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MINING, ECONOMICS & CLIMATE CHANGE AND THE ALP A DISCUSSION PAPER

Anyway, have a read....Ann may want to read it also if you want to put it on the website. Any questions on the paper are welcome. I started on it in March, and finished it before the Federal Election. The only new bit of into in it mentions the decision by the NSW Government to cancel the BHP-Billiton lease to mine the Liverpool Plains, and compensate the company. \$200 million of taxpayers money to cover a bad Government decision....the ALP in this case. The history of the European occupation of Australia is one of almost continuous exploitation of the continent's resources, irrespective of the damage resulting from this exploitation.

Over the past two hundred years, the land has been exploited via unregulated agricultural and livestock use, and in more recent times mining on a larger scale.

Large scale deforestation followed by overstocking with sheep and cattle has degraded much of this land, through soil erosion and loss of surface soil. Deforestation remains a continuing problem in many parts of the continent.

Our internal river systems have been affected via irrigation projects and the effect of irrigation on the water table, resulting in large areas of former arable land, particularly in the Murray-Darling basin becoming salt affected.

The Great Barrier Reef has been affected significantly by agro chemical run off into the rivers that flow into the sea adjoining the Reef, and ocean warming via climate change. As recently as March 2016, coral bleaching is starting to affect the Reef to the extent that the Federal Minister for the Environment has issued a statement to the effect that the condition of the Reef is now critical.

The Adani/Carmichael coal mine project in Queensland's Galilee Basin, if it becomes operational, is estimated to release 4.6 billion tonnes of carbon dioxide during its lifetime.

This amount of pollution will effectively negate all the pollution cuts the Turnbull Government agreed to at the Paris Climate Summit.

The effect on the Great Barrier Reef will be to lead to mass extinctions as sea water becomes increasingly acidified. This project has the potential to destroy the Reef.

If the Reef were to be destroyed it is estimated that up to 69,000 jobs could be lost and over \$3 billion lost per annum via the effect on tourism.

Since the 19th century mining has been part of this exploitation, but in the past 25 years it has become the major form of exploitation of the Australian landscape, above and below ground.

For the purposes of this paper, mining refers to coal and metalliferous mining unless otherwise specified.

COAL MINING AND CLIMATE CHANGE

Government revenues from mining have increased enormously during the past 25 years, but have been largely wasted instead of being invested in projects aimed at long term benefits for all Australians. However, in the past 5 years revenues, investment and employment levels have decreased significantly, as the price for coal and iron ore as export commodities has fallen.

The National Australia Bank's (NAB) Economic Branch reported in the Sydney Morning Herald (SMH) on 14 June that 2012 investment in mining totalled 8% of Gross Domestic Product (GDP). In 2016 the NAB stated that the investment is currently 4.5% of GDP, and predicts that by 2018 this will have fallen to 1.5%. If this trend is to continue, it is possible that mining investment may well disappear between the present and 2030.

Financial institutions are becoming increasingly reluctant to lend money to coal mining companies in particular, an outcome of the greenhouse gases emitted during coal mining.

The largest coal mining project planned for Australia, the Indian Adani Group's Galilee Basin project in central Queensland has been held up because the company cannot finance the project, and the project is dormant while coal export prices remain low.

The banks and other financial institutions that have indicated they are not prepared to finance the project are; the Commonwealth Bank (formerly a big lender to Adani), National Australia Bank, the Queensland Treasury, the State Bank of India (which has formerly financed Adani projects) and many global banks including; Standard Chartered (another former big lender), Citigroup, JP Morgan Chase, Goldman Sachs, Deutsche Bank, Royal Bank of Scotland, HSBC, Barclays, BNP Paribas, Credit Agricole and Societe Generale.

The US and Korean Export-Import banks have been touted as possible sources, but they appear to have backed away, and a Abbott-Turnbull \$5 billion slush fund for northern Australia boondoggles, seen when it was announced as a rescuer for Adani, now appears unlikely.

At the recent Northern Australia Investment Forum, the fund was the centre of attention, but Adani apparently didn't get a mention, unless it was implicit in Minister for Resources, Energy and Northern Australia Josh Frydenberg's claim that the government wouldn't be investing in "white elephants".

Nevertheless, on 3 April 2016 the Queensland Premier, Annastacia Palaszczuk announced that Adani had been granted licenses to commence the estimated \$21.7 billion development.

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The only possible source of finance may be Chinese banks, but the Indian Government may not permit the Group to access Chinese money, given the history of Indian-China relations.

Adani having put the project on hold, citing the price of coal, now face the prospect of the project remaining permanently "on hold" if the export price of coal continues its downward spiral.

Given the situation with the Adani project, it is important to note that the Australian Government, as well as the world of nations is a party to the outcomes agreed at the Paris Climate Change Convention of 2015.

On 12 December 2015, the participating 195 countries agreed, by consensus, to the final global pact, the Paris Agreement, to reduce emissions as part of the method for reducing greenhouse gas. In the 12-page document, the members agreed to reduce their carbon output "as soon as possible" and to do their best to keep global warming "to well below 2 degrees C".

In the course of the debates, island states of the Pacific, the Seychelles, but also the Philippines, threatened by their very existence by sea level rise, had strongly voted for setting a goal of 1.5 °C instead of only 2 °C. France's Foreign Minister, Laurent Fabius, said this "ambitious and balanced" plan was an "historic turning point" in the goal of reducing global warming. However, some others criticized the fact that significant sections are "promises" or aims and not firm commitments by the countries.

The Agreement will not become binding on its member states until 55 parties who produce over 55% of the world's greenhouse gas have ratified the Agreement. There is doubt whether some countries, especially the United States, will agree to do so.

Some analysts have also observed that the stated objectives of the Paris Agreement are implicitly "predicated upon an assumption" – that member states of the United Nations, including high polluters such as China, the US, India, Canada, Russia, Indonesia and Australia, which generate more than half the world's greenhouse gas emissions, will somehow drive down their carbon pollution voluntarily and assiduously without any binding enforcement mechanism to measure and control Carbon Dioxide emissions at any level from factory to state, and without any specific penalty gradation or fiscal pressure (for example a carbon tax) to discourage bad behaviour.

Canada, has already taken preliminary measures to meet this target.

To date, the Australian Government has not announced any strategies or policies to achieve the target. The Federal ALP has announced it will introduce an emissions trading scheme if elected. The Turnbull Government has been largely silent on climate change since the election was called, but has allocated money towards the Great Barrier Reef.

Earlier this year, the CSIRO advised the Government that an important strategy to contain achieve the temperature target is for coal mining in Australia to be reduced by 80 per cent by 2030. The Government has not responded to this advice.

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Neither have State nor Federal Governments taken action to limit coal exploration, or; cancel the granting of leases and licenses for coal mining activities, except recently the NSW Government has agreed to cancel BHP-Billiton's coal mining lease in the Liverpool Plains, compensating BHP-Billiton by over \$200 million dollars. This action by the NSW Government has been largely the result of well organised local opposition to coal mining on the State's most fertile agricultural lands.

Since the Climate Change Convention, governments had approved two major coal mining projects planned for the Liverpool Plains area of NSW, now defunct, and the Adani Group's Carmichael mine in Queensland's Galilee Basin.

Both projects have been heavily promoted by the Federal Government and Queensland Government as major job creators. However, major job creation could well be a myth.

The former Prime Minister, Tony Abbott, publicly stated the Adani/Carmichael mine would create 10,000 jobs. Queensland's Premier Palaszczuk has stated the mine will create 5000 jobs.

Adani's chief consultant, Jerome Fahrer of ACIL Allen Consulting, informed the Queensland Land Court that the average employment per annum over the mine's life would be 1464 direct and indirect jobs.

One imagines that the Adani chief consultant's prediction on jobs is closer to the truth. It is not in Adani's interests to downplay job creation.

Shenua, a Chinese Government owned company, still plans to mine the Liverpool Plains area a project which has been delayed by the fall in coal export prices. Reports are increasing that Shenua is likely to cancel the project. Falling prices and increased local opposition make the project less attractive.

Shenua has made a number of statements on how the environment will not be affected by mining operations. However, if the company's record on its international operations is to be believed, it is very doubtful that the environment will not be significantly affected. The local community has good reasons to oppose the Shenua project.

The local opposition to these mines is a major reason that Barnaby Joyce, Leader of the National Party, Deputy Prime Minister and Federal Member for the seat of New England has been challenged by the former independent member for this seat, Tony Windsor, in the next Federal election. If Joyce loses the seat, the future of all coal mining could be significantly affected.

Some financial experts have indicated that the Queensland Government's approval for the Adani project has been made on a political basis, given knowledge that Adani has been unable to raise the huge amount of money to finance the project. That view is that granting the licenses will not harm the Government when the project fails. Failure to grant the licenses in the first place could be used as political capital by the LNP Opposition as the reason Adani had failed to obtain the necessary finance.

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Given the Federal Government's commitment to the Paris Climate Control Convention, approval of major coal mining projects, since the Convention, would appear to be somewhat contradictory to this commitment. A sensible approach consistent with the Government's commitment would be to for the NSW and Queensland Governments to suspend permits/licences, subject to a review by the CSIRO of the potential carbon dioxide and other greenhouse gases likely to be emitted and an additional environmental impact study on the coal mines.

Alternatively, the Government could do nothing. With falling coal prices, wait and watch coal mines reduce production or close, as coal mining becomes uneconomic. The current economic indicators suggest that this may well occur.

Very few people now dispute that coal mining and coal-fired power stations are a major source of carbon dioxide and other greenhouse gases. The exception is climate change skeptics. Simply put, more coal mines and coal mining equals more carbon dioxide.

An announcement by the Australian Bureau of Meteorology on 16 May in the Sydney Morning Herald provides other reasons.

The Bureau's greenhouse gas monitoring station at the aptly named location of Cape Grim in southern Tasmania recorded atmospheric levels of 400ppm of greenhouse gases, regarded, in effect, as the danger level for these gases.

Some scientific evidence suggests that it will be extremely difficult to reduce greenhouse gases from this level unless radical action is taken. Other scientific evidence disputes this claim. However, it is been worth noting that there has been no reduction in greenhouse gas levels for over 40 years.

An emissions trading scheme, as proposed by the ALP, falls far short of the direct action required if the CSIRO call for an 80% reduction in coal mining is ignored.

MINING AND MINE SITE REHABILITATION.

In addition to active mines, the Centre for Mined Land Rehabilitation at Queensland University estimates there are 52,500 unrehabilitated mining sites,

In 1992 the Centre estimated that mining companies were responsible for some \$800 million of rehabilitation work which had not even commenced. Just how many companies are responsible for rehabilitation costs some 24 years on can only be imagined. In Queensland alone the Centre now estimates that it could cost anywhere between \$10-20 billion to rehabilitate former mining sites. \$100 billion plus would not be unrealistic as a national estimate.

Even though mining leases are conditional on rehabilitation, the mining companies involved have avoided their responsibility. Governments have failed to police this requirement.

The NSW Government has not required mining companies to rehabilitate former mine sites. The companies respond planting inferior non-native vegetation.

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Surface coal mining, in particular, is a major contributor to air pollution in the vicinity of mining sites from coal dust and other contaminants.

Land degrades in the vicinity of mining sites, and respiratory difficulties affect persons and livestock. Recent studies in the Hunter Valley of NSW have indicated that surface coal mining is having these effects.

Black lung disease among mine workers has been reported from a number of coal mining sites. The coal mining industry has a major OH&S problem.

Coal mining and burning also releases mercury compounds which the contaminate water, soil, crops and vegetation. Mercury is potentially lethal if ingested or absorbed in sufficient quantities.

Underground coal mining has resulted in changes to the water table in some areas. Methane gas is released with an impact on aquifers and surface water.

In recent weeks it has been reported that the Tahmoor Lakes system in the Southern Highlands has been completely drained of water. A nearby underground coal mine is suspected of causing this event.

It is of great importance that mining companies are held to account for the costs associated with rehabilitation of former mine sites.

To enforce rehabilitation, the lease or title must include the estimated cost of rehabilitation, the amount and requirements determined by independent and Government experts. Monies should be payable prior to the commencement of mining and non-refundable. These monies would be paid directly to Government to manage as they see fit. Current mine sites would need to be assessed on the cost of rehabilitation and the estimated cost paid to Government.

EMPLOYMENT.

If the Australian Government plans to meet the CSIRO's 2030 target, there could be major employment losses in the coal mining industry. What would the impact of major job losses in the coal mining industry be?

The answer to this question is important.

The most relevant figures on employment date from 2011 when mining was at its peak. In 2011, all mining activities employed 1.9% of the Australian workforce, some 217,000 workers.

Of this 217,000, coal mining employed 51,900 directly (less than 0.5% of the Australian workforce). Australia's then declining manufacturing sector employed five times as many workers.

Coal mining, and mining generally, are no longer labour intensive. The numbers of workers involved has been dramatically reduced in the past 50 years by changes to mining practice, increasing levels of mechanisation and, in more recent years, by robotics.

The only current numbers available on workers or contractors directly or indirectly involved in supporting all mining activities are included in the previously mentioned NAB report from the SMH on 14 June 2016. This report states that 46,000 jobs directly, and indirectly employed in mining, were lost

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between 2012-2013. Another 50,000 jobs are predicted to be lost by 2019. This figure includes 15,000 jobs that are directly employed in all mining.

A good example of employment losses is Broken Hill, which 20 years ago employed 15,000 miners in silver, lead and zinc mining. The current employment number is 500.

From these figures, if they are correct, it is estimated that 20-25,000 jobs, directly employed in coal mining have been lost since 2012, and another possible 7,500 jobs will have been lost by 2019. This is a reduction of approximately 28-30,000 from the 51,900 coal mining jobs in 2011.

With this down turn in coal mining since 2011, by 2019, the total number could be between less than 0.25% of the Australian workforce. Coal mining in 2016 could be as low as 0.5% of the total Australian workforce, some 26,000 workers.

There is no doubt that a total cessation of coal mining between 2030 and 2040 would also result in significant job losses.

Any future Government strategies to implement the CSIRO recommendations on coal mining will need to ensure that any disruption to employment and communities is minimised to the lowest degree possible. In NSW, the major affected areas would be the Hunter River Valley, Lithgow and the Illawarra.

A major strategy to help job applicants before any major disruption to employment and communities is for Government(s) to offer subsidies to companies manufacturing alternative clean energy systems - solar, thermal and wind - to locate in the affected communities. Subsidiary and other industries would also need to be encouraged to locate in the affected areas.

Alternative clean energy will need to be adopted by Australian steel manufacturers by 2030 or earlier.

THE MINING LOBBY & GOVERNMENT

The national and state governments have been successfully lobbied by advocates of the mining industry for some years. Both major political parties have been beneficiaries of large donations from the industry.

The power of the mining lobby should not be underestimated given the very successful advertising campaign waged against the Rudd Government on the his Government's ill-fated Mining Tax proposals. However, the electorate has become increasingly receptive to the Australian Government taking appropriate steps to tackle climate change and the causes of climate change. The most recent polling reports a majority of Australians support action on climate change and opposition to coal and CSG mining.

However, unless appropriate planning by Government to support these issues occurs, Australians may have to suffer a reduction in living standards. While no

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Government or political party could stomach this type of outcome, if nothing is done to combat climate change, it is very likely Australians will suffer a drop in living standards as a matter of course.

The mining industry, particularly the coal mining industry, is very much aware of the change in public sentiment and has started using social media to claim that coal mining has reduced its green house gas emissions by 40%. The background to this claim is not known; there is no scientific evidence to support it.

These types of claims will increase to combat the growing and well organised anti-coal and CSG mining lobbies, as well a general benign opposition from Australians.

For example, the Coal Seam Gas (CSG) lobby has been successful in influencing the Baird Government to reduce penalties for breaches of exploration and gas extraction offences of \$100,000 and more to a risible \$5000. Penalties against activists who take direct action against CSG operations and exploration have increased dramatically and now include jail terms.

It would therefore be appropriate for Federal and State Governments introduce appropriate legislation to ban donations to political parties, and elected members of political parties. This legislation would also need to ban lobbyists acting on behalf of mining councils and mining companies.

PAST, PRESENT AND THE FUTURE

In NSW alone coal fired power stations emit 44,252,371 tonnes per annum of CO₂, equivalent to emissions from 18.8 billion litres of petrol. Electricity power stations receive \$2.4 billion per annum in Government subsidies.

The SMH of 22 March 2016 suggests, with good reason, that this \$2.4 billion could be more effectively utilised in the funding of hospitals and education.

The SMH of 2 April 2016 also reported that there are plans to build 1500 new coal-fired power stations throughout the world, probably in China and India. The effect on the atmospheric concentration of greenhouse gases if this construction were to go ahead would be substantial.

A group of Oxford University scientists have stated that all existing coal-fired power stations must close by 2018 to have any significant effect on climate change, a projection even more radical than the CSIRO recommendations.

The National Health and Medical Research Council is required to use \$3.3million of its budget to research the health effects arising from wind farms, another left over lunatic "initiative" of the Abbott Government which the Turnbull Government is implementing. This appears to be another ploy by climate sceptics to negate the production of clean energy.

Coal-fired power stations could be replaced by alternative clean energy sources by 2030 and onwards with appropriate Government encouragement, investment and planning. The quantity and type of clean energy sources, and their location, would be matter of some speculation. However, proper planning with the

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cooperation of affected communities and unions, and the encouragement of clean energy manufacturers may well solve this problem.

Other industries will be also be disrupted if coal mining ceases over the next 25 years.

On the positive side, clean energy development and generation will generate employment. One can only speculate on the actual numbers.

The ballot box will be the major way that Australians determine the future of mining in this country.

The major parties must recognise that climate change policies are an important factor in the popularity of the Greens to younger voters. The Greens are attracting around 10% of the primary vote in recent State and Federal elections.

By comparison, in recent State and Federal elections, the ALP has lost more than 10% of its former primary vote. The loss appears to be permanent. The ALP has failed to attract significant numbers of new voters to challenge the Greens. Presently, the ALP's primary vote stands at 33-35%.

For the ALP to win back federal government with a reasonable majority, the party should be looking to achieve close to 40% of the primary vote. If the current trend continues, together with the current falling membership, within 10 years or less the ALP will be no longer relevant.

Regaining the ALP's primary vote will require bold, attractive policy initiatives. A clear and unequivocal position on climate change by the ALP could drive a wedge within the Liberal Party and between the Coalition partners.

The Liberal Party's conservative members oppose action on climate change, whereas the non-conservative members support some, as yet, undefined action. The National Party is opposed to any action on climate change.

Given the Government's so called support, but "do nothing" approach to the Paris Climate Change convention, these differences could be a major windfall for the ALP.

The ALP National Platform on Climate Change goes some way to addressing the relationship between the impact of coal-fired power stations, coal mining and climate change. The Platform calls for 50% of energy generation via renewable energy by 2030. But, in view of current scientific information this may be too little too late.

Presently, the most effective action against mining has come from grass root groups formed in areas that have been subject to exploration and leases, and wider groups which have formed to oppose mining and coal seam gas extraction.

With the exception of the Greens, these groups have been largely ignored by the ALP and LNP.

Terry Hannan