. In times of drought, our energy systems are vulnerable because they rely on water, and the demand from coal also impacts on other water users, especially agriculture.

See for example, Department of Premier and Cabinet (2017) Upper Hunter Diversification Action Plan and Infrastructure NSW 2014 State Infrastructure Strategy Update Chapter 6 "Water

4. The opening of gas exports from eastern Australia and introduction of high cost coal seam gas to the market has driven up gas prices and expensive gas is making the price of electricity for households and businesses unsustainably high.

5. Annual emissions from NSW coal exports, when burnt in overseas power stations, are approximately triple NSW's annual domestic greenhouse emissions. This gives New South Wales a global role to play in tackling climate change.

Based on latest Coal Services NSW export volumes, emissions from NSW coal exports in 2017 are estimated at 393.12Mtpa CO<sub>2</sub>, compared with reported NSW emissions of 131.6 Mtpa

5. The very significant destruction of native forests and productive farmlands in the Hunter Valley and nearby is vast.

6. Other groups will have more expertise and data than us, relating to the Industrial Scale Coal Mining taking place in this region; but the extent is almost overwhelming in many places on the Hunter Valley floor around Singleton, Muswellbrook, Denman etc, and in areas in adjoining nearby valleys such as Gloucester, Wollar and Ulan, and prospectively - the Bylong Valley; and in the Liverpool Plains.

7. In 2005 philosopher Glenn Albrecht coined a new word **Solastalgia**, while working at the University of Newcastle. It best describes the suffering people are experiencing with this Destruction and Change.

*It is a neologism that describes a form of mental or existential distress caused by environmental change. In many cases this is in reference to global climate change, but more localized events*

such as volcanic eruptions, drought or destructive mining techniques can cause solastalgia as well.

*Differing from homesickness, solastalgia refers to the distress specifically caused by environmental change. In 2015, the medical journal The Lancet included **solastalgia** as a contributing concept to the impact of Climate Change on Human Health and Wellbeing.*

Simply put, it is “the homesickness you have when you are still at home”.

<http://theconversation.com/the-age-of-solastalgia-8337>

<https://en.wikipedia.org/wiki/Solastalgia>

8. In **Some Coal facts for Newcastle and the Hunter** in Appendix A,

we set out the vast industrial scale processes in **transporting the 160 m tonnes pa of the Coal mined, from Mine heads in the Hunter and adjoining valleys, to the Port of Newcastle; and then to overseas destinations.**

An organised and well thought out transition from Mining and Transporting Coal, and its burning to generate Electricity, to the utilisation of Renewable Energy, will free up this vast transport juggernaut for many more productive activities, which - over time can ease the Climate and Environment impacts currently being endured.

9. The Port of Newcastle is vigorously pursuing the right to build a **large Container Terminal in Newcastle**, without punitive conditions imposed by the State of NSW.

If it is successful, then the Coal monopoly use of the Newcastle and Hunter rail lines will need to make room for maybe a million containers or many more than that, to use the same rail lines.

**So, the phasing down of coal will be necessary to create the space on the lines.**

10. New South Wales was once a world leader on climate action, but a new Climate Council report shows it is now far behind, **spewing more greenhouse gas pollution into the atmosphere than any other state or territory.**

The Climate Council report – [\*Ageing and Unprepared: Energy in New South Wales\*](#) – examines the state’s ongoing dependence on coal and gas power stations, and its tardy transition to renewable energy.

**E. The world is changing and NSW is vulnerable to that change / Mines coming to the end of their lives**

1. NSW is vulnerable to changes in global coal markets as our overseas customers make shifts in their energy systems towards renewable energy.

2. The most recent forecast from the Office of the Chief Economist shows likely declines in coal imports in our three biggest coal customers: Japan, South Korea and China.

3. See Chart below showing Thermal Coal exports in Volumes and Dollars

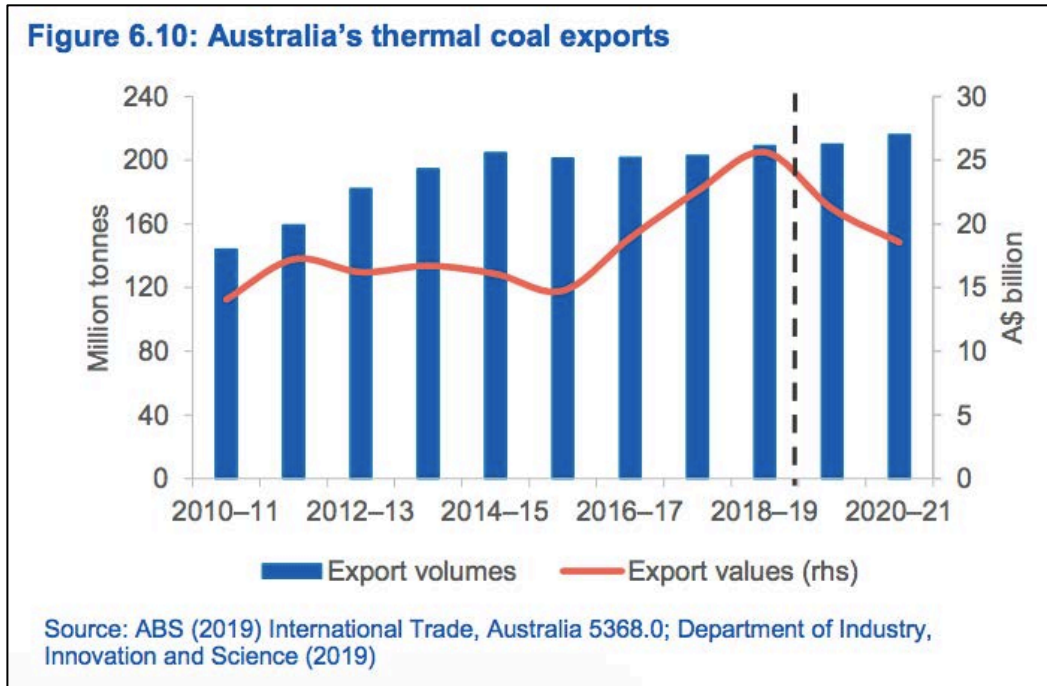


Figure 6.10 Australia’s thermal coal exports. Page 50 Resources and Energy Quarterly 2019: <https://publications.industry.gov.au/publications/resourcesandenergyquarterlyjune2019/documents/Resources-and-Energy-Quarterly-June-2019.pdf>

4. The second chart below, also from the Office of the Chief Economist - dated June 2019, shows Annual Growth in both Values and Volumes of Thermal Coal exports diving into the negative. It is also on p50, referenced below

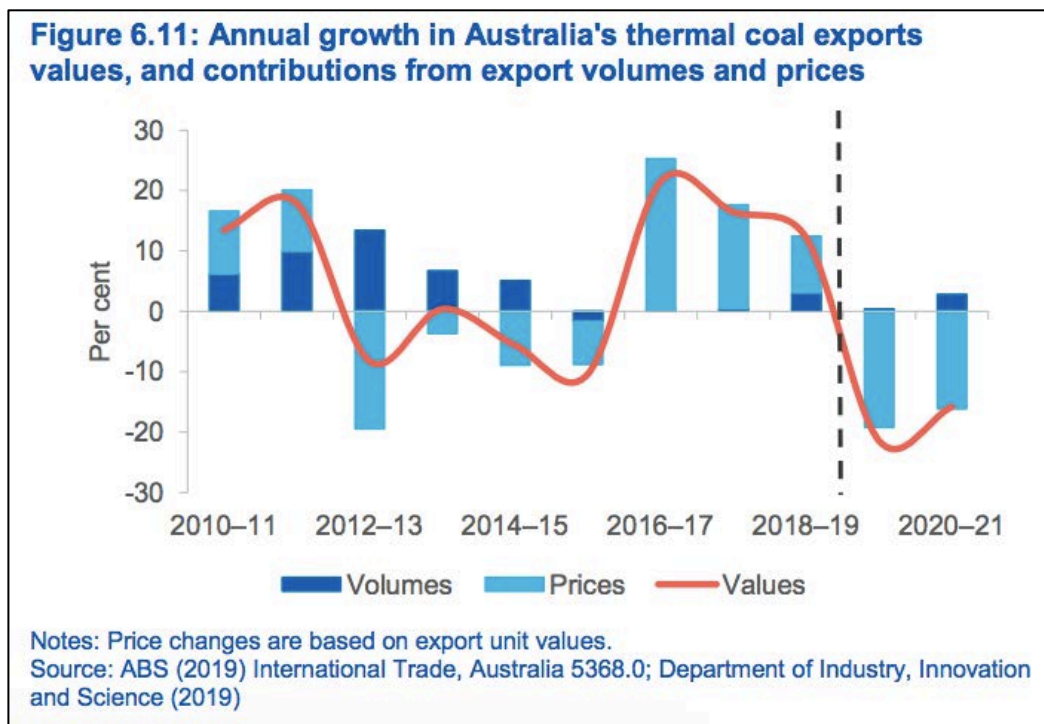


Figure 6.11 Annual growth Australia’s coal exports values. Page 50 Resources and Energy Quarterly 2019:

5. If the Hunter region does not prepare for these global changes that are underway by supporting other industries to grow, over 5,000 jobs and \$705m in wages and salaries could be lost if global declines in coal occur.

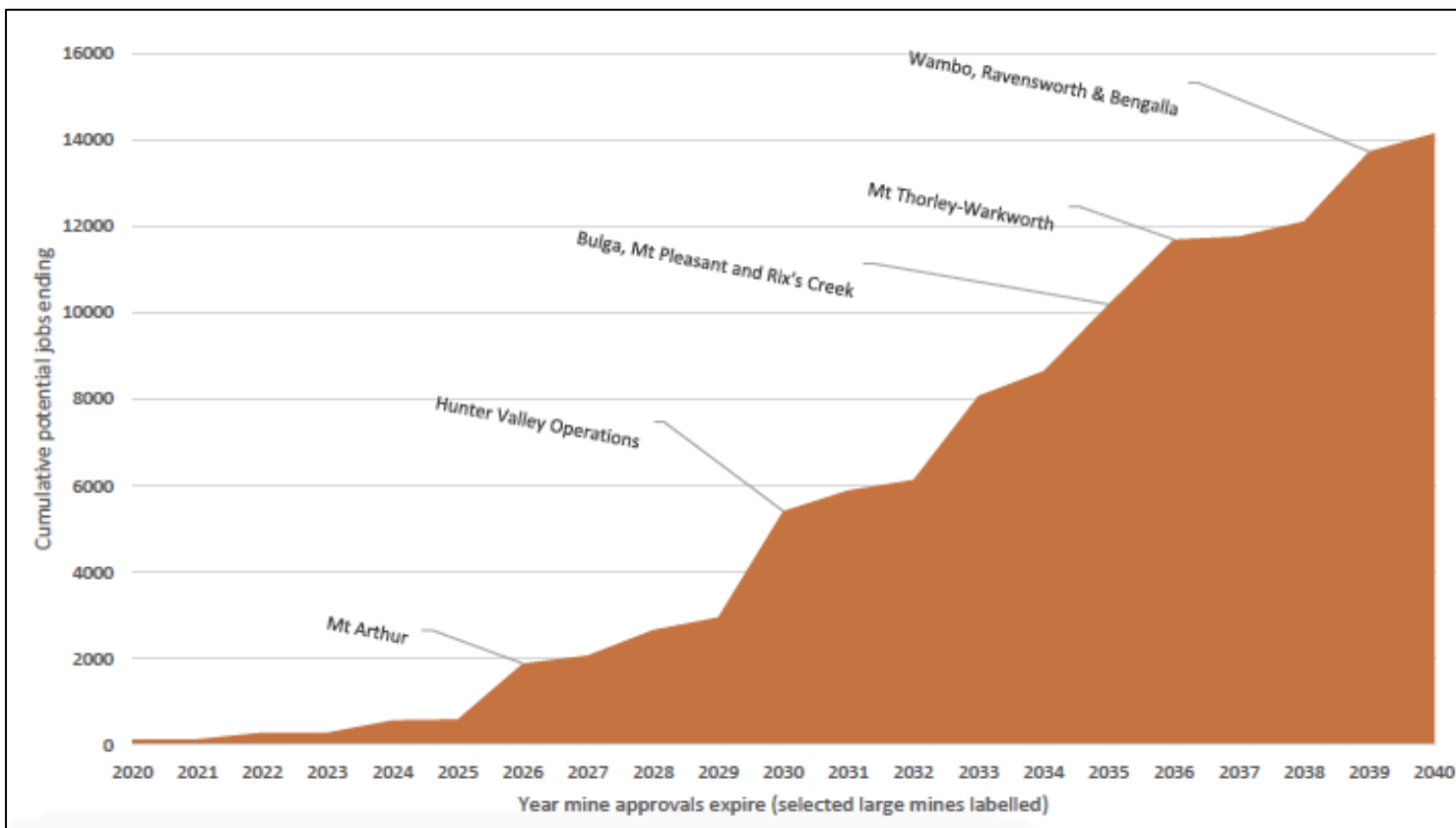
Dr Neil Perry. Weathering the Storm. January 2019. Available here: [https://www.lockthegate.org.au/weathering\\_the\\_storm\\_transforming\\_the\\_hunter\\_valley](https://www.lockthegate.org.au/weathering_the_storm_transforming_the_hunter_valley)

6. Four of NSW's five coal fired power stations are also expected to close in the next 17 years. All of them are in the greater Hunter region – two in Lake Macquarie and two in Muswellbrook.

Aurora Energy. May 2019. Aurora Energy Research analysis of AEMO's ISP Part 2: economics of coal closure. Estimated closure timelines are Liddell 2022, Vales Point in 2028, Eraring in 2035 and Bayswater in 2036.

7. That doesn't leave NSW communities that are heavily reliant on coal exports, or coal-fired power stations, much time to diversify and prepare, so **Government support is urgent and vital**.

8. Please see diagram below showing the latest approval date expiry for NSW thermal coal mines is 2040. Please note that the mining lease for Mount Arthur, probably the largest Coal Mine in the Hunter, and one of the largest coal mines in Australia expires in 2026



Plotting the approval end dates of 35 coal mines, with the jobs supported by those mines, shows the

potential cumulative job losses over the next two decades as mines close.

The latest approval date expiry for NSW thermal coal mines is 2040. This Chart produced by Lock the Gate 2019

**F. We need a floor under the local workforce and economy - structured planned readjustment e.g. La Trobe Valley Victoria. The Ruhr in Germany - Including active rehabilitation. New opportunities**

1. There are opportunities to diversify regional economies, such as the Hunter region, using the skills and assets it already possesses. However, this will only be achievable if support is provided to start preparing for the changes now.

2. Expert research has shown that if action is taken now to prepare for change, and a clear plan is developed, the Hunter region could see 595 more new jobs created than are lost from coal mining, and local wages and salaries increase by \$315 million in 2040.

Dr Neil Perry. Weathering the Storm. January 2019.

3. This scenario builds on the region's existing strengths in the agriculture, wine-tourism and manufacturing industries and on the strong skills base already present of machinery operators and drivers and technicians and trade workers.

4. Replacing coal power stations and rehabilitating their ash dams can also bring new jobs and affordable energy to the Hunter region with targeted support.

5. Raising the standard of mine rehabilitation can provide a crucial jobs "bridge" for coal workers while new industries are building.

See Industrial Relations Research Centre. October 2017. The Ruhr or Appalachia? Deciding the future of Australia's coal power workers and communities.

6. However, adjusting regional economies is a big job and it is not easy – regional communities have been seeking major government investment and strong diversification planning, with direct community participation and leadership.

Experiences in other regions

7. Unmanaged and unplanned coal closure in the Appalachia region in the United States was "characterised by short-term, reactive and fragmented responses to closures of coal mines, resulting in entrenched, intergenerational poverty and social dysfunction."

Tony Maher, Foreword. The Ruhr or Appalachia

8. In contrast, in Germany's Ruhr Valley, a decision was taken in 2007 to manage the adjustment over an eleven-year period, involving communities, stakeholders and unions in an orderly process.

9. Germany's dedicated Coal Commission, made up of workers, companies, experts and environmentalists, has now released a plan with funding and environmental protections.



10. Lessons from elsewhere in Australia, including the La Trobe Valley and Port Augusta, have highlighted that worker assistance and support for re-training and re-employment is crucial. More details in the Hunter Renewal roadmap. [www.hunterrenewal.org.au/road\\_map](http://www.hunterrenewal.org.au/road_map)

11. Door-knocking in Singleton and Muswellbrook found 9 out of 10 people agree that the region needs a plan to diversify and prepare for a future beyond coal.

12. The Hunter Renewal project has spoken to more than 2,000 people around the region and out of a series of events and research the Hunter Renewal roadmap has emerged.

[www.hunterrenewal.org.au/road\\_map](http://www.hunterrenewal.org.au/road_map)

13. This roadmap is trying to do something not attempted in Australia: involve and prepare the community and economy for structural adjustment before it happens, so the Hunter can be vibrant and resilient, come what may.

### **G. New Industries with references e.g. Hydrogen, - Perhaps it covers moving from giant energy generators to smaller units. Rejigging the grid.**

1. **The federal government's top scientist Alan Finkel** says Australia could slash global carbon emissions and create a multi-billion-dollar export industry by developing hydrogen as an everyday energy source to replace fossil fuels used in vehicles, homes and industry.

2. A major climate report in Oct 2018 identified hydrogen, which can be produced with virtually no emissions, as among fuel options that must be developed if the planet is stay below the critical 1.5 degrees warming threshold and avoid the worst climate change disasters.

The report by the UN's climate science body, the Intergovernmental Panel on Climate Change, called for a coal phase-out by 2050 and predicted a substantial decline in the use of natural gas – two export industries upon which Australia is heavily reliant.

<https://www.smh.com.au/politics/federal/australia-s-top-scientist-calls-for-hydrogen-revolution-to-replace-fossil-fuels-20181009-p508mj.html>

3. There is further good news regarding Renewable Energy for providing major contributions, which could – over a relatively short period, provide for the complete phasing out of Fossil fuels for most of Industry, Transport, Buildings etc.

4. In the Research section of the **Beyond Zero Emissions website** there are links to 14 publications that spell out in great detail how this can be done.

<https://bze.org.au/research/>

They are:

**9 Steps to a Zero Carbon Community;**

**Australian Local Government Climate Review 2018.;**

**Carbon Capture and Storage;**

**Fossil economy;**

**Carbon Crisis;**

**Laggard to Leader;**

**Repowering Port Augusta;**

**Renewable Energy Plan;**

**Buildings;**

**Transport;**

**Agriculture and Land Use;**

**Industry;**

**Exporting Superpower**

**Collie at the Crossroads** – soon to be released;

5. This is an extract from just one of its 14 reports:

**The 10 Gigawatt Vision: How renewable energy can power jobs and investment in the Northern Territory.**

The Northern Territory has an exceptional opportunity to prosper in this new era by converting abundant sunshine into renewable energy. By 2030, the NT Government could help drive investment in 10 gigawatts of renewables.

By pursuing the 10 Gigawatt Vision, the Northern Territory can put renewable energy at the centre of a sustainable growth strategy that creates over 8,000 new jobs and over \$2 billion in revenue by 2030.

The 10 Gigawatt Vision is a sustainable alternative to economic strategies based on fossil fuels. The shale gas industry is financially unstable and totally unsuited to the needs of the coming zero-carbon economy.

Achieving the 10 Gigawatt Vision has the potential to create many more jobs than the shale gas industry and prevent over 20 billion tonnes of carbon emissions from entering the atmosphere and accelerating global warming.

<https://bze.org.au/research/regional/repowering-nt/>

## H. The need for the NSW Government to completely revamp TAFE

1. We have spoken a lot about the inevitable downturn in Coal as a major fuel source and export earner, which will lead to major changes and disruptions to significant numbers of Coal workers and associated Businesses.
2. To cope with these disruptions, there will need to be the capacity of the NSW government to provide alternatives, to enable a just transition of these workers into new occupations, and affected business to adjust and reengineer.
3. In the past, the extensive network of TAFE colleges in NSW has provided a very good resource to train and re train workers. Unfortunately, over the last 20 years or so, under both Coalition and Labor governments, the strong network of TAFE Colleges has been robbed of its capacity due to **dramatic Funding Cuts** and a **very big wielding of the staffing axe**.
4. So urgent and important decisions have to be made NOW by the NSW government to implement the three **REs**:

**Reinvigorate,  
Refund,  
and  
Restaff**

**the NSW TAFE Colleges**, so they have the real capacity to lead the way for displaced workers and business to preform new tasks, and grab opportunities in both current industries, and newly emerging industries and technologies.

## I. The next generation

The writer (JL Hayes) is aged nearly 74, and is the grandfather of 9 Grandchildren under 9.

Photos of 8 of them are below.

They don't yet have their own Political Voice; but it will be them, and Children of these ages, who will be most affected by Climate Change and Global Warming over the next 74 years.

The Committee has a huge responsibility to Children of these ages, in carrying out its mandate:

*The Committee is examining prospects for renewable energy, trends and markets in energy supply and exports as well as the environmental, social and health impacts of energy supply and exports and opportunities for diversification in coal communities.*



**J. Conclusions and call to action**

**We recommend that the Committee studies adjustment from other places and ensures those lessons are applied to support communities here, particularly with regard to public investment, community participation, worker re-training and re-employment and diversification planning.**

**Thus, the time for the NSW Government to be moving down the Just Transition pathway is now URGENT.**

**We consider this inquiry will be crucial to New South Wales' future, examining how best to support regional communities and diversify economies, like the Hunter Valley, to make them less reliant on coal mining, whilst also assessing how to bring down power prices and clear the air with renewable energy.**

**K. Sign Off**

We wish the committee well in their deliberations, and look forward to hearings in Newcastle and the Hunter, and to the opportunity to address the committee

***Correct Planning & Consultation for Mayfield Group***



***for the future of the Port of Newcastle & the Hunter***

John L Hayes – Convenor

Rick Banyard – Research Officer

13<sup>th</sup> September 2019.

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## Appendix

### A. Some Coal facts for Newcastle and the Hunter

- 1.. Newcastle is the largest Coal export port in the World
2. Coal exports make up about 96% of the products and ship traffic in the Port of Newcastle
3. About 160m tonnes of Coal exported annually;
4. About 22,500 Coal trains pa bring the coal to the port. About 22,500 unloaded coal trains pa leave the port. Total Coal trains about 45,000 pa.
5. These trains are mostly nearly 2 Kilometres in length, and mostly carry about 7,500 tonnes of coal per train.
6. About 3.5m wagon loads of coal per year.
7. These coal trains usually have 3 or 4 locos – so many more than 100,000 locos pa haul these trains down and up the valley.
8. Each Coal train uses about 1,500 L of diesel per hour.
9. Most locos hauling coal to Newcastle are Tier 0 for fuel emissions. The latest standard is Tier 4
10. About 4,000 Coal ship movements in and out of the Port pa; plus tugs
11. Each Coal ship has 3 or 4 tugs, so about 14,000 tug movements pa.
12. From the 3.5 m Coal wagons which come down to Newcastle Port and go back to mine heads pa. @ 8 wheels per wagon; that is 28,000,000 wagon wheels pa rolling along the local Newcastle and Hunter etc Rail lines.
13. From the more than 100,000 Locos hauling Coal Trains to Newcastle Port and go back to mine heads pa. @ 12 wheels per Loco; that is 1,200,000 Loco wheels pa rolling along the local Newcastle and Hunter etc Rail lines.

Source:

Rick Banyard,  
Research Officer for Correct Planning and Consultation for Mayfield Group.  
11<sup>th</sup> Sep. 2019

See one photo on the next page - **Coal Trains Pollute**

# Coal trains pollute

- Locomotives could hardly be considered environmentally friendly !
- Tracks are littered



- Wagons have carry back coal both inside and outside

