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Chain Valley Colliery Consolidation Project

SSD 17017460

Submission

Contents

1. INTRODUCTION

The coal from this project will provide fuel to the Vales Point Power Station.

Many politicians and media outlets promote the ideology that NSW and Australia can quickly & easily transition from coal fired power stations to renewables – wind & solar.

Nothing could be further from the truth. Wind & solar are officially called 'intermittent' sources of electricity as they cannot provide electricity continuously.

NSW will need baseload reliable 24/7 coal fired power stations for decades to come.

This project satisfies the first objective of the Environmental Planning & Assessment Act namely:

To promote the social and economic welfare of the community and a better environment by the proper management, development and conservation of the State's natural and other resources.

NSW like all modern societies is totally dependent upon a 24/7 power supply which can only be reliably provided by baseload coal fired power stations. The social and economic welfare of NSW is dependent on our baseload power stations.

This submission provides conclusive evidence that without ongoing baseload electricity from coal fired power stations, NSW will suffer significant social & economic consequences.

2. EXECUTIVE SUMMARY

Only a small percentage of NSW's electricity & total energy demand is met by renewables. Renewables cannot provide electricity 24 hours a day, 7 days a week.

Australia has spent nearly $40 billion on renewables over the past 20 years and there are frequent occasions when only 2% or 3% of our electricity comes from wind and solar.

NSW has relied on its power stations for the past 60 years and NSW will have to rely on its existing power stations for 24/7 power for at least the next 2 to 3 decades.

3. WHY IS THE PROJECT BEING PROPOSED?

To have the world run on renewable energy is a wonderful idea but utopian. Even though governments around the world are spending billions of dollars on wind and solar farms, the world is many decades away of being run on renewables, if at all.

Figure 1 below is from the International Energy Agency which shows that only 2% of the world's supply of total amount (electricity, transport, heating and manufacturing) is generated from wind and solar. Figure 2 shows that in Australia 4% of total energy comes from wind and solar. The world's desire to consume energy is growing and its reliance on fossil fuels being coal, gas and oil, is still very significant.

Figure 1

International Energy Agency graph showing that in 2019 2% of the world's total energy consumption is generated by wind and solar.

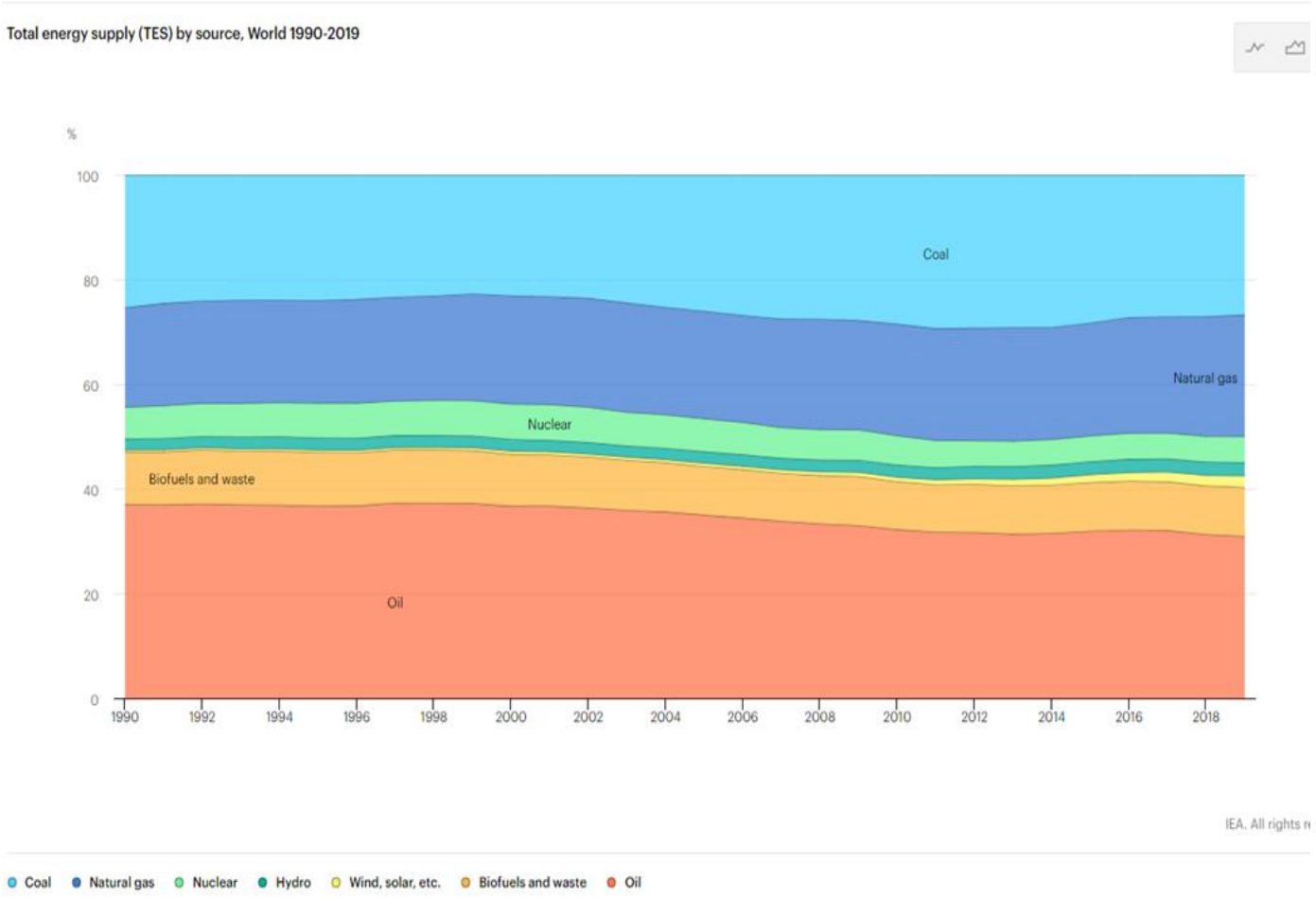
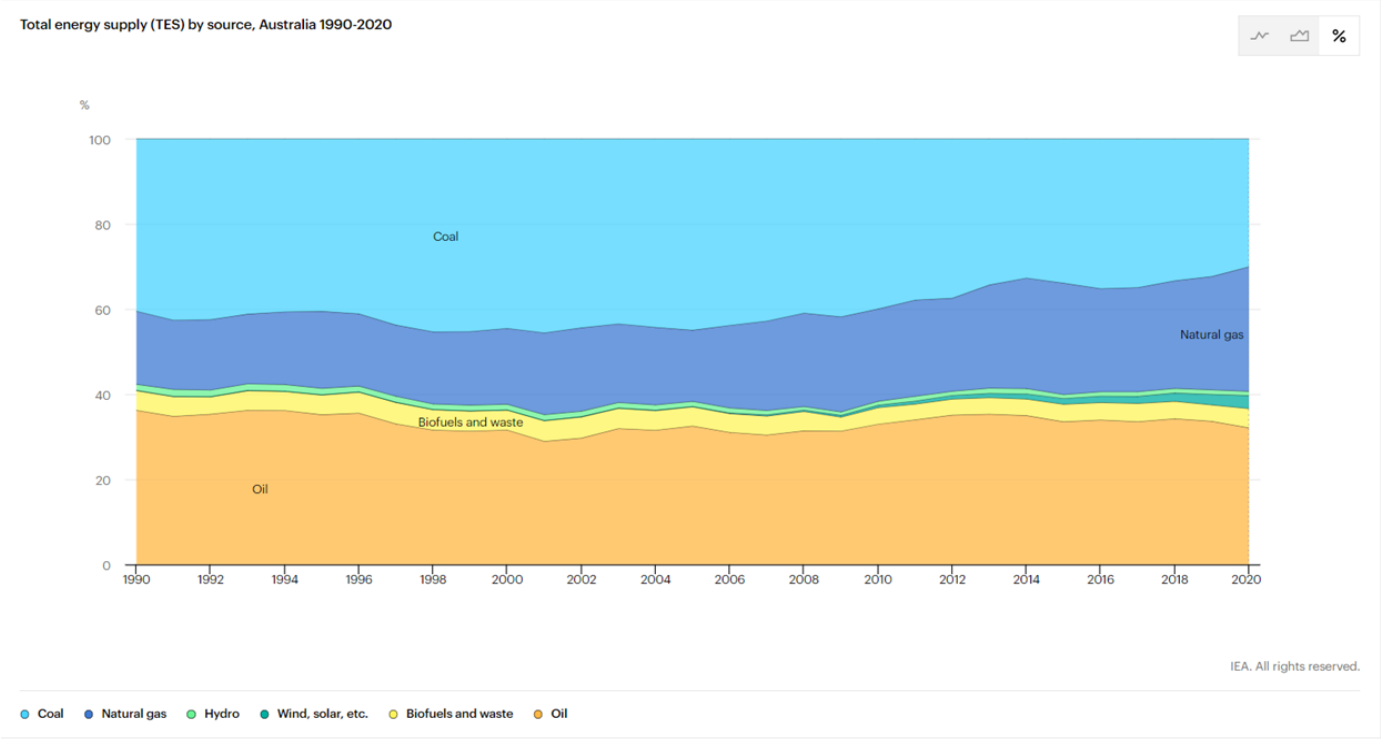


Figure 2

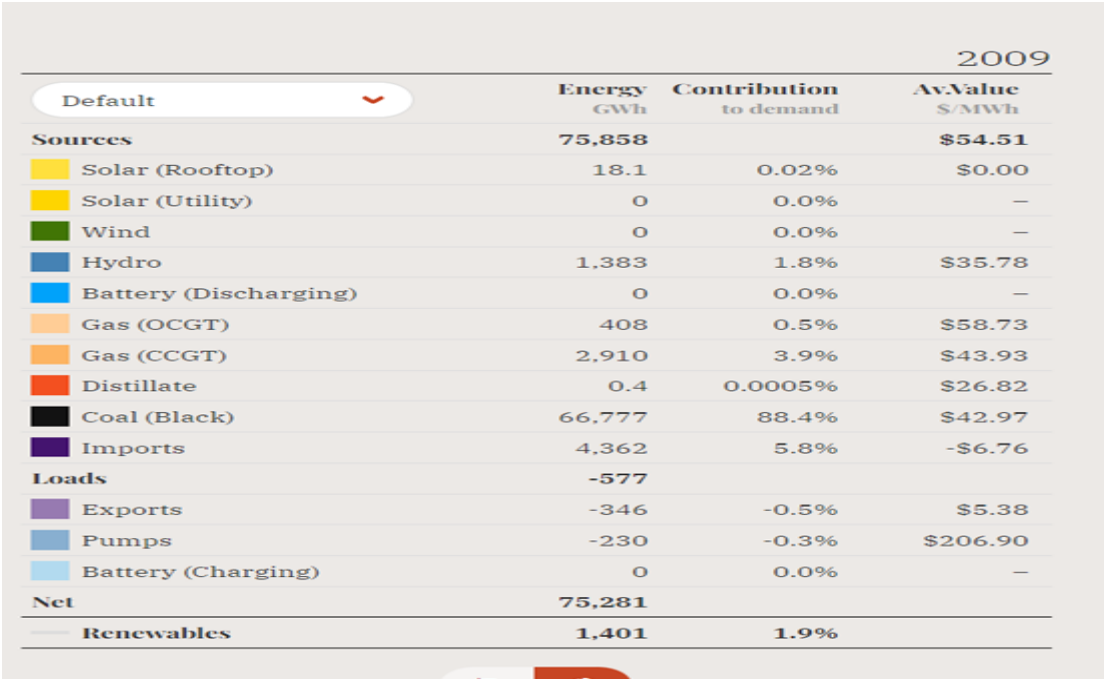
International Energy Agency graph showing that in 2020 4% of Australia's total energy consumption is generated by wind and solar.



This project will provide coal to Vales Point power station which NSW does & will rely on its electricity generation for many years to come.

In 2009 0.02% of NSW's electricity was generated by renewables as shown in Figure 3.

Figure 3

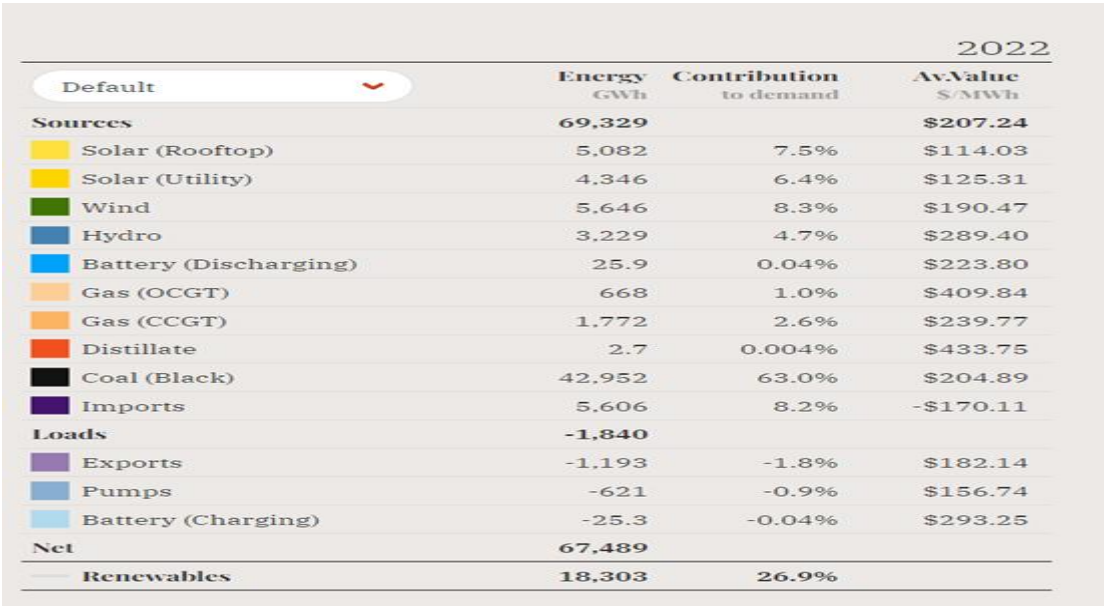


2009

Default	Energy GWh	Contribution to demand	Av.Value $/MWh
Sources	**75,858**		**$54.51**
Solar (Rooftop)	18.1	0.02%	$0.00
Solar (Utility)	0	0.0%	–
Wind	0	0.0%	–
Hydro	1,383	1.8%	$35.78
Battery (Discharging)	0	0.0%	–
Gas (OCGT)	408	0.5%	$58.73
Gas (CCGT)	2,910	3.9%	$43.93
Distillate	0.4	0.0005%	$26.82
Coal (Black)	66,777	88.4%	$42.97
Imports	4,362	5.8%	-$6.76
Loads	**-577**		
Exports	-346	-0.5%	$5.38
Pumps	-230	-0.3%	$206.90
Battery (Charging)	0	0.0%	–
Net	**75,281**		
Renewables	**1,401**	**1.9%**	

By 2022 the percentage of wind & solar has increased to 22.2%. This increase of 22% has occurred over 13 years which is an average 1.7% increase per year. It will be many decades before wind & solar become the dominant sources of electricity generation in NSW.

Figure 4



2022

Default	Energy GWh	Contribution to demand	Av.Value $/MWh
Sources	**69,329**		**$207.24**
Solar (Rooftop)	5,082	7.5%	$114.03
Solar (Utility)	4,346	6.4%	$125.31
Wind	5,646	8.3%	$190.47
Hydro	3,229	4.7%	$289.40
Battery (Discharging)	25.9	0.04%	$223.80
Gas (OCGT)	668	1.0%	$409.84
Gas (CCGT)	1,772	2.6%	$239.77
Distillate	2.7	0.004%	$433.75
Coal (Black)	42,952	63.0%	$204.89
Imports	5,606	8.2%	-$170.11
Loads	**-1,840**		
Exports	-1,193	-1.8%	$182.14
Pumps	-621	-0.9%	$156.74
Battery (Charging)	-25.3	-0.04%	$293.25
Net	**67,489**		
Renewables	**18,303**	**26.9%**	

Wind and solar are called ‘intermittent’ generation sources of electricity because the wind doesn’t always blow & the sun doesn’t always shine. NSW like every other modern jurisdiction not only requires but demands electricity 24 hours a day, 7 days a week.

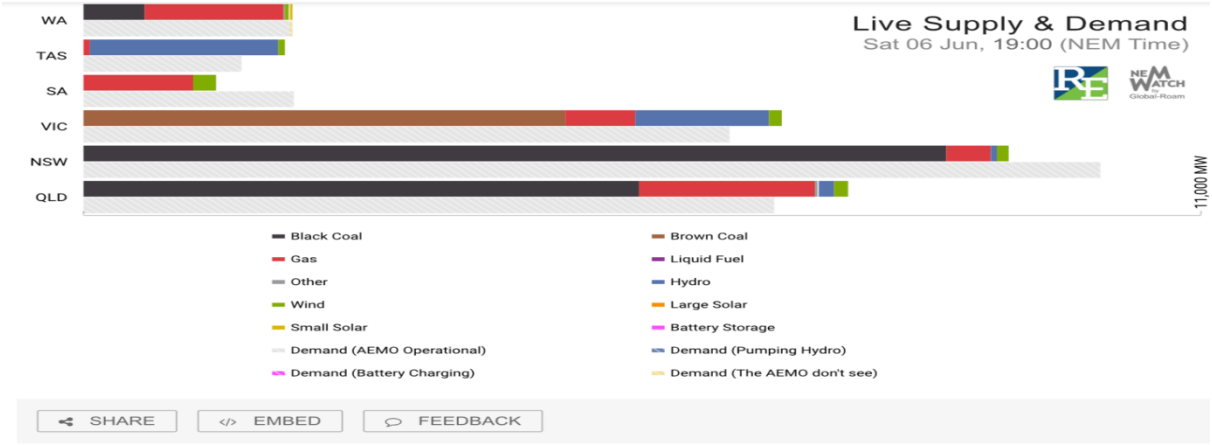
Intermittent generation sources cannot, for the foreseeable future, be NSW’s main sources of electricity.

Figure 5 below shows what happens when the wind doesn’t always blow & the sun doesn’t always shine. It is a graph of a June night at 7pm when there is very little wind and sun over Australia.

Across Australia, wind & solar were producing 3% of the electricity demand with coal & gas providing 87%. In NSW wind & solar were producing 2% and coal & gas were generating 97% of the demand for electricity.

Such a situation occurs during a third of the nights each year NSW and Australia. NSW’s current fleet of coal-fired power stations must be allowed to operate for at least the next 10 years. The extension of this coal mining project will help secure Vales Point’s fuel supply.

Figure 5



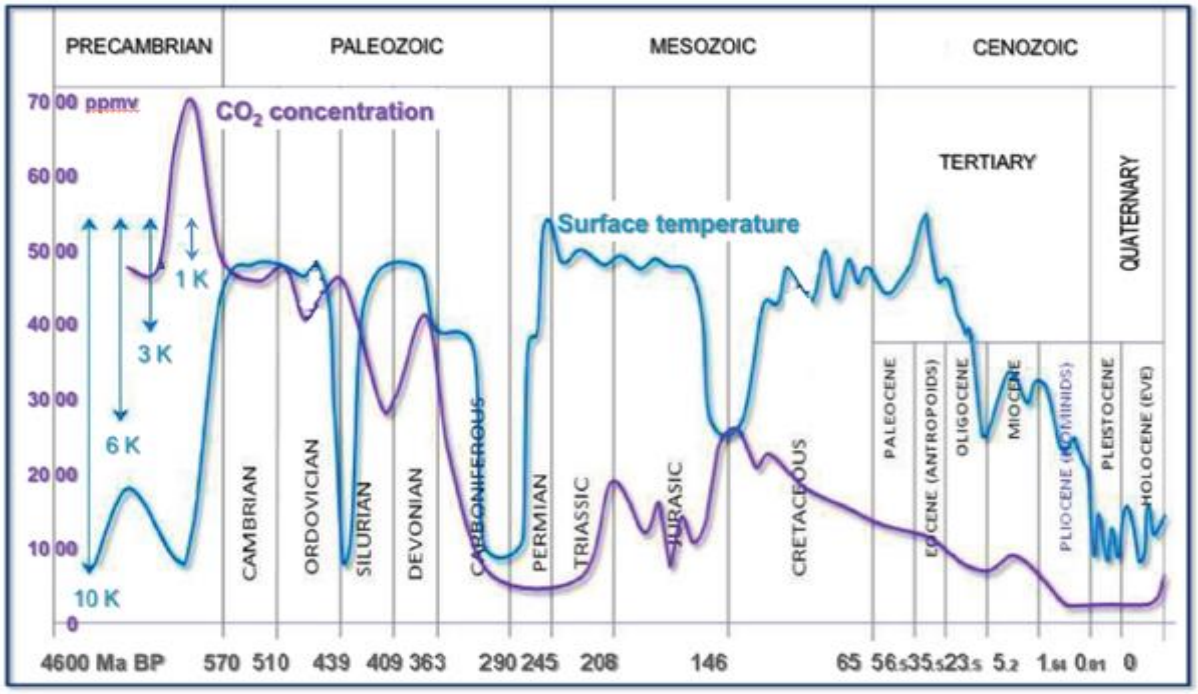
Generation

Region	Black Coal	Brown Coal	Gas	Liquid Fuel	Other	Hydro	Wind	Large Solar	Small Solar	Battery Storage	Total
Western Australia	600	-	1,373	0	12	-	43	-	28	-	**2,055**
Tasmania	-	-	57	-	0	1,857	66	-	0	-	**1,980**
South Australia	-	-	1,083	0	0	-	224	0	2	0	**1,310**
Victoria	-	4,737	694	-	0	1,313	126	0	0	6	**6,876**
New South Wales	8,495	-	439	0	0	62	110	0	2	-	**9,108**
Queensland	5,470	-	1,730	0	31	153	139	1	2	-	**7,526**
Total	**14,565**	**4,737**	**5,377**	**0**	**43**	**3,385**	**707**	**1**	**34**	**6**	**28,855**

4. EARTH'S CARBON DIOXIDE LEVELS V TEMPERATURE CHANGE

A very significant graph is in Figure 6 below which plots the amount of carbon dioxide in the Earth's atmosphere and Earth's surface temperature during the life of our planet. Contrary to popular opinion there is no direct correlation between changes of the atmospheric level of carbon dioxide and the Earth's temperature. This graph was part of a presentation by Dr Patrick Moore – a Co-Founder of Greenpeace.

Figure 6 Carbon Dioxide v Earth's Surface Temperature



The levels of carbon dioxide in the atmosphere and the Earth's surface temperature have both changed dramatically over the history of the Earth and definitely without human intervention. It is noted that the current and recent levels of carbon dioxide in the atmosphere are at record low levels. The human generated emission of cardon dioxide does not increase the Earth's temperature.

The Sun always has and always will provide the most dominant influence on the Earth's climate.

5. VEGETATION INCREASE DUE TO CARBON DIOXIDE EMISSIONS

In 1990 the carbon dioxide content in the atmosphere was 360 parts per million or 0.036%. In 2020 the level of carbon dioxide had increased to 410 parts per million or 0.041%.

Carbon dioxide is a very essential gas for life on earth. If the level of carbon dioxide the atmosphere was reduced to less than 280 parts per million, life would cease to exist on our planet. Carbon dioxide is essential for plants to grow & flourish. The flowers displayed in a florist shop are grown in glasshouses where the carbon dioxide level is artificially elevated to 1200 parts per million to improve and quicken the growth process.

The 'greening' of the planet would be a great benefit to all forms of life on Earth and in particular it will benefit agricultural crop production. This 'greening' is happening.

Research carried out by the CSIRO in conjunction with Australian National University determined that between 1982 & 2010 the 'greening' in the world's major arid regions increased by 11%. See Figures 7 and 8.

Figures 7 and 8 – Showing Results of CSIRO's Research on Global Increase in Plant Life over the past 30 Years

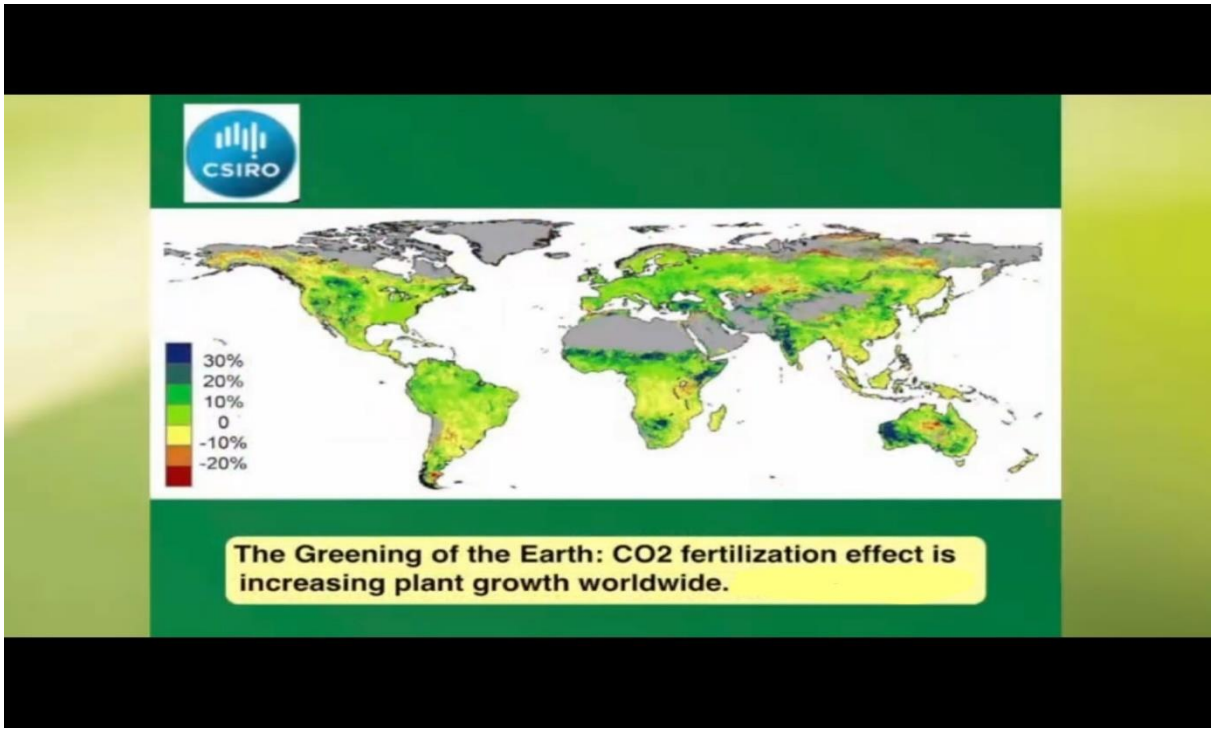
Figure 7

3 JULY 2013 • NEWS RELEASE

1 Photo 1 Audio

In findings based on satellite observations, CSIRO, in collaboration with the Australian National University (ANU), found that this CO_2 fertilisation correlated with an 11 per cent increase in foliage cover from 1982-2010 across parts of the arid areas studied in Australia, North America, the Middle East and Africa, according to CSIRO research scientist, Dr Randall Donohue.

Figure 8


CSIRO
30%
20%
10%
0
-10%
-20%
The Greening of the Earth: CO2 fertilization effect is increasing plant growth worldwide.

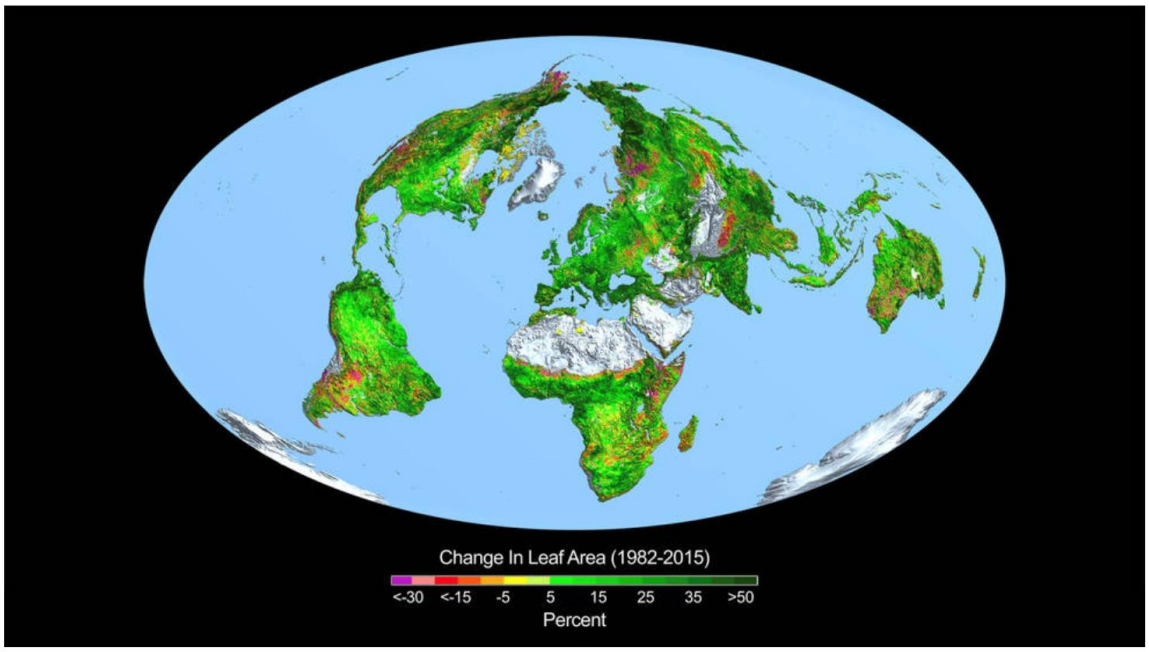
Using NASA satellite data, it has been calculated that from 1982 to 2015 the amount of foliage in the world has increased by 20 million square kilometres which is a 13% increase over the Earth's total land mass due to the increase of carbon dioxide in the atmosphere. See Figure 9.

Figure 9 – Showing Results of NASA's Research on Global Increase in Plant Life from 1982 to 2015

Carbon Dioxide Fertilization Greening Earth, Study Finds

From a quarter to half of Earth's vegetated lands has shown significant greening over the last 35 years largely due to rising levels of atmospheric carbon dioxide, according to a new study published in the journal *Nature Climate Change* on April 25.

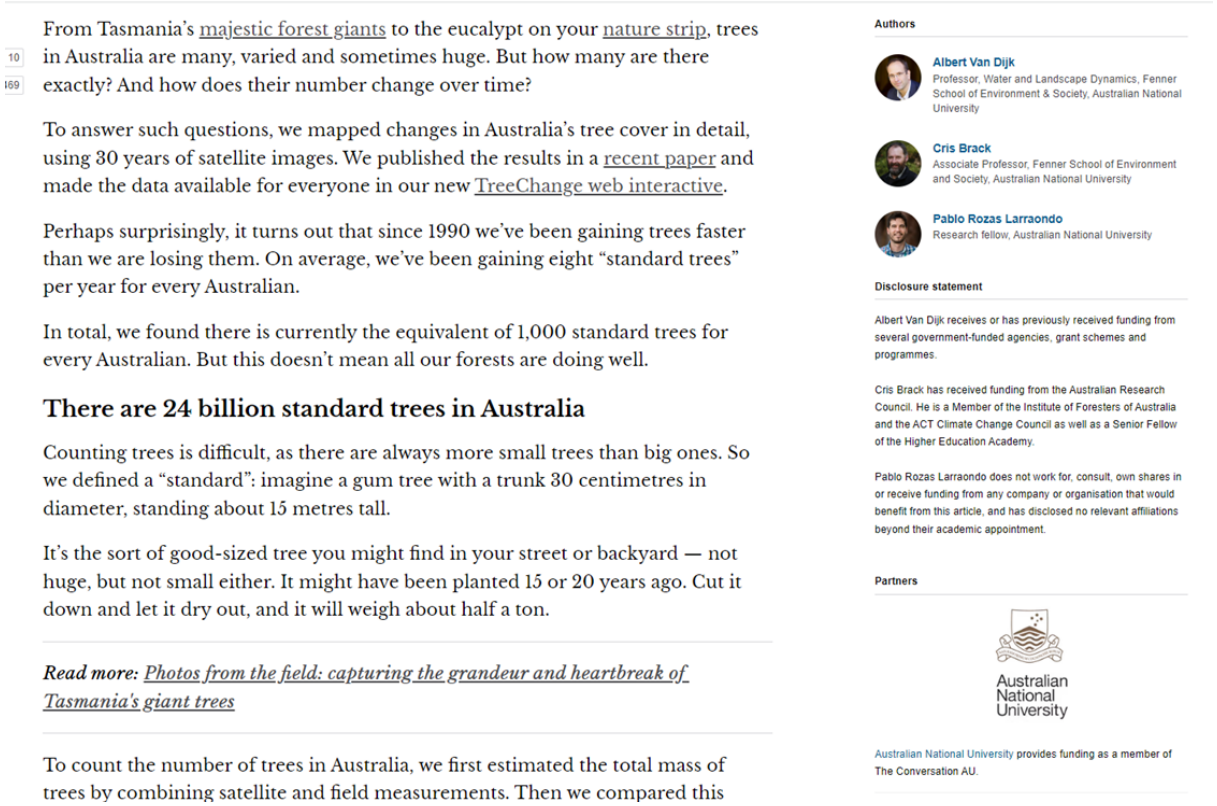
An international team of 32 authors from 24 institutions in eight countries led the effort, which involved using satellite data from NASA's Moderate Resolution Imaging Spectrometer and the National Oceanic and Atmospheric Administration's Advanced Very High Resolution Radiometer instruments to help determine the leaf area index, or amount of leaf cover, over the planet's vegetated regions. The greening represents an increase in leaves on plants and trees equivalent in area to two times the continental United States.



Carbon dioxide emissions are not as devastating to the Earth as many say they are. It must be recognised that carbon dioxide is essential for the continuing existence of life on Earth. Increasing the amount of carbon dioxide in the atmosphere increases the amount of life on Earth.

Further, a study of the number of trees in Australia suggests that Australia's natural environment is far healthier than has recently been reported. Figure 10 is part of a report prepared by the Australian National University (ANU) which estimates that there are 24 billion trees in Australia with that number increasing by about 200 million trees per year. This significant growth has occurred due to the increase of carbon dioxide in the atmosphere.

Figure 10 – Extract from the ANU Report



From Tasmania's majestic forest giants to the eucalypt on your nature strip, trees in Australia are many, varied and sometimes huge. But how many are there exactly? And how does their number change over time?

To answer such questions, we mapped changes in Australia's tree cover in detail, using 30 years of satellite images. We published the results in a recent paper and made the data available for everyone in our new TreeChange web interactive.

Perhaps surprisingly, it turns out that since 1990 we've been gaining trees faster than we are losing them. On average, we've been gaining eight "standard trees" per year for every Australian.

In total, we found there is currently the equivalent of 1,000 standard trees for every Australian. But this doesn't mean all our forests are doing well.

There are 24 billion standard trees in Australia

Counting trees is difficult, as there are always more small trees than big ones. So we defined a "standard": imagine a gum tree with a trunk 30 centimetres in diameter, standing about 15 metres tall.

It's the sort of good-sized tree you might find in your street or backyard — not huge, but not small either. It might have been planted 15 or 20 years ago. Cut it down and let it dry out, and it will weigh about half a ton.

Read more: Photos from the field: capturing the grandeur and heartbreak of Tasmania's giant trees

To count the number of trees in Australia, we first estimated the total mass of trees by combining satellite and field measurements. Then we compared this

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Disclosure statement

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Cris Brack has received funding from the Australian Research Council. He is a Member of the Institute of Foresters of Australia and the ACT Climate Change Council as well as a Senior Fellow of the Higher Education Academy.

Pablo Rozas Larraondo does not work for, consult, own shares in or receive funding from any company or organisation that would benefit from this article, and has disclosed no relevant affiliations beyond their academic appointment.

Partners

Australian National University

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6. CONCLUSION

Any reader of this submission may experience some scepticism due to the amount of ‘climate change’ information which dominates our media. However, the information contained in the submission is based on scientific or historical evidence which is difficult to ignore.

Greenhouse gas emissions released by humans is not the only cause of change to the Earth’s climate.

In order to combat rising electricity process, NSW desperately needs this project approved so we can still enjoy the benefits of a 24/7 electricity supply.

There is no justification in preventing this project from proceeding.