

Thu 2/06/2022 2:37 PM

sonya mckay [REDACTED]

Submission towards the draft Protection of the Environment Operations (Clean Air) Regulation 2022  
EPA

[air.policy@environment.nsw.gov.au](mailto:air.policy@environment.nsw.gov.au)

RE: Submission towards the draft Protection of the Environment Operations (Clean Air) Regulation 2022

The objectives of the Environment Protection Authority are identified under s.6(1) of the Protection of the Environment Administration Act 1991. Primarily they relate to:

- \* the protection, restoration and enhancement of the 'quality of the environment in New South Wales, having regard to the need to maintain ecologically sustainable development, and'
- \* the reduction of risks to human health and prevention of the degradation of the environment in specified ways mentioned.

Ecological Sustainable Development is said to be implemented through principles in s.6(2) that include:

- \* the precautionary principle;
- \* the inter-generational principle; and the
- \* polluter pays principles.

The objectives of the EPA are not being met on two significant issues that include:

- \* Health; and
- \* Climate Change

#### HEALTH:

Coal Fired Power Stations are a concern in terms of emissions from its stack and waste that accumulates in coal ash dams. NOx, SOx, PM2.5 and PM10 are known concerns to human health in terms of asthma and cancer which have not been alleviated through possible accessible technology. For Vales Point health issues include:

- \* higher levels of cancer then the average in New South Wales in suburbs surrounding the power station;
- \* Childhood asthma in suburbs surrounding the power station that has been an ongoing issue for decades.
- \* higher levels of contaminants in specified crabs in Lake Macquarie leading to EPA advice on their consumption.

#### CLIMATE CHANGE:

The United Nations Intergovernmental Panel on Climate Change has indicated there is a Code Red for Humanity and that it is Now or Never to address the climate crisis. Vales Point emissions of carbon dioxide cause climate change due to the combustion of a fossil fuel. This

is leading to substantive climatic changes that the industry foresaw decades ago creating impacts in Australia that include bushfires, floods, droughts, and the continued demise of the culturally significant Great Barrier Reef as First Nations sea country, a natural world heritage wonder to the global community, and a source of livelihood for over 60,000 people.

The cost of Vales Point, and other coal fired power stations, pollution is too high for the present and future generations. It is one that is being inadequately addressed by the EPA in terms of both the polluter pays principle where negative externalities are being born by the community, along with the precautionary principle which appears to be largely ignored in the face of foreseeability at the very least. This may lead to those impacted on seeking damages in terms of negligence.

Most recently Future Sooner members spoke on a livestream regarding such significant issues at [https://www.facebook.com/watch/live/?ref=watch\\_permalink&v=1023543211621157](https://www.facebook.com/watch/live/?ref=watch_permalink&v=1023543211621157)

I present the above written and video concerns for your consideration in reviewing the relevant clean air provision, noting that the solution is not to transition to other fossil fuels (oil and gas) which hold similar concerns.

Yours Sincerely...

Sonya McKay, *BA (politics, psychology), LLB, GradDipLegPrac, GradCertDisasterRiskReduction*

Enclosed: Power Point utilised for livestream with minimum changes

References:

EPA webpage

<https://yoursay.epa.nsw.gov.au/poeo-clean-air-regulation-2022>

EPA proposed draft regulation

[https://hdp-au-prod-app-nswepa-yoursay-files.s3.ap-southeast-2.amazonaws.com/1516/5155/6081/POEO\\_Clean\\_Air\\_Regulation\\_2022.pdf](https://hdp-au-prod-app-nswepa-yoursay-files.s3.ap-southeast-2.amazonaws.com/1516/5155/6081/POEO_Clean_Air_Regulation_2022.pdf)

Environment Justice Australia Submission Guide

<https://envirojustice.org.au/wp-content/uploads/2022/05/NSW-Clean-Air-Regs-submission-guide.pdf>

Protection of the Environment Administration Act 1991

<https://legislation.nsw.gov.au/view/html/inforce/current/act-1991-060#>

Fridays 4 Future Online discussion with Future Sooner members on Vales Point Coal Fired Power Station

[https://www.facebook.com/watch/live/?ref=watch\\_permalink&v=1023543211621157](https://www.facebook.com/watch/live/?ref=watch_permalink&v=1023543211621157)

Bushfire Survivors for Climate Action Land Mark Court Case where EPA has duty of care regarding climate change

<https://www.theguardian.com/science/2021/aug/26/nsw-bushfire-survivors-win-legal-battle-ordering-epa-to-take-action-on-climate-crisis>

# Vales Point Coal Fired Station

Sonya McKay,

*BA (politics/psychology), LLB, GradDipLegPrac, GradCertDisasterRiskReduction, finalising MEnvironmentalLaw*

Alfred Robert Hogan,

*BSc, M.A. (Journalism). Working towards PhD 1922-2021 history of radio and TV space coverage, FFF activist writing a book on its founder Greta Thunberg*

Gary Blaschke,

*Community Activist, AOM, surfer who founded Disabled Surfers Association, surviving cancer*

Joseph Halwagy,

*B.PHARM, FSHP, MBA*

**#ProtectOurFutureFromFossilFuels**



1

# A Commitment by Newcastle City Council To Aboriginal and Torres Strait Islander Peoples of the City of Newcastle

The Council of the City of Newcastle acknowledges that Aboriginal and Torres Strait Islander peoples, in this council area Awabakal and Worimi, were the first peoples of this land, and are the proud survivors of more than two hundred years of continuing dispossession.

Newcastle Council recognises that the British invasion initiated massive changes to the land and its peoples.

As a vital step towards building a just, common future, Newcastle Council recognises the loss and the grief held by Aboriginal and Torres Strait Islander peoples. Council acknowledges that this loss and grief has been caused by alienation from their traditional lands, the loss of their lives and their freedom, and the forced removal of their children.

Newcastle Council supports the right of Aboriginal and Torres Strait Islander peoples to live according to their own values and cultures.

Newcastle Council recognises the vital importance of Aboriginal and Torres Strait Islander peoples' contribution to strengthening and enriching our city and region.

Newcastle Council, in consultation with local Aboriginal and Torres Strait Islander peoples is committed to:

respecting and conserving their cultural practices, traditional sites and significant places,

promoting activities which increase cultural sensitivity and awareness of Aboriginal and Torres Strait Islander peoples,

developing an agreement between local Aboriginal and Torres Strait Islander communities and other community members for the care of the local environment,



# Vales Point Coal Fired Power Station Inquiry into Coal Ash Dams



<https://www.nbnnews.com.au/2020/09/01/coastie-speaks-at-coal-ash-dam-inquiry/>

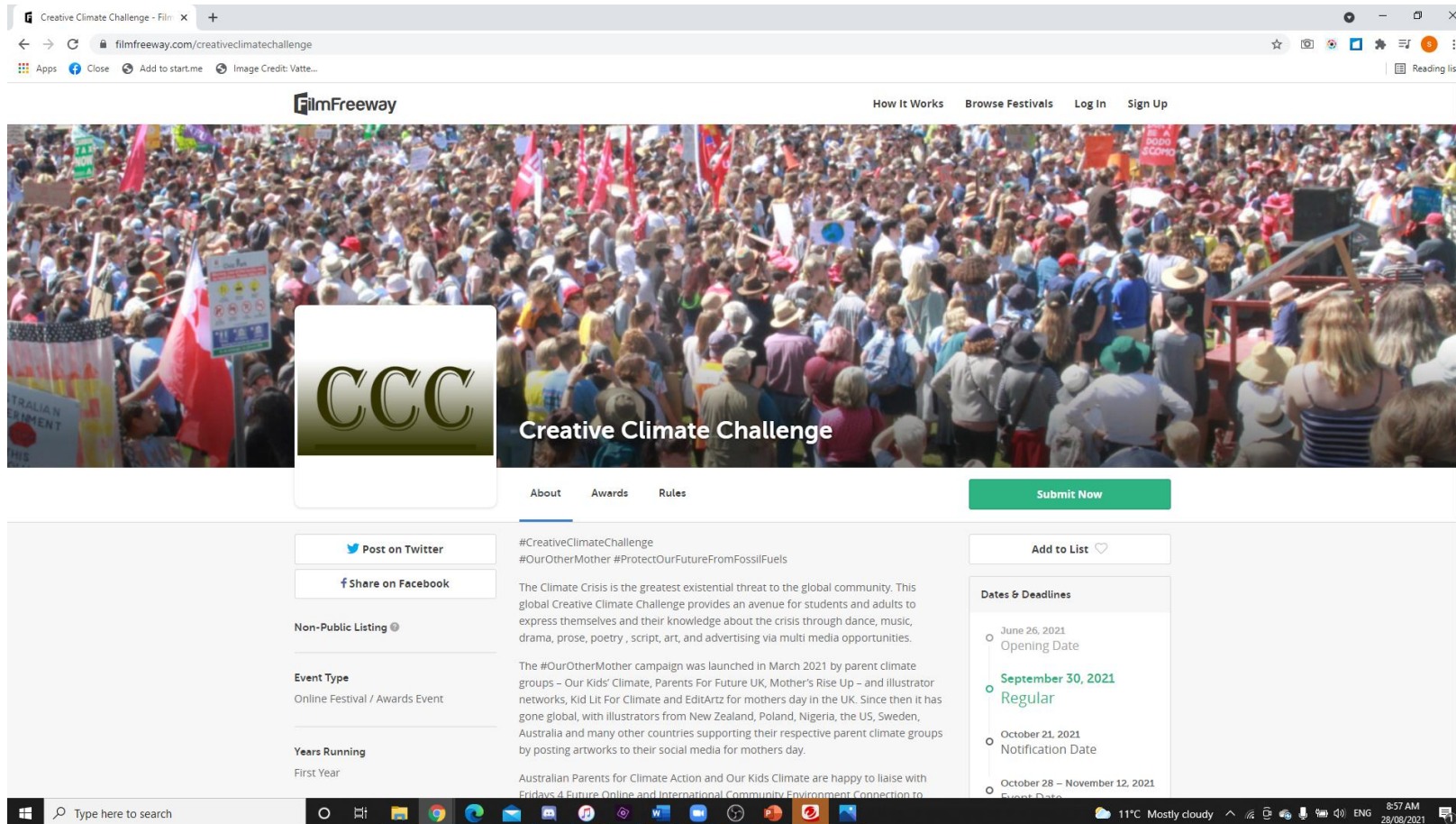
# Fridays For Future

## Advocating Peace - Ukraine



# Creative Climate Challenge

<https://filmfreeway.com/creativeclimatechallenge>



The screenshot shows the Creative Climate Challenge page on the FilmFreeway website. The page features a large background image of a crowd at a climate protest. The FilmFreeway logo is in the top left, and navigation links for 'How It Works', 'Browse Festivals', 'Log In', and 'Sign Up' are in the top right. The main heading 'Creative Climate Challenge' is prominently displayed. Below it, there are links for 'About', 'Awards', 'Rules', and a green 'Submit Now' button. A sidebar on the left includes social media links for Twitter and Facebook, a 'Non-Public Listing' toggle, and event details: 'Event Type: Online Festival / Awards Event' and 'Years Running: First Year'. The main content area describes the challenge as a global initiative for students and adults to express their knowledge about the climate crisis through various media. It mentions the #OurOtherMother campaign and lists participating parent climate groups from the UK, Australia, and other countries. A 'Dates & Deadlines' section on the right shows the opening date (June 26, 2021), a regular submission period (September 30, 2021), a notification date (October 21, 2021), and an event date (October 28 - November 12, 2021). The bottom of the page shows the Windows taskbar with the time 8:57 AM on 28/08/2021.



The poster for the Creative Climate Challenge (CCC) is titled 'Creative Climate Challenge' with the dates 'Dates: 21 October 2021'. It features a central graphic with four colored shapes: a red circle labeled 'Dance', a green triangle labeled 'Drama', a yellow hexagon labeled 'Music', and a blue circle labeled 'Visuals'. The text on the poster explains that the climate crisis is the greatest existential threat to the global community and that the CCC provides an avenue for students and adults to express their knowledge about the crisis through various media. It mentions the #OurOtherMother campaign and lists participating parent climate groups from the UK, Australia, and other countries. The poster also includes a link to the challenge: 'https://filmfreeway.com/creativeclimatechallenge'. At the bottom, there are logos for 'AUSTRALIAN PARENTS FOR CLIMATE ACTION', 'ICEC', 'PARENTS FOR CLIMATE ACTION', and 'OUR KIDS CLIMATE'.



🖥️ 21°C Rain

📶

🔊

🔌

📶

🔊

🔌

ENG

2:13 PM

26/02/2022

🔔



April 30 2022

## IPCC - Now or Never

IPCC - Now or Never

- ▶ <https://www.youtube.com/watch?v=FD2BGCA6x6Y>
- ▶ <https://www.youtube.com/watch?v=wJyYfDzTSAg>

The latest report recommended-Plant based diet - was delayed to amend this,

- ▶ <https://www.beefcentral.com/news/ipcc-report-recommends-eating-more-plant-based-protein/>,

# IPCC - Its Now or Never

IPCC report: 'now or never' if world is to stave off climate disaster

theguardian.com/environment/2022/apr/04/ipcc-report-now-or-never-if-world-stave-off-climate-disaster

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Environment ► Climate crisis Energy Wildlife Biodiversity Oceans Pollution Great Barrier Reef


**Climate crisis**


**IPCC report: 'now or never' if world is to stave off climate disaster**

Greenhouse gas emissions must peak by 2025, say climate scientists in what is in effect their final warning

- Analysis: IPCC spells out what's needed to avert climate disaster
- What does the IPCC report say?

**Fiona Harvey** Environment correspondent  
Tue 5 Apr 2022 01:00 AEST



Flooded streets in New South Wales, Australia, last month. Photograph: Jason O'Brien/AAP

The world can still hope to stave off the worst ravages of climate breakdown but only through a "now or never" dash to a low-carbon economy and society, scientists have said in what is in effect a final warning for governments on the climate.

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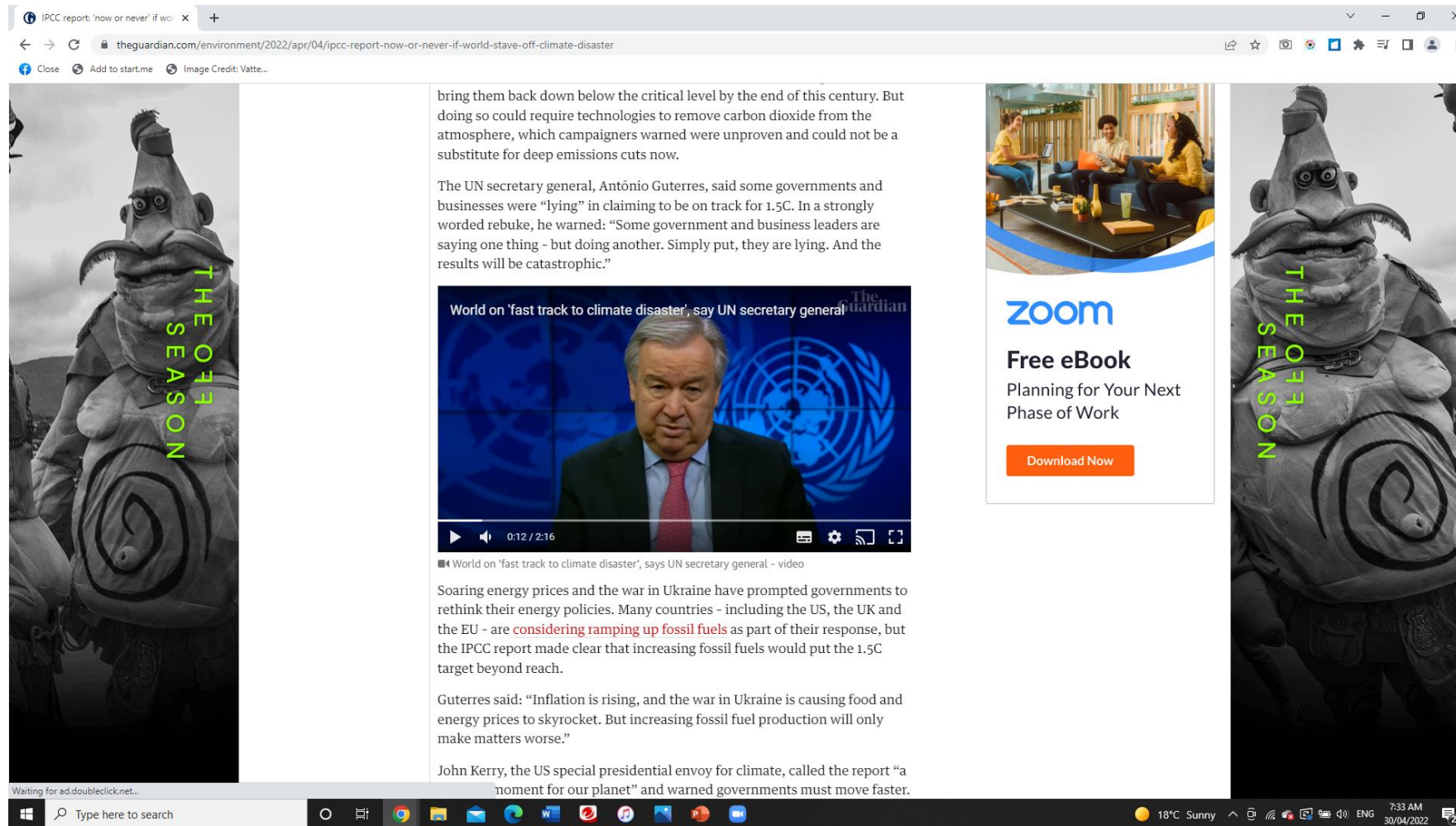
Just enter a name and our technology will do the rest. Start a 14-day free trial today.



18°C Sunny 7:29 AM 30/04/2022

<https://www.theguardian.com/environment/2022/apr/04/ipcc-report-now-or-never-if-world-stave-off-climate-disaster>

# IPCC - Report is damming



The screenshot shows a web browser displaying a Guardian article titled "IPCC report: 'now or never' if world stave off climate disaster". The article text discusses the urgency of climate action, mentioning the UN secretary general's warning that governments and businesses are "lying" about being on track for 1.5C. A video player in the center shows António Guterres speaking. To the right, there is a Zoom advertisement for a free eBook on planning the next phase of work. The article is flanked by two vertical images of a person in a costume with the text "THE OFF SEASON" written vertically. The Windows taskbar at the bottom shows the date as 30/04/2022 and the time as 7:33 AM.

IPCC report: 'now or never' if world stave off climate disaster

theguardian.com/environment/2022/apr/04/ipcc-report-now-or-never-if-world-stave-off-climate-disaster

Close Add to start.me Image Credit: Vatte...

bring them back down below the critical level by the end of this century. But doing so could require technologies to remove carbon dioxide from the atmosphere, which campaigners warned were unproven and could not be a substitute for deep emissions cuts now.

The UN secretary general, António Guterres, said some governments and businesses were "lying" in claiming to be on track for 1.5C. In a strongly worded rebuke, he warned: "Some government and business leaders are saying one thing - but doing another. Simply put, they are lying. And the results will be catastrophic."

World on 'fast track to climate disaster', say UN secretary general

zoom

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THE OFF SEASON

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18°C Sunny 7:33 AM 30/04/2022

<https://www.theguardian.com/environment/2022/apr/04/ipcc-report-now-or-never-if-world-stave-off-climate-disaster>

# Scientists and Climate Change

- ▶ John Bockris (UNESCO, 1974-75) (3.47m)
  - ▶ [https://amp.abc.net.au/article/100949208?fbclid=IwAR3LSTUxrk5d8A3No5gaDXl9NDDj6nX7ZeQe3kZT1W8KH\\_mKrwgQhlBihfY#amp\\_tf=From%20%251%24s&aoh=16497965250669&csi=0&referrer=https%3A%2F%2Fwww.google.com](https://amp.abc.net.au/article/100949208?fbclid=IwAR3LSTUxrk5d8A3No5gaDXl9NDDj6nX7ZeQe3kZT1W8KH_mKrwgQhlBihfY#amp_tf=From%20%251%24s&aoh=16497965250669&csi=0&referrer=https%3A%2F%2Fwww.google.com)
- ▶ James Hansen
  - ▶ <https://www.youtube.com/watch?v=igsho7acgAU> (9s)
  - ▶ <https://www.youtube.com/watch?v=UVz67cwmxTM> (5.26m)
- ▶ Carl Sagan (1985)
  - ▶ <https://www.youtube.com/watch?v=Wp-WiNXH6hl> (16.53m)
- ▶ Bill Nye
  - ▶ <https://www.climaterealityproject.org/video/climate-101-bill-nye> (4.33m)



# John Bockris (UNESCO, 1974-75) 3.47m

50 years ago, John Bockris saw t

amp.abc.net.au/article/100949208?fbclid=IwAR3LSTUxrK5d8A3No5gaDXI9NDDj6nX7ZeQe3kZT1W8KH\_mKrwgQhIBihfY#amp\_tf=From%20%251%24s&aoh=16497965250669&csi=0&referrer=https%3A%2F%2Fwww.google.com


Close Add to start.me Image Credit: Vatte...

NEWS

that it produces carbon dioxide.

0:00 / 0:00

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0:45 / 3:47

The ABC interview was one of four Professor Bockris gave to the ABC in 1973 and 1974, as he tried to alert the public to the dangers of carbon dioxide in the atmosphere.

Gesturing pointedly with his left hand, he explained that humans were now producing carbon dioxide at a faster rate than it could be absorbed by plants through photosynthesis, and so it was building up in the atmosphere.

"Now, it can be shown that that does unfortunate things to our atmosphere," he said.

"To put it very briefly, it makes the climate change."

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Type here to search

GOOG +3.82%

8:40 PM 29/04/2022

[https://amp.abc.net.au/article/100949208?fbclid=IwAR3LSTUxrK5d8A3No5gaDXI9NDDj6nX7ZeQe3kZT1W8KH\\_mKrwgQhIBihfY#amp\\_tf=From%20%251%24s&aoh=16497965250669&csi=0&referrer=https%3A%2F%2Fwww.google.com](https://amp.abc.net.au/article/100949208?fbclid=IwAR3LSTUxrK5d8A3No5gaDXI9NDDj6nX7ZeQe3kZT1W8KH_mKrwgQhIBihfY#amp_tf=From%20%251%24s&aoh=16497965250669&csi=0&referrer=https%3A%2F%2Fwww.google.com)

# Carl Sagan - 1985 - (16.53m)



► <https://www.youtube.com/watch?v=Wp-WiNXH6hl>

# James Hansen - 1988 - (9s)



<https://www.youtube.com/watch?v=igsho7acgAU>

# James Hansen - 1988 - (5.26m)




<https://www.youtube.com/watch?v=UVz67cwmxTM>



# Bill Nye (4.33)



<https://www.climaterealityproject.org/video/climate-101-bill-nye>

The background of the slide is a photograph of an industrial facility, likely an oil refinery or chemical plant, with tall distillation columns and various pipes. In the foreground, there is a field of yellow wildflowers. The sky is blue with some white clouds. The text is overlaid on the left side of the image.

ENERGY AND ENVIRONMENT

# Climate change

We believe that climate change risks warrant action and it's going to take all of us — business, governments and consumers — to make meaningful progress.

**We believe climate change risks warrant action': EXXONMOBILE**

**<https://www.exxonmobil.com.au/Energy-and-environment/Environmental-protection/Climate-change>**

# Projections of the Future

## EXXON RESEARCH AND ENGINEERING COMPANY

P.O. BOX 101, FLORHAM PARK, NEW JERSEY 07932

M. B. GLASER  
Manager  
Environmental Affairs Programs

Cable: ENGREXXON, N.Y.

November 12, 1982

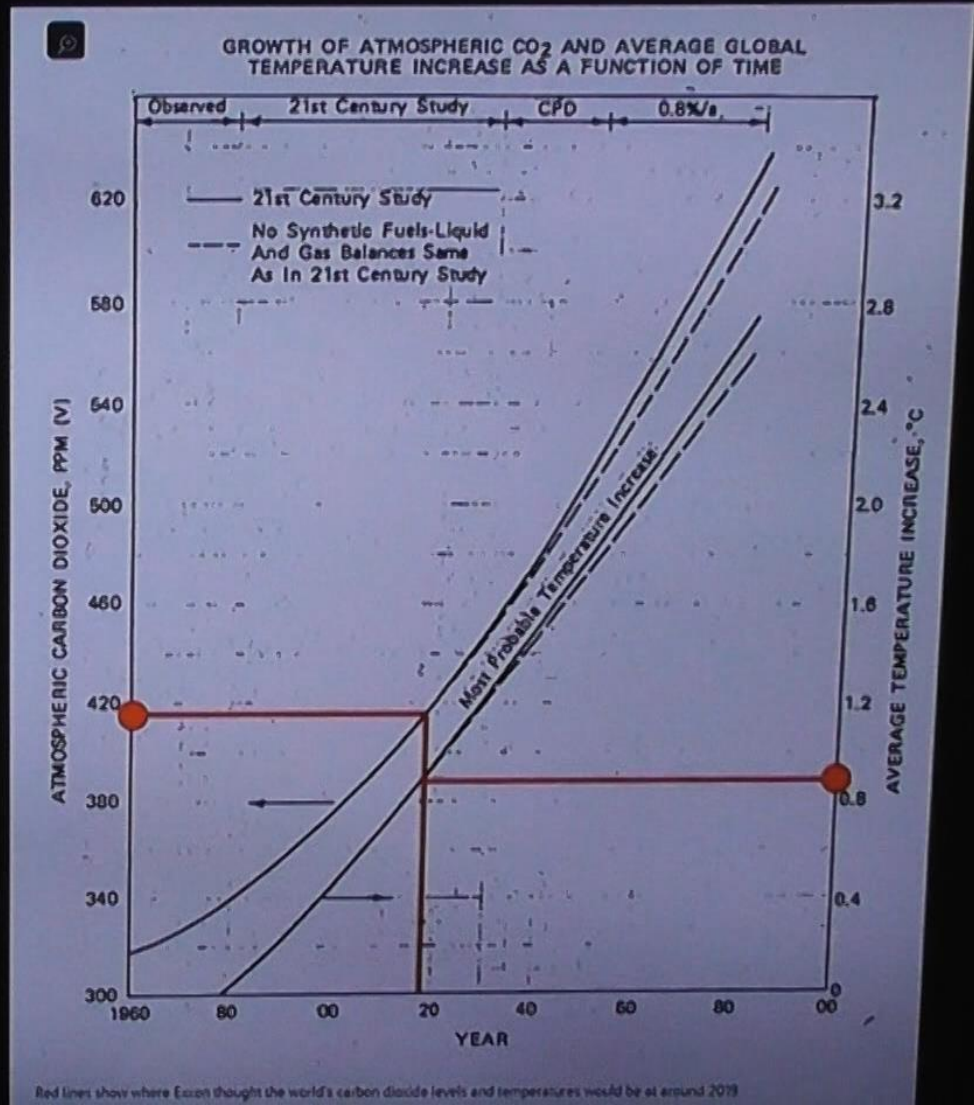
CO<sub>2</sub> "Greenhouse" Effect

82EAP 266

TO: See Distribution List Attached

Attached for your information and guidance is briefing material on the CO<sub>2</sub> "Greenhouse" Effect which is receiving increased attention in both the scientific and popular press as an emerging environmental issue. A brief summary is provided along with a more detailed technical review prepared by CPPD.

The material has been given wide circulation to Exxon management and is intended to familiarize Exxon personnel with the subject. It may be used as a basis for discussing the issue with



The industry itself researched into fossil fuels and its impacts on global warming through increased atmospheric carbon dioxide levels. They predicted the scenario that we are now seeing. See <https://insideclimatenews.org/sites/default/files/documents/1982%20Exxon%20Primer%20on%20CO2%20Greenhouse%20Effect.pdf>



# EXXON in 1982 on Greenhouse Effect

CO<sub>2</sub> "GREENHOUSE EFFECT"

PROPRIETARY

## SUMMARY

Atmospheric monitoring programs show the level of carbon dioxide in the atmosphere has increased about 8% over the last twenty-five years and now stands at about 340 ppm. This observed increase is believed to be the continuation of a trend which began in the middle of the last century with the start of the Industrial Revolution. Fossil fuel combustion and the clearing of virgin forests (deforestation) are believed to be the primary anthropogenic contributors although the relative contribution of each is uncertain.

The carbon dioxide content of the atmosphere is of concern since it can affect global climate. Carbon dioxide and other trace gases contained in the atmosphere such as water vapor, ozone, methane, carbon monoxide, oxides of nitrogen, etc. absorb part of the infrared rays reradiated by the earth. This increase in absorbed energy warms the atmosphere inducing warming at the earth's surface. This phenomenon is referred to as the "greenhouse effect".

Predictions of the climatological impact of a carbon dioxide induced "greenhouse effect" draw upon various mathematical models to gauge the temperature increase. The scientific community generally discusses the impact in terms of doubling of the current carbon dioxide content in order to get beyond the noise level of the data. We estimate doubling could occur around the year 2090 based upon fossil fuel requirements projected in Exxon's long range energy outlook. The question of which predictions and which models best simulate a carbon dioxide induced climate change is still being debated by the scientific community. Our best estimate is that doubling of the current concentration could increase average global temperature by about 1.3° to 3.1° C. The increase would not be uniform over the earth's surface with the polar caps likely to see temperature increases on the order of 10° C and the equator little, if any, increase.

Considerable uncertainty also surrounds the possible impact on society of such a warming trend, should it occur. At the low end of the predicted temperature range there could be some impact on agricultural growth and rainfall patterns which could be beneficial in some regions and detrimental in others. At the high end, some scientists suggest there could be considerable adverse impact including the flooding of some coastal land masses as a result of a rise in sea level due to melting of the Antarctic ice sheet. Such an effect would not take place until centuries after a 3° C global average temperature increase actually occurred.

There is currently no unambiguous scientific evidence that the earth is warming. If the earth is on a warming trend, we're not likely to detect it before 1995. This is about the earliest projection of when the temperature

EC-11-5/A3

A 1982 EXXON document explains atmospheric carbon dioxide levels had increased due to fossil fuel combustion and deforestation and that this can affect global climate through the phenomenon known as the 'greenhouse effect'

The 1982 EXXON document presented a graph that predicted the global warming that we are currently seeing, in terms of carbon dioxide levels in the atmosphere and resultant temperature rise, and predicted that we would reach over 430ppm carbon dioxide atmospheric concentration and a 1.5 degree warming around 2030.

*'There is currently no unambiguous scientific evidence that the earth is warming'*



# EXXON in 1982 on Greenhouse Effect

- 2 -

might rise the 0.5° needed to get beyond the range of normal temperature fluctuations. On the other hand, if climate modeling uncertainties have exaggerated the temperature rise, it is possible that a carbon dioxide induced "greenhouse effect" may not be detected until 2020 at the earliest.

The "greenhouse effect" is not likely to cause substantial climatic changes until the average global temperature rises at least 1°C above today's levels. This could occur in the second to third quarter of the next century. However, there is concern among some scientific groups that once the effects are measurable, they might not be reversible and little could be done to correct the situation in the short term. Therefore, a number of environmental groups are calling for action now to prevent an undesirable future situation from developing.

Mitigation of the "greenhouse effect" would require major reductions in fossil fuel combustion. Shifting between fossil fuels is not a feasible alternative because of limited long-term supply availability for certain fuels although oil does produce about 18% less carbon dioxide per Btu of heat released than coal, and gas about 32% less than oil. The energy outlook suggests synthetic fuels will have a negligible impact at least through the mid 21st century contributing less than 10% of the total carbon dioxide released from fossil fuel combustion by the year 2050. This low level includes the expected contribution from carbonate decomposition which occurs during shale oil recovery and assumes essentially no efficiency improvements in synthetic fuels processes above those currently achievable.

Overall, the current outlook suggests potentially serious climate problems are not likely to occur until the late 21st century or perhaps beyond at projected energy demand rates. This should provide time to resolve uncertainties regarding the overall carbon cycle and the contribution of fossil fuel combustion as well as the role of the oceans as a reservoir for both heat and carbon dioxide. It should also allow time to better define the effect of carbon dioxide and other infrared absorbing gases on surface climate. Making significant changes in energy consumption patterns now to deal with this potential problem amid all the scientific uncertainties would be premature in view of the severe impact such moves could have on the world's economies and societies.

The 1982 EXXON document stated that 'The greenhouse effect' is not likely to cause substantial climatic change until the average global temperature rises at least 1 degree'. It explained that global warming would not be uniform and the polar caps would see high temperatures. It also outlined impacts on the low end on agricultural growth and rainfall patterns while on the high end flooding of some coastal land masses as a result of sea level rise due to Antarctic ice sheet melting.

<https://insideclimatenews.org/sites/default/files/documents/1982%20Exxon%20Primer%20on%20CO2%20Greenhouse%20Effect.pdf>

# ‘EXXON INTEROFFICE DOCUMENT BY PHYSICIST:

‘Whereas I can agree with the statement that our best guess is that observable effects in the year 2030 are likely to be ‘well short of catastrophic’, it is distinctly possible that the CPD scenario will later produce effects which will indeed be catastrophic’

GENERAL - 184-1-18 INTER-OFFICE CORRESPONDENCE		DATE August 18, 1981
TO	W. Glass	REFERENCE
FROM	R. W. Cohen	SUBJECT

I have looked over the draft of the EED reply to the request from O'Loughlin. The only real problem I have is with the second clause of the last sentence in the first paragraph: "but changes of a magnitude well short of catastrophic..." I think that this statement may be too reassuring. Whereas I can agree with the statement that our best guess is that observable effects in the year 2030 are likely to be "well short of catastrophic", it is distinctly possible that the CPD scenario will later produce effects which will indeed be catastrophic (at least for a substantial fraction of the earth's population). This is because the global ecosystem in 2030 might still be in a transient, headed for much more significant effects after time lags perhaps of the order of decades. If this indeed turns out to be case, it is very likely that we will unambiguously recognize the threat by the year 2000 because of advances in climate modeling and the beginning of real experimental confirmation of the CO<sub>2</sub> effect. The effects of such a recognition on subsequent fossil fuel combustion are unpredictable, but one can say that predictions based only on our knowledge of availability and economics become hazardous.

I would feel more comfortable if the first paragraph concluded with a statement to the effect that future developments in global data gathering and analysis, along with advances in climate modeling, may provide strong evidence for a delayed CO<sub>2</sub> effect of a truly substantial magnitude, a possibility which increases the uncertainty surrounding the post-2000 CPD scenario.

ROGER W. COHEN

RWC:tmw

Attachment

cc: H. N. Weinberg  
A. J. Callegari

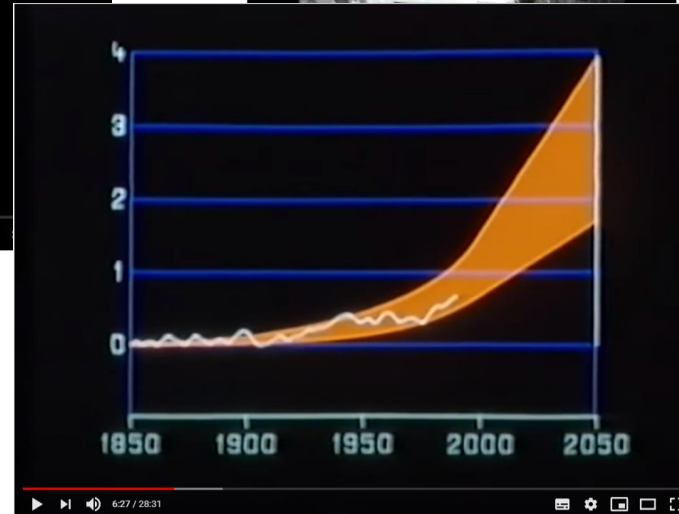
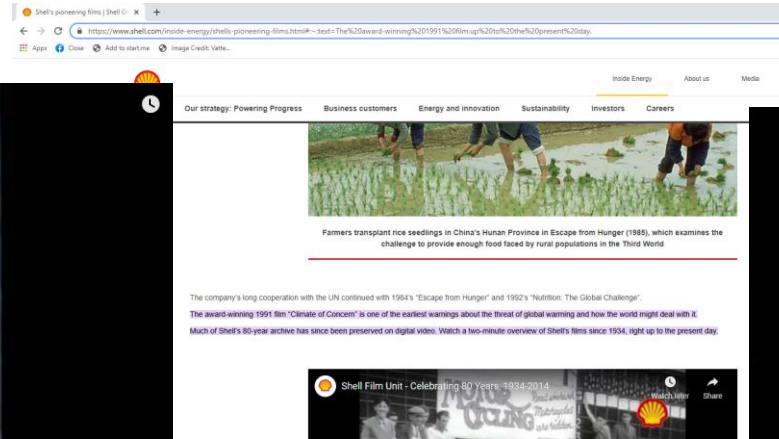
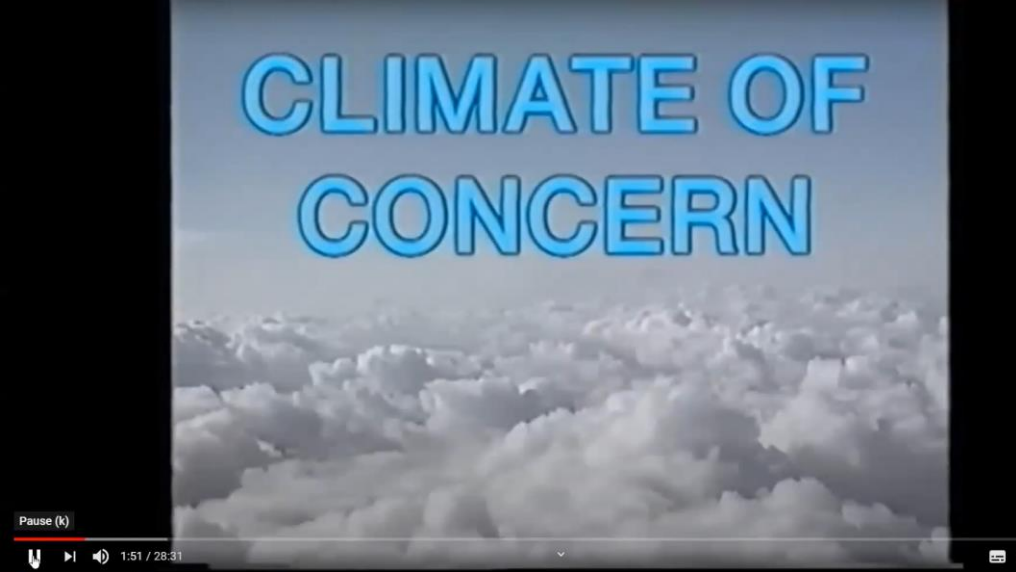
‘This is because the global ecosystem in 2030 might still be in a transient, headed for much more significant effects after time lags perhaps of the order of decades.’

Climate modeling, may provide strong evidence for a delayed CO<sub>2</sub> effect of a truly substantial magnitude’

**‘EXXON INTEROFFICE DOCUMENT BY PHYSICIST: Whereas I can agree with the statement that our best guess is that observable effects in the year 2030 are likely to be ‘well short of catastrophic’, it is distinctly possible that the CPD scenario will later produce effects which will indeed be catastrophic’**

# Shell released a documentary in 1991 while EXXON notes on their internet site that they have 40 years of climate science research

Shell Oil's Stark Climate Change Warning from 1991



Climate of Concern - Royal Dutch Shell (1991)



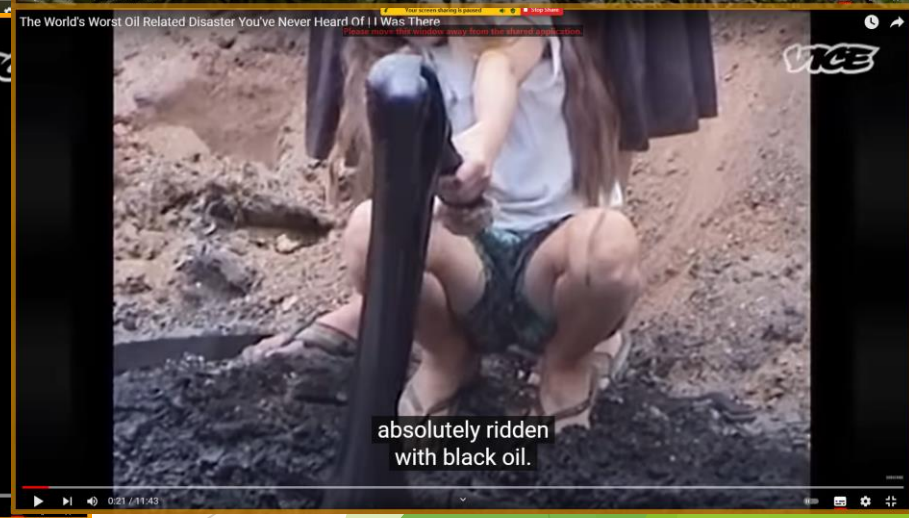
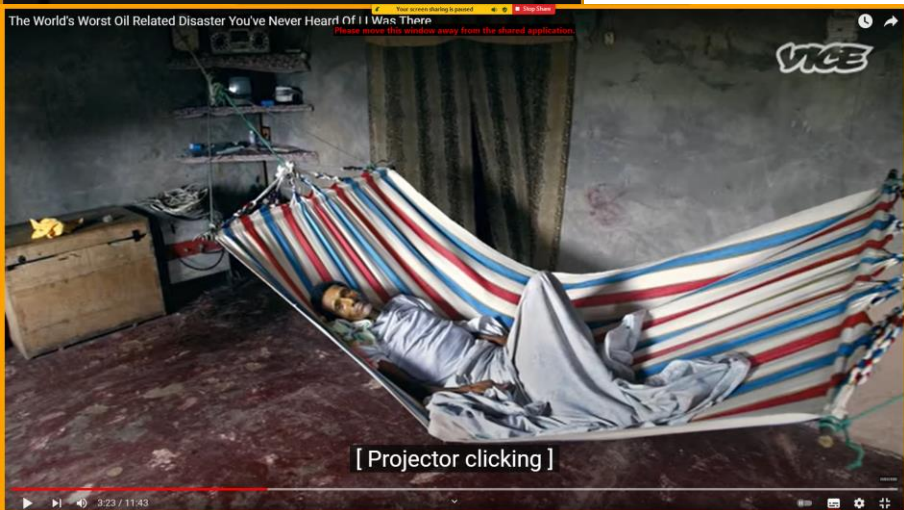
Shell's 1991 documentary (Climate of Concern) also discussed the 'greenhouse effect' and outlined a small but significant warming trend over the century with computer modelling showing the possibility of **warming in the range of 1.5 degrees to 4 degrees by 2050** explaining that the rate of change could be faster then at any other time since the end of the ice age. The concern being '**change too fast perhaps for life to adapt without severe dislocation**'. They explained that scientists were foreseeing not a steady even warming overall but '**alterations to familiar pattens of climate**'.



## JUSTICE IN THE AMAZON

# Chevron vs. The Amazon

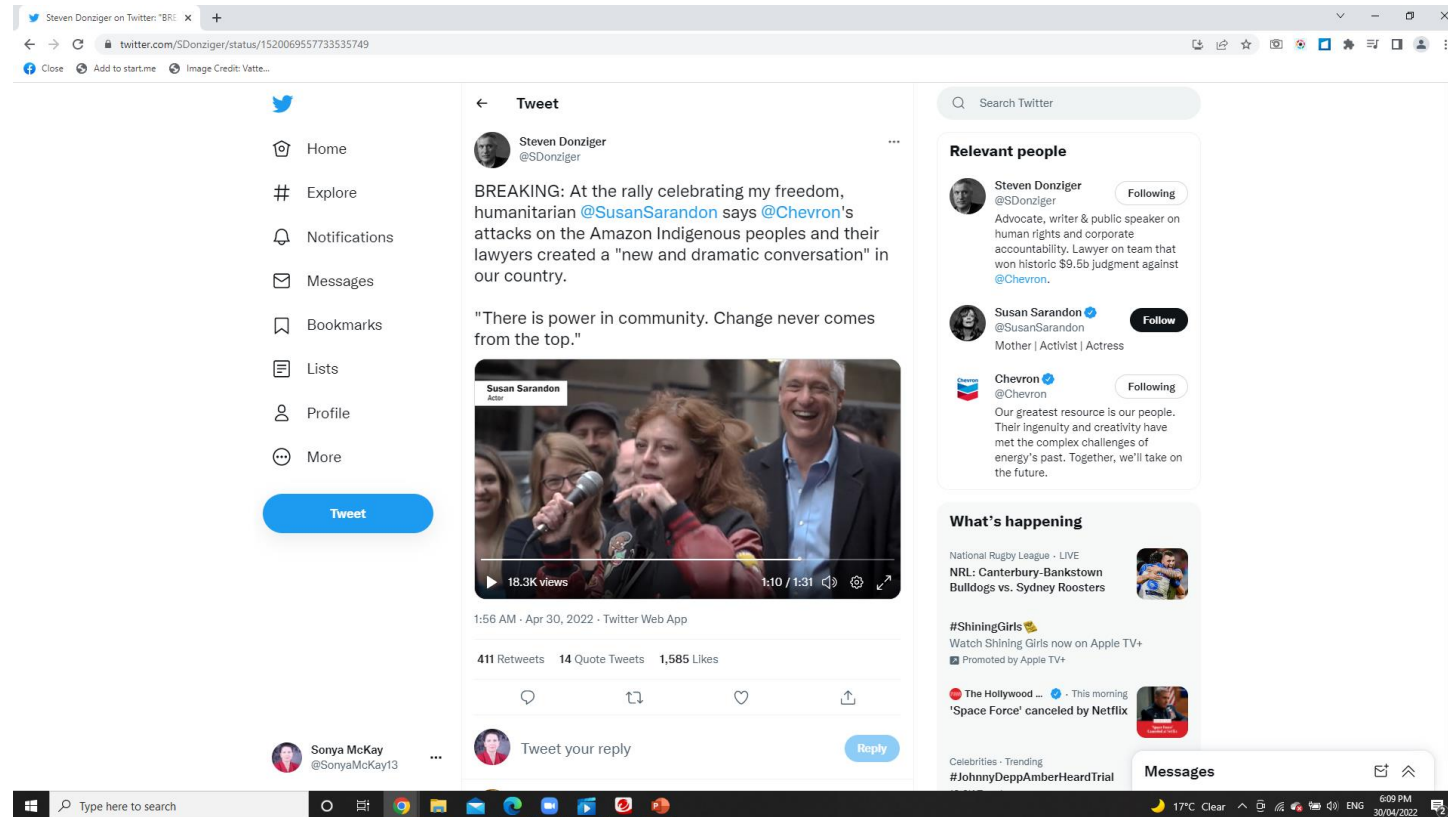
Chevron CEO at Congress - <https://www.facebook.com/watch?v=1472924209757934>



- ▶ 11 minute video: <https://www.youtube.com/watch?v=ikneKQAeUp0>
- ▶ Chevron v Amazon: <https://www.youtube.com/watch?v=MssnB31PmZI>



# Steven Donziger



<https://twitter.com/SDonziger/status/1520069557733535749>

Steven Donziger Retweeted  
Steven Donziger @SDonziger · May 11  
Refuse to be silenced. @Chevron abandoned 1,000 of these cancer-causing waste pits in the Amazon where they still poison drinking water and kill Indigenous peoples. An undeniable corporate crime against humanity.

Our mission for justice continues. #JusticeforEcuador



34 1,671 5,009

Steven Donziger @SDonziger · May 25  
Shocking. For years Marisol Cantú of @RPA\_Richmond near San Francisco has been fighting Chevron's release of poisonous toxins from its refinery into the air. An explosion once sent 15,000 people to the hospital.

Why is Chevron slowly killing Richmond?



11 114 267

Steven Donziger @SDonziger · May 20  
On my 3rd day in New Mexico reconnecting with what really matters: protecting Indigenous peoples who take care of Mother Earth for the benefit of all. I can stare at the stars for the first time in years. Blessed.

"The battle to save our planet starts with Indigenous peoples."



24 140 762

Steven Donziger @SDonziger · May 25  
BREAKING: In a landmark case, the high court of Massachusetts just ruled 7-0 that Exxon must face trial for deceiving the public over climate change. What happens when judges act with integrity.

Huge step toward justice. Great precedent for the planet. [reuters.com/business/energ...](https://reuters.com/business/energ...)



58 2,048 6,552

Steven Donziger @SDonziger · May 23  
The @Chevron refinery near San Francisco where I spoke is a real-life apocalypse that has rained death on the city of Richmond for decades. Cancer rates are rising and a fire once sent 15,000 to the hospital.

As in Ecuador, Chevron does not give a damn.



theguardian.com  
Richmond v Chevron: the California city taking on its most powerful p...  
Local activists are suing the fossil fuel firms that gave the city life – but may also be slowly killing it

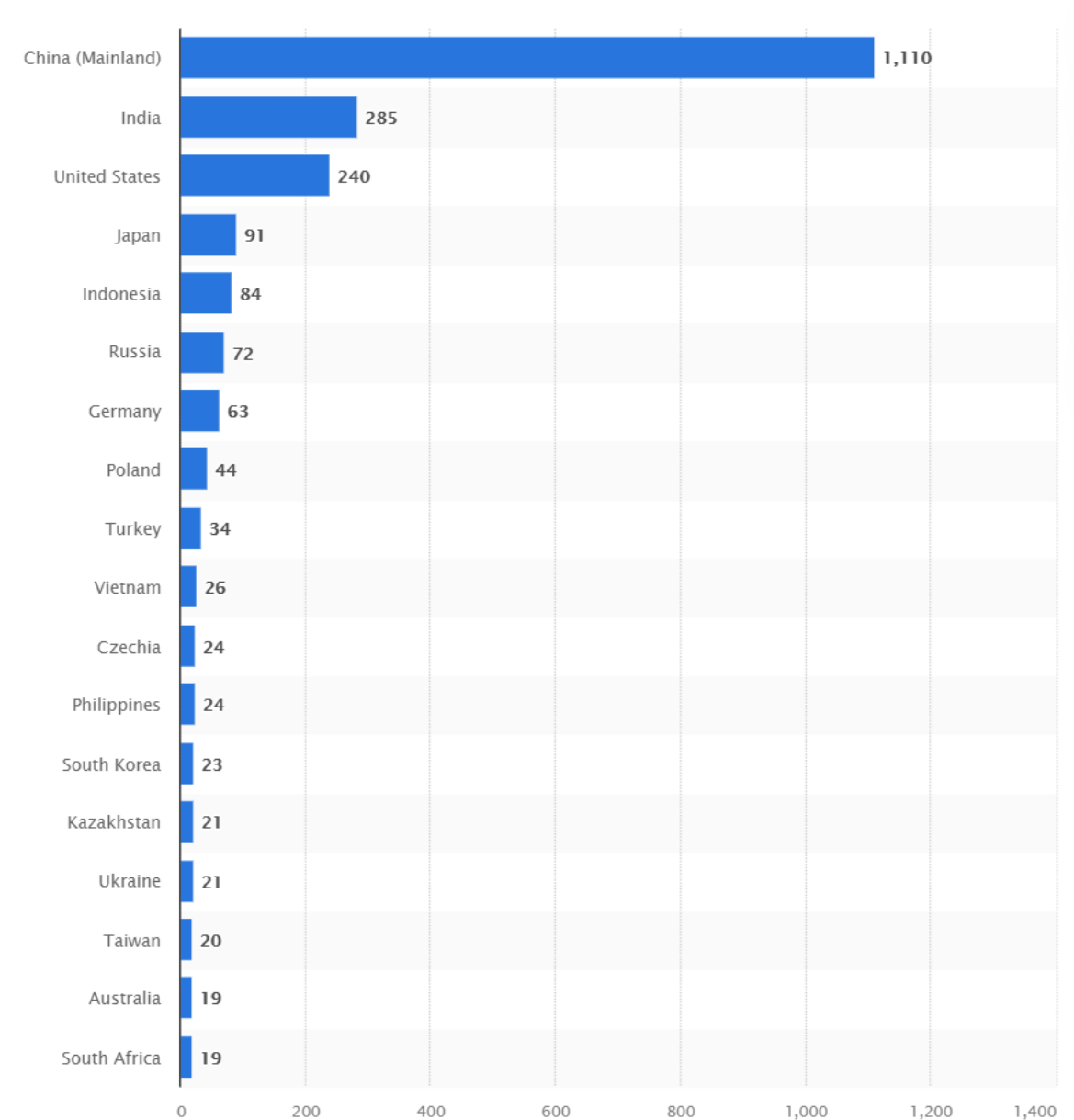
22 400 995

# Coal Fired Power Stations

Alfred Robert Hogan,

*BSc, M.A. (Journalism).* Working towards PhD 1922-2021 history of radio and TV space coverage, FFF activist writing a book on its founder  
Greta Thunberg

# Coal Power Plants by Country





# Coal Fired Power Stations in Australia

## New South Wales [\[ edit \]](#)

Power station <span>↕</span>	Commission Year <span>↕</span>	Scheduled Closure Year <span>↕</span>	Max. Capacity (MW) <span>↕</span>	CO <sub>2</sub> Emissions (t CO <sub>2</sub> -e/year) <span>↕</span>	Emission intensity (t CO <sub>2</sub> -e/MWh) <span>↕</span>	Turbines <span>↕</span>	Coal Type <span>↕</span>	Conveyance <span>↕</span>	Mine type <span>↕</span>	Cooling Water <span>↕</span>	Status <span>↕</span>	Owner <span>↕</span>
Bayswater	1982 <sup>[4]</sup>	2033 <sup>[5]</sup>	2,640	13,725,965 <sup>[6]</sup>	0.88 <sup>[6]</sup>	4	bituminous	conveyors, rail	open cut	fresh	Active	AGL
Eraring	1982 <sup>[4]</sup>	2025 <sup>[7][a]</sup>	2,880	14,914,916 <sup>[6]</sup>	0.87 <sup>[6]</sup>	4	bituminous	rail, truck	underground	salt	Active	Origin
Liddell	1971 <sup>[4]</sup>	2023 <sup>[6]</sup>	2,000	7,840,239 <sup>[6]</sup>	0.92 <sup>[6]</sup>	4	bituminous	conveyors, rail	open cut	fresh	Active (Unit 3 Closed)	AGL
Mt Piper	1993 <sup>[4]</sup>	2040 <sup>[11][12]</sup>	1,400	6,841,302 <sup>[6]</sup>	0.87 <sup>[6]</sup>	2	bituminous	road, conveyor	underground	fresh	Active	EnergyAustralia
Vales Point B	1978 <sup>[4]</sup>	2029 <sup>[13]</sup>	1,320	7,015,626 <sup>[6]</sup>	0.86 <sup>[6]</sup>	2	bituminous	conveyors	underground	salt	Active	Delta

Total (MW): 10,240

## Queensland [\[ edit \]](#)

Power station <span>↕</span>	Commission Year <span>↕</span>	Scheduled Closure Year <span>↕</span>	Max. Capacity (MW) <span>↕</span>	CO <sub>2</sub> Emissions (t CO <sub>2</sub> -e/year) <span>↕</span>	Emission intensity (t CO <sub>2</sub> -e/MWh) <span>↕</span>	Turbines <span>↕</span>	Coal Type <span>↕</span>	Conveyance <span>↕</span>	Mine type <span>↕</span>	Cooling Water <span>↕</span>	Status <span>↕</span>	Refs <span>↕</span>	Owner <span>↕</span>
Callide B	1989 <sup>[4]</sup>	2028 <sup>[14]</sup>	700	5,103,540 <sup>[6]</sup>	0.92 <sup>[6]</sup>	2	bituminous	conveyor	open cut	fresh	Active	<sup>[15][16]</sup>	CS Energy, Intergen
Callide C	2001 <sup>[4]</sup>	Not Announced <sup>[17]</sup>	810	5,265,665 <sup>[6]</sup>	0.9 <sup>[6]</sup>	2	bituminous	conveyor	open cut	fresh	Active	<sup>[15][16]</sup>	CS Energy, Intergen
Gladstone	1976 <sup>[4]</sup>	2035 <sup>[14]</sup>	1,680	8,547,021 <sup>[6]</sup>	0.95 <sup>[6]</sup>	6	bituminous	rail	open cut	seawater	Active	<sup>[15]</sup>	Rio Tinto, NRG
Kogan Creek	2007 <sup>[4]</sup>	2042 <sup>[17]</sup>	750	4,360,686 <sup>[6]</sup>	0.83 <sup>[6]</sup>	1	bituminous	conveyor	open cut	dry cooled	Active	<sup>[15]</sup>	CS Energy
Millmerran	2002 <sup>[4]</sup>	2051 <sup>[17]</sup>	852	5,794,351 <sup>[6]</sup>	0.82 <sup>[6]</sup>	2	bituminous	conveyor	open cut	dry cooled	Active	<sup>[15]</sup>	Intergen <sup>[16]</sup>
Stanwell	1993 <sup>[4]</sup>	2046 <sup>[17]</sup>	1,445	7,637,735 <sup>[6]</sup>	0.87 <sup>[6]</sup>	4	bituminous	rail	open cut	fresh	Active	<sup>[15]</sup>	Stanwell
Tarong	1984 <sup>[4]</sup>	2037 <sup>[17]</sup>	1,400	10,473,950 <sup>[6]</sup>	0.86 <sup>[6]</sup>	4	bituminous	conveyor	open cut	fresh	Active	<sup>[15][19]</sup>	Stanwell
Tarong North	2002 <sup>[4]</sup>	2037 <sup>[17]</sup>	443			1	bituminous	conveyor	open cut	fresh	Active	<sup>[15]</sup>	Stanwell

Total (MW): 8,080

## Victoria [\[ edit \]](#)

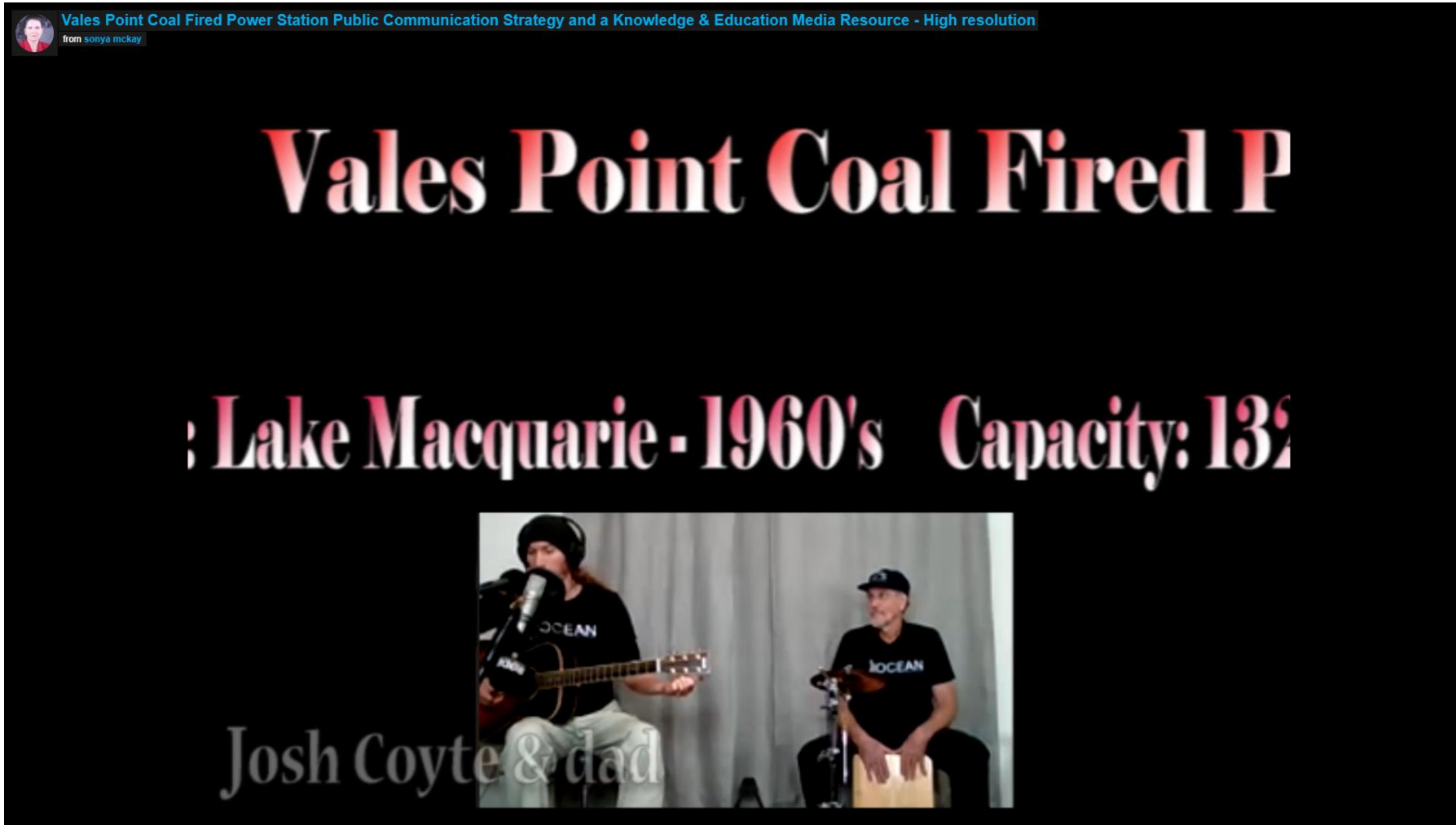
Power station <span>↕</span>	Commission Year <span>↕</span>	Scheduled Closure Year <span>↕</span>	Max. capacity (MW) <span>↕</span>	CO <sub>2</sub> Emissions (t CO <sub>2</sub> -e/year) <span>↕</span>	Emission intensity (t CO <sub>2</sub> -e/MWh) <span>↕</span>	Turbines <span>↕</span>	Coal type <span>↕</span>	Conveyance <span>↕</span>	Mine type <span>↕</span>	Cooling water <span>↕</span>	Status <span>↕</span>	Owner <span>↕</span>
Loy Yang A	1984 <sup>[4]</sup>	2045 <sup>[5]</sup>	2200	20,107,115 <sup>[6]</sup>	1.17 <sup>[6]</sup>	4	lignite	conveyors	open cut	fresh cooling tower	Active	AGL
Loy Yang B	1993 <sup>[4]</sup>	2047 <sup>[17]</sup>	1050	10,132,776 <sup>[6]</sup>	1.14 <sup>[6]</sup>	2	lignite	conveyors	open cut	fresh cooling tower	Active	Chow Tai Fook / Alinta Energy <sup>[20]</sup>
Yallourn Power Station	1975 <sup>[4]</sup>	2028 <sup>[21][22]</sup>	1480	13,856,313 <sup>[6]</sup>	1.34 <sup>[6]</sup>	4	lignite	conveyors	open cut	fresh cooling tower	Active	EnergyAustralia

Total (MW): 4,730

## Western Australia [\[ edit \]](#)

Power station <span>↕</span>	Commission Year <span>↕</span>	Scheduled Closure Year <span>↕</span>	Max. Capacity (MW) <span>↕</span>	CO <sub>2</sub> Emissions (t CO <sub>2</sub> -e/year) <span>↕</span>	Emission intensity (t CO <sub>2</sub> -e/MWh) <span>↕</span>	Turbines <span>↕</span>	Coal Type <span>↕</span>	Conveyance <span>↕</span>	Mine type <span>↕</span>	Cooling Water <span>↕</span>	Status <span>↕</span>	Owner <span>↕</span>
Collie	1999 <sup>[4]</sup>	2040 <sup>[23]</sup>	340	1,848,693 <sup>[6]</sup>	0.91 <sup>[6]</sup>	1	bituminous	conveyor	open cut	fresh	Active	Synergy
Muja	1981 <sup>[4]</sup>	2022 (Unit 5) <sup>[23]</sup> <div>2024 (Unit 6)<sup>[24]</sup><div>2040 (Units 7 &amp; 8)<sup>[23]</sup></div></div>	854	3,982,663 <sup>[6]</sup>	0.9 <sup>[6]</sup>	4	bituminous	conveyor	open cut	fresh	Active (Units 1-4 Closed)	Synergy
Bluwaters	2009 <sup>[4]</sup>	-	416	2,966,541 <sup>[6]</sup>	0.88 <sup>[6]</sup>	2	bituminous	conveyor	open cut	fresh	Active	Sumitomo Group, Kansai Electric

# Vales Point Coal Fired Power Station



<https://vimeo.com/710599459>

# Coal Fired Power Disaster

Disaster occurs when a hazard meets determined criteria based on surpassing threshold impacts on a community/society. This includes one or more of the following: a) the number of people reportedly impacted on (100 or more); b) resultant reported fatalities (10 or more); c) state of emergency declaration; or d) a request for international assistance. Global warming is a slow on-set disaster that now appears to be accelerating exponentially globally leading to disasters due to an increase in intensity and frequency of climatic events seriously disrupting society and its ability to cope. The definition of disaster is said to be 'A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.'

United Nations (2008). Natural Disasters: UNSD Workshop on Environment Statistics (Abuja, 19-23 May 2008).

[https://unstats.un.org/unsd/environment/envpdf/UNSD\\_UNEP\\_ECOWAS%20Workshop/Session%2004-1%20Natural%20disasters%20\(UNSD\).pdf](https://unstats.un.org/unsd/environment/envpdf/UNSD_UNEP_ECOWAS%20Workshop/Session%2004-1%20Natural%20disasters%20(UNSD).pdf)

# Vales Point

- ▶ Vales Point coal fired power station is located on the Shores of Lake Macquarie on the central coast in the Hunter region, around 25km from Newcastle in New South Wales Australia. It was originally constructed in the 1960's with four generation units which were decommissioned in the 1980's. It currently operates on two units constructed in the 1970's and provides 1,320 megawatts of energy or 5% of power for NSW and is due to be decommissioned in 2029. The facility was sold by the NSW government to Sunset Power for \$1M in November 2015 and was later reported to be valued at \$730M. Sunset Power, which trades as Delta Electricity, then distributes energy to the public through ERM which is owned by Trevor St Baker. In 2019 Great Southern Energy Pty Ltd (trading as Delta coal) purchased the Chain Valley Bay and Mannering Collieries. Coal from the Collieries are said to supply Vales Point. Trevor St Baker is Chairman of both Sunset Power t/a Delta Electricity and Great Southern Energy Pty Ltd.



# Vales Point Coal Fired Power Station

## Main Issues

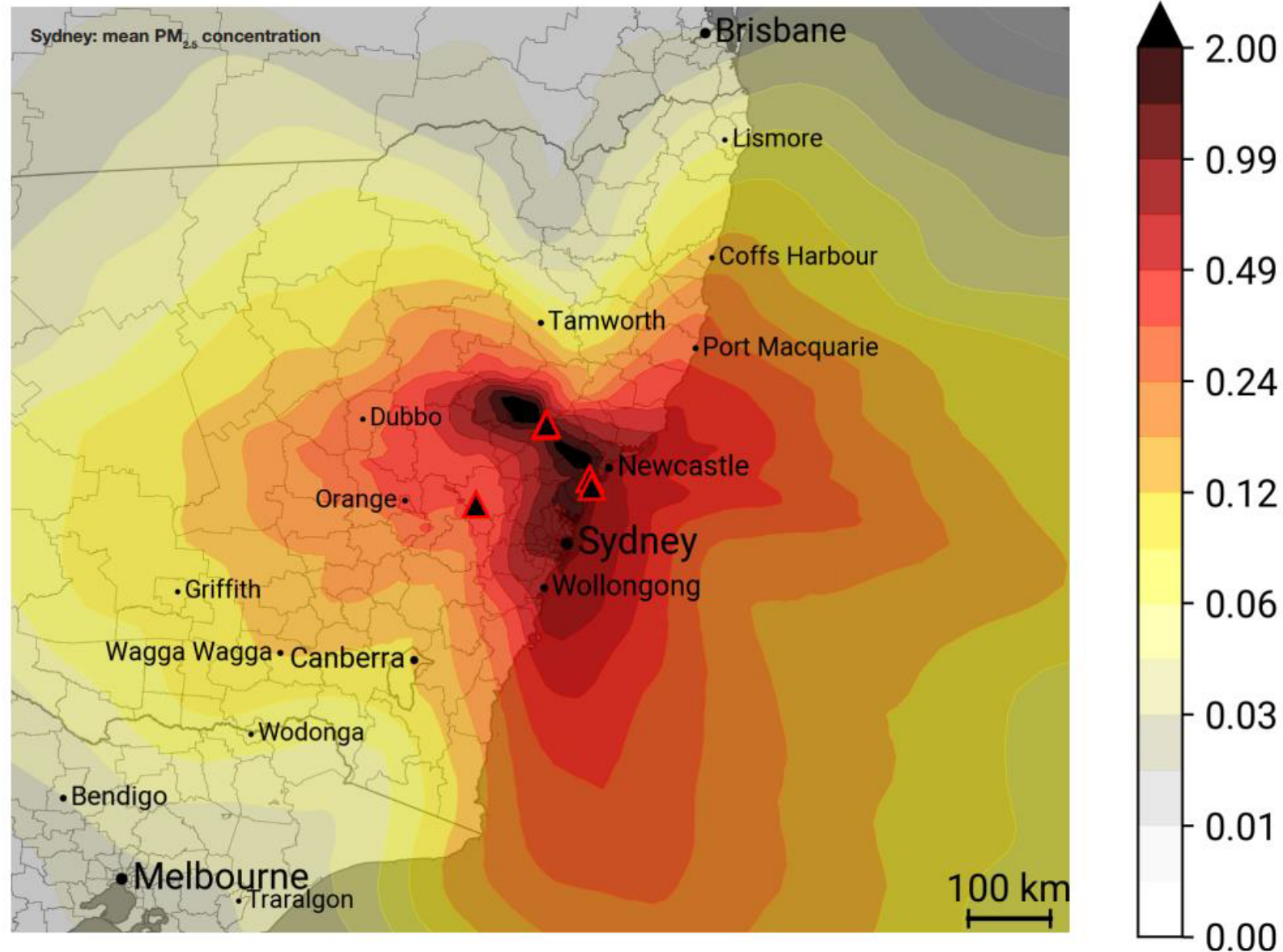
- ▶ Health (NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>2.5</sub> & PM<sub>10</sub>)
  - ▶ Asthma
  - ▶ Lung Cancer
- ▶ Climate Change (Combustion of Fossil Fuels)
  - ▶ Global Warming and substantive climate change along with sea level rise.
- ▶ Coal Ash Dams
  - ▶ Chemicals including asbestos permitted to drain into Lake Illawarra
- ▶ Solutions
  - ▶ Sewerage to methane to hydrogen with necessary blue carbon sinks
  - ▶ Continued innovation into Renewables
  - ▶ Long term, nuclear and cold fusion and discussion over Zero Point Energy

# Vales Point Coal Fired Power Station

- ▶ Emissions from the Power Station - Coal Ash Dam - rehabilitated with asbestos
- ▶ Sickness - asthma and cancers
- ▶ Central Council is doing right now adaptation/mitigation from climate change
  - ▶ Solar on buildings, support electric car fleet, combined with other councils to enter into a Power Purchase Agreement for renewable electricity based on solar farms.
- ▶ Mitigation/Adaptation - Lessening impact of global warming/beneficial opportunities
  - ▶ Multiple sewerage treatment plants which would allow to extract Biogas for energy. Together with hydrogen conversion this would allow for greener renewable energy.
  - ▶ Could also be partnerships with farmers to provide biogas energy (converted to hydrogen) and natural fertilizer from animal manure.
  - ▶ Can supplement solar and wind energy.

# PM2.5 Distribution Lethal Power, Greenpeace

Depending on the wind direction and speed, PM<sub>2.5</sub> emitted from the coal-burning power station group near Sydney can travel all the way up to the Gold Coast in South-East Queensland and down to Shepparton in regional Victoria. Populations living closest to the power stations, such as Sydney, Singleton and Newcastle, are at greatest risk of exposure.





# Health Impacts

The Greenpeace report indicates the type and amount of pollution from each power station. It also includes atmospheric dispersion modelling indicating the pollution plumes extending from the Newcastle power plants to the Gold Coast and Melbourne for PM2.5 as an example. The report identifies resultant health impacts that include an estimated '800 premature deaths, 850 cases of low birth weight in newborns and 14,000 asthma attacks in children and young adults aged 5-19'. A CSIRO and state study found over 420 premature deaths due to fine particulates with around 45 said to be directly caused by coal fired power stations. The Environmental Justice Australia organization cites Doctors for the environment which mentions '279 premature deaths and 361 cases of diabetes per year' and '233 babies born underweight'

- Millington, B (2022, February 28). Eraring Power Station Closure to cut Pollution, Bring health and financial benefits, experts say. ABC News. <https://www.abc.net.au/news/2022-02-28/health-financial-benefits-of-eraring-coal-power-station-closure/100850610>

# Impacts of Coal Fired Power Stations

## Box 1: Air Pollutants

PM<sub>2.5</sub>

### Fine particulate matter (PM<sub>2.5</sub>)

*Fine particulate matter* or *fine particles* (PM<sub>2.5</sub>) are solid particles smaller than 2.5µm.<sup>12</sup> PM<sub>2.5</sub> is a dangerous air pollutant which - due to its small size - can pass deep into lungs, hearts and veins, infiltrating every part of the human body. Chronic exposure to PM<sub>2.5</sub> increases the risk of cardiovascular and respiratory diseases, as well as of lung cancer. There is no level of fine particle pollution that is known to be safe.<sup>13</sup>

SO<sub>2</sub>

### Sulfur dioxide (SO<sub>2</sub>)

SO<sub>2</sub> is a gaseous pollutant emitted by natural and anthropogenic activities including burning fossil fuels, especially coal. There is strong evidence of negative health impacts resulting from exposure to SO<sub>2</sub>, including respiratory conditions such as chronic obstructive pulmonary disorder<sup>14,15</sup>, bronchitis<sup>16</sup> and non-communicable diseases such as stroke<sup>17,18</sup>, cardiovascular disease<sup>19</sup> and (via particulates) lung cancer.<sup>20</sup>

NO<sub>x</sub>

### Nitrogen oxides (NO<sub>x</sub>)

When coal is burned in air, *nitrogen oxides* (NO and NO<sub>2</sub>; short NO<sub>x</sub>) are created from the molecular nitrogen (N<sub>2</sub>), which makes up 78% of the atmosphere, and from any nitrogen contained in the fuel. Nitrogen oxides have numerous impacts on human health, notably on the cardiovascular system and respiratory system, and they exacerbate symptoms of asthma, chronic obstructive pulmonary disorder, and other respiratory diseases.<sup>21,22</sup>

O<sub>3</sub>

### Ozone (O<sub>3</sub>)

*Ozone* in the higher atmosphere (the *stratosphere*) protects the Earth's surface from dangerous ultraviolet radiation from the sun. But when present in the lower atmosphere at near-ground level, it is an air pollutant that causes smog. Ground level ozone is a secondary pollutant. It is not directly emitted by power stations but forms when NO<sub>x</sub> pollution reacts with other chemicals in the atmosphere. The health impacts of ozone pollution include chest pain, throat irritation and inflammation of the airways, impaired lung function and increased symptoms of bronchitis, emphysema and asthma. Ozone can increase susceptibility to infections.<sup>23</sup>

Hg

### Mercury (Hg)

*Mercury* is a potent neurotoxin that can cause severe health problems, even at very low doses, and poses serious risks to the cognitive and neurological development of children. The WHO considers mercury to be one of the top ten chemicals of major public health concern.<sup>24</sup> Coal burning is a key source of mercury discharge into the environment globally.<sup>25</sup> Once in the environment, mercury is a persistent pollutant. It does not usually arrive in the human body directly but rather through ingestion of contaminated food, particularly seafood.

# EPA advice regarding giant mud crabs and blue swimmer crabs caught in Lake Macquarie

Lake Macquarie

← → ↺

epa.nsw.gov.au/your-environment/contaminated-land/pfas-investigation-program/pfas-investigation-sites/lake-macquarie#:~:text=The%20NSW%20Government%20has%20updated,cadmium%20above%20health%20screening%20...

Apps Close Add to start.me Image Credit: Vatte...

nsw epa

Your environment Reporting and incidents Licensing and regulation Working together About us

Home > Your environment > Contaminated land > PFAS investigation program > Lake Macquarie

f t p e

Contaminated land

Managing contaminated land

Notified and regulated contaminated land

NSW site auditor scheme

Statutory guidelines

Non-statutory guidance documents

Underground petroleum storage systems

PFAS investigation program

PFAS investigation process

PFAS investigation program

Lake Macquarie

The NSW Government has updated the precautionary advice for the consumption of giant mud crab and blue swimmer crab caught in Lake Macquarie after additional testing in 2020 found levels of cadmium above health screening criteria.

Guidelines for the consumption of giant mud crab and blue swimmer crab

In 2017, the NSW Government conducted a study to understand if it was safe to eat fish and crustacea caught by recreational fishers in Lake Macquarie.

The 2017 sampling results indicated PFAS exposure through the consumption of seafood caught in Lake Macquarie did not pose a risk to fishers or their families. Based on the levels of cadmium detected in crabs, a risk assessment was conducted, which triggered the need for dietary advice at the time.

In late 2020, the EPA and the Department of Primary Industries (DPI) conducted additional sampling, focusing on blue swimmer crab and giant mud crab, the most common crab species that are caught in Lake Macquarie.

The 2020 testing found levels of cadmium above health screening criteria in these crabs, posing

Type here to search

14°C Mostly clear

7:38 PM 28/05/2022

# Transition to Renewables Not Unreasonable

The suggested transition of a coal fired energy source to a green renewables energy source is not an unreasonable mitigation option. This is particularly the case since Trevor St Baker has been noted as number 100 on Australia's rich list and is heavily involved in electric car imports and owns an electric charging station company called Tritium. Trevor St Baker put in \$20M towards TrueGreen Mobility to import BYD electric cars from China, is looking to manufacture electric vehicles in NSW, while his charging station company (Tritium) has partnerships in the U.S with support from the President. Delta also has an approved hydro pumped project in South Australia (Goats Hill Project). Frustratingly the NSW government is to be left with the cost of genuinely cleaning up the site despite the legal polluter pays principle.

- ▶ Tritium. Trevor St Baker AO. <https://tritiumcharging.com/team-member/trevor-st-baker-ao/>
- ▶ Wiggins. J, McDonald. S, (2021, May 31). St Baker's \$20M to Boost 35,000 Electric Car Rollout. Australian Financial Review. <https://www.afr.com/companies/energy/st-baker-s-20m-to-boost-35-000-electric-car-rollout-20210531-p57wl4>
- ▶ Schmidt, B (2021, 28 July). TrueGreen Secures \$110M to Make Electric Vehicles in NSW. The Driven. <https://thedriven.io/2021/07/28/truegreen-secures-110-million-to-make-electric-vehicles-in-nsw/>
- ▶ Tritium. <https://tritiumcharging.com/>
- ▶ <https://www.de.com.au/sustainability/projects/goat-hill-project/goat-hill-project>



# Coal Power Station Impacts

Gary Blaschke,

Community Activist, AOM, surfer who founded Disabled Surfers Association, surviving cancer

# Impacts of Coal Fired Power Stations

J. E. VAUGHAN & G. I. WHYTE PTY. LTD.

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DR. J. R. PHILLIPS, M.B., Ch.B.  
DR. J. E. VAUGHAN, M.D.B.S.  
DR. G. I. WHYTE, M.B.B.S. (Hons.)

QUEENS ROAD, LAKE MUNMORAH 2259  
Phone (043) 58 1107  
After Hours (049) 61 5432

13th August 1985

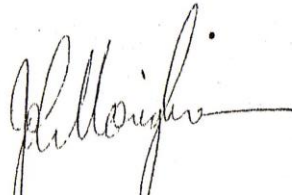
To whom it may concern,

We are three general practitioners who have worked in the Lake Munmorah, Gwandalan area from 1980 until 1985. Whilst we have no statistical evidence, it is our experience that the incidence of:

- (1) Asthma in childhood
- (2) Recurrent Brouchitis in adults who do not smoke

is greater than what one would expect from the incidence overall in this country of these diseases.

We estimate that the incidence of asthma is 30% in our area in children under 12 compared with a national incidence of 15%. We believe this could be directly attributable to airborne pollutants from the numerous power houses in the area.



# Investigate Cancer Clusters near Coal and Gas fired power stations

Daily Telegraph SunSpec OPENING ROOFS & AWNINGS The new standard in outdoor living CONTACT US

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news local Express Advocate

© Torrens University Public Health Information Development Unit (PHIDU) researchers Sarah McDonald (left) and Clair Marsh analyse data on the new cancer rates. Picture supplied

## The Coast suburbs with above average cancer rates

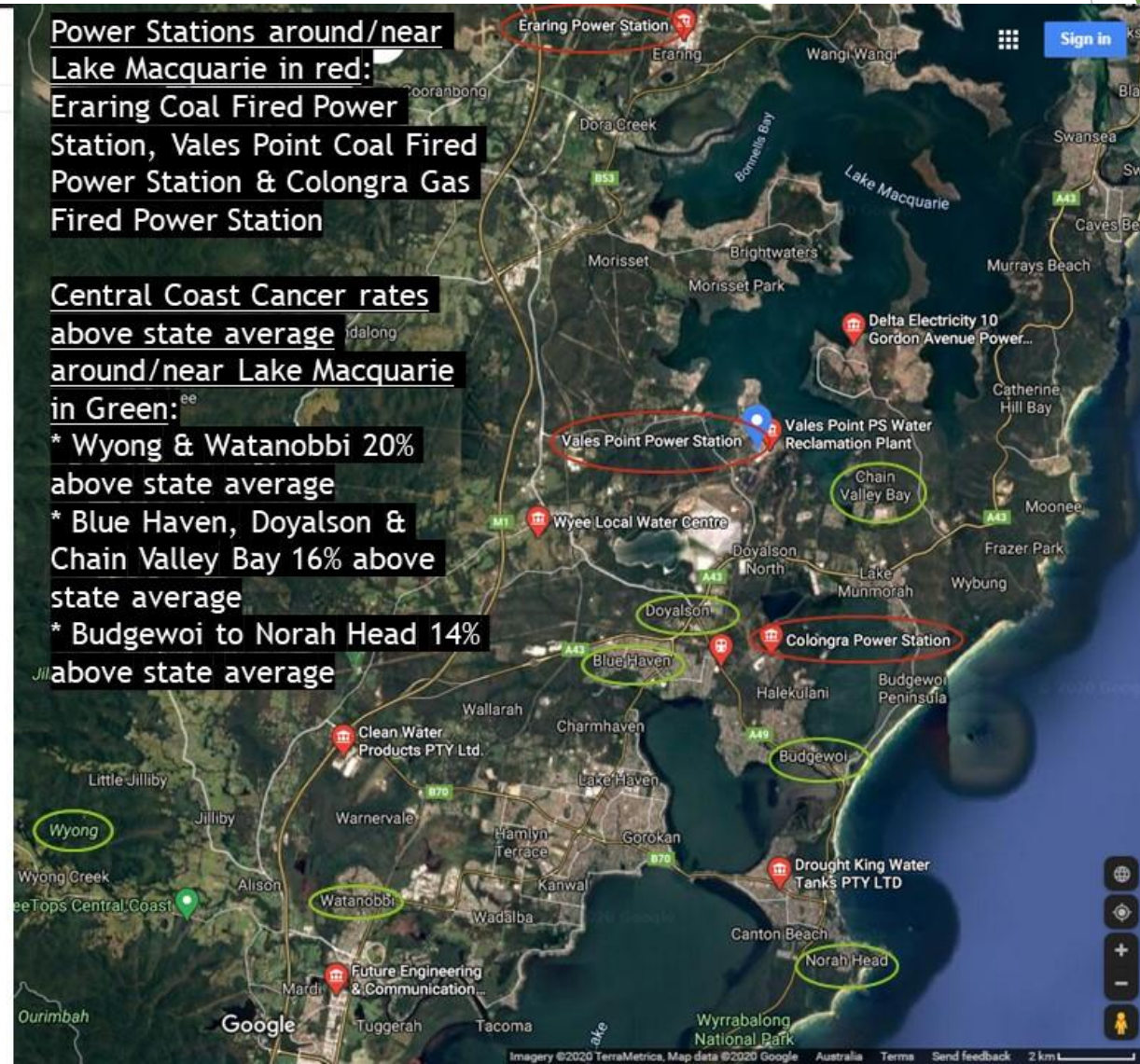
Richard Noone, Central Coast Gosford Express Advocate  
July 19, 2017 4:02pm

WELCOME to Wyong — the cancer capital of the Central Coast where rates are 20 per cent higher overall than the state average.

Exclusive new data reveals the northern half of the Central Coast is a veritable cancer cluster with rates of all forms of the disease 20 per cent above the state average at Wyong and Watanobbi, 16 per cent higher at Blue Haven, Doyalson and Chain Valley Bay, and 14 per cent at Budgewoi to Norah Head.

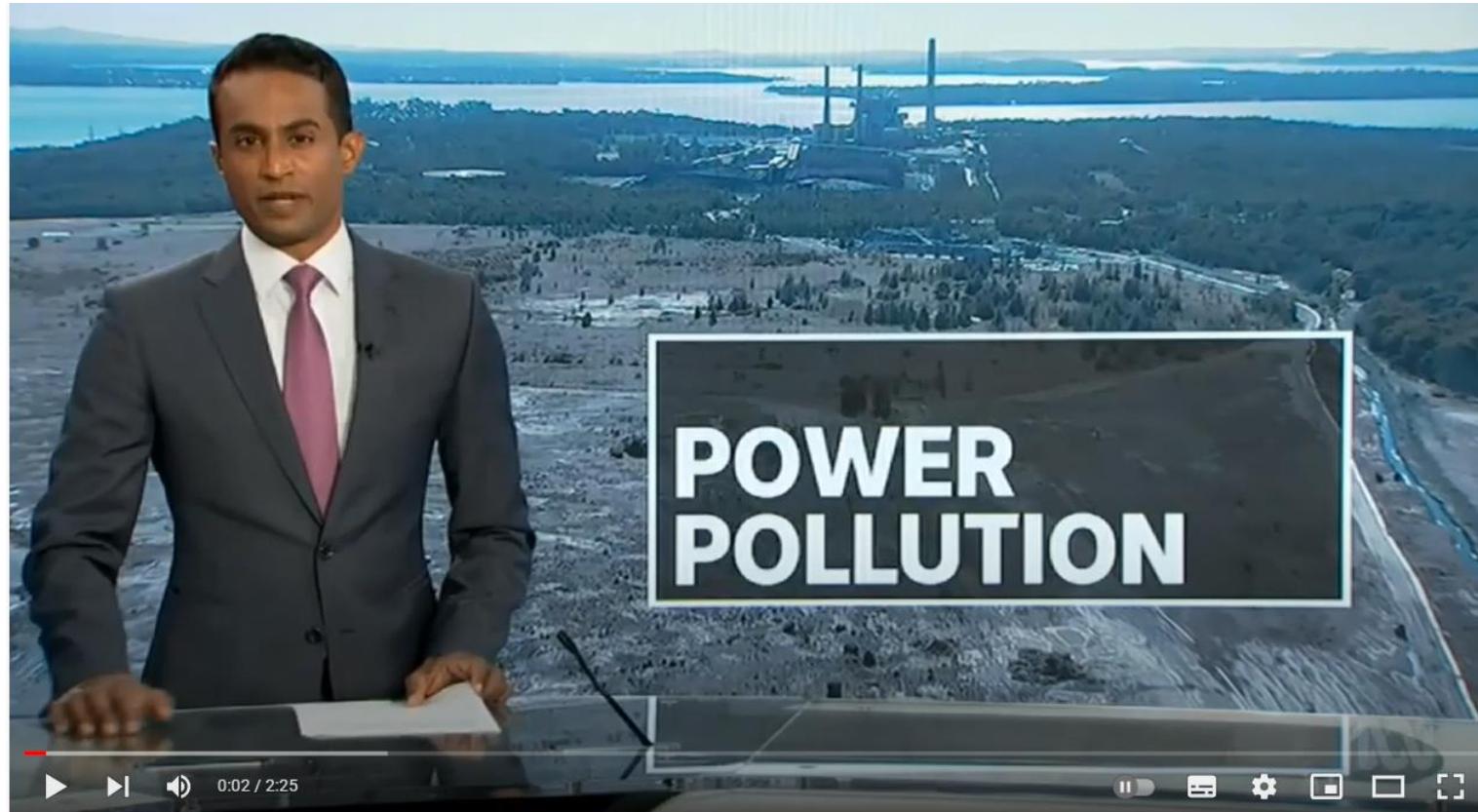
The cancer figures have been made available for the first time, thanks to a three-year project by Torrens University's Public Health Information Development Unit (PHIDU) in South Australia.

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# Coal Powered Stations Coal Ash



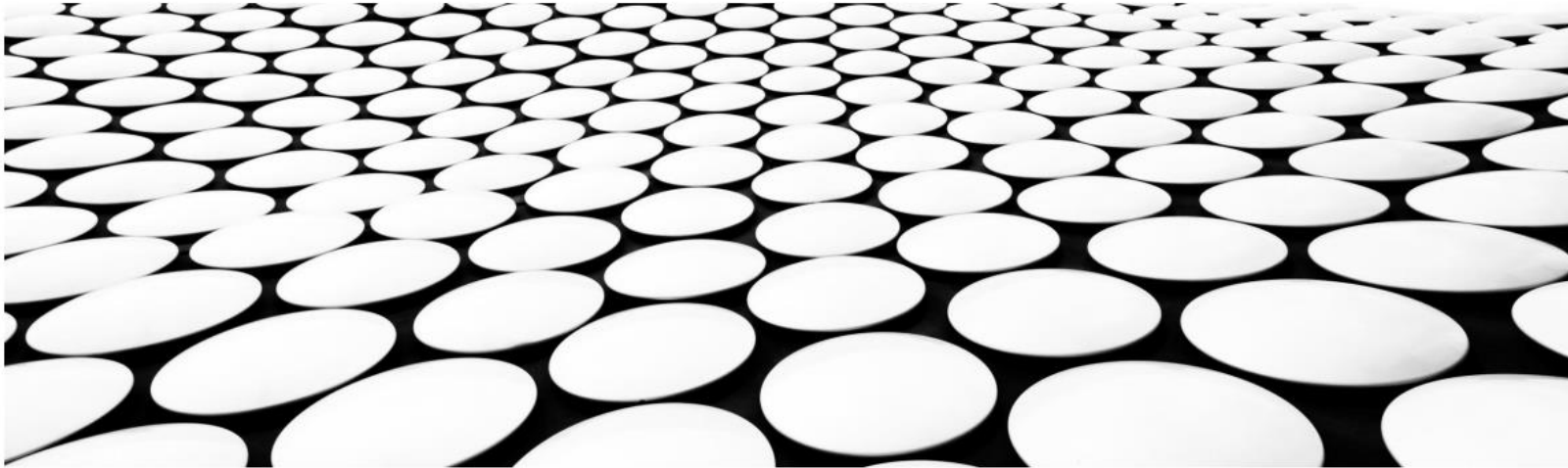
<https://www.youtube.com/watch?v=d9T4SrQmnGc>

# Coal Power Station Impacts

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## **IMPACT OF COAL POWER STATIONS ON OUR LOCAL ENVIRONMENT & THE HEALTH OF OUR PEOPLE**

JOSEPH HALWAGY  
B.PHARM, FSHP, MBA

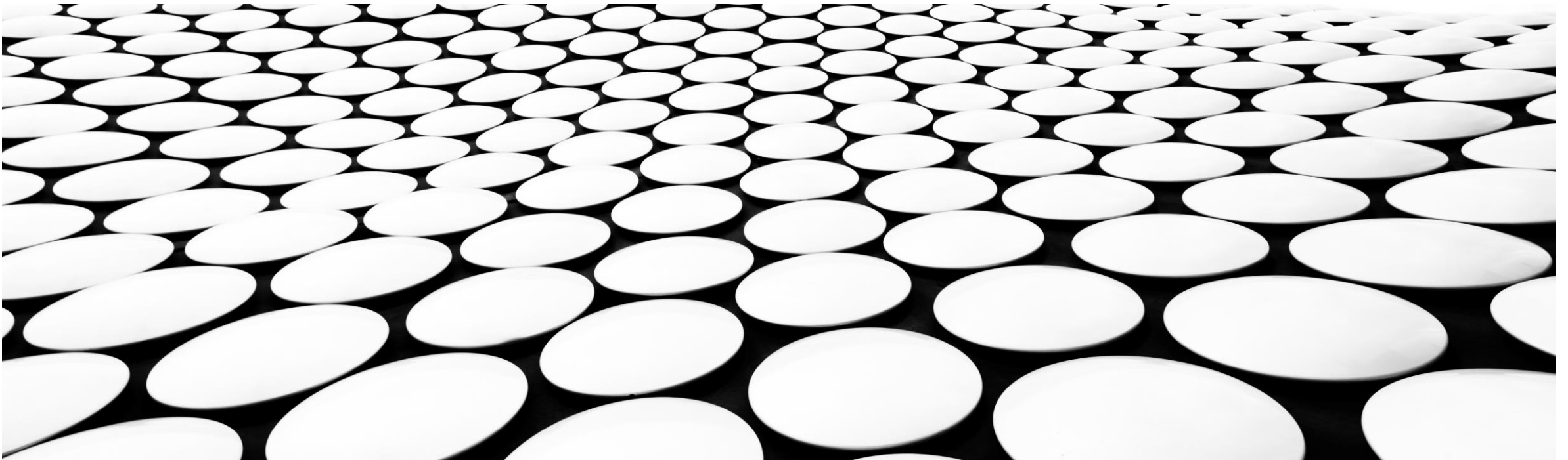


MAY 2022


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# **IMPACT OF COAL POWER STATIONS ON OUR LOCAL ENVIRONMENT & THE HEALTH OF OUR PEOPLE**

JOSEPH HALWAGY  
B.PHARM, FSHP, MBA








**I WOULD LIKE TO ACKNOWLEDGE THE TRADITIONAL  
CUSTODIANS OF THE LAND ON WHICH WE STAND,  
AND I PAY MY RESPECT TO ALL FIRST NATION ELDERS  
PAST AND PRESENT**

**WE RECOGNISE THE QUALITY OF THEIR SUSTAINABLE  
LANDCARE OVER THE PAST MANY GENERATIONS**



**I WOULD ALSO LIKE TO ACKNOWLEDGE THE  
SIGNIFICANT CONTRIBUTIONS OF THE FOLLOWING  
PERSONS IN THIS PRESENTATION**

**GARY BLASCHKE (OAM)  
TOM WILSON  
Dr MERLENE THRIFT**

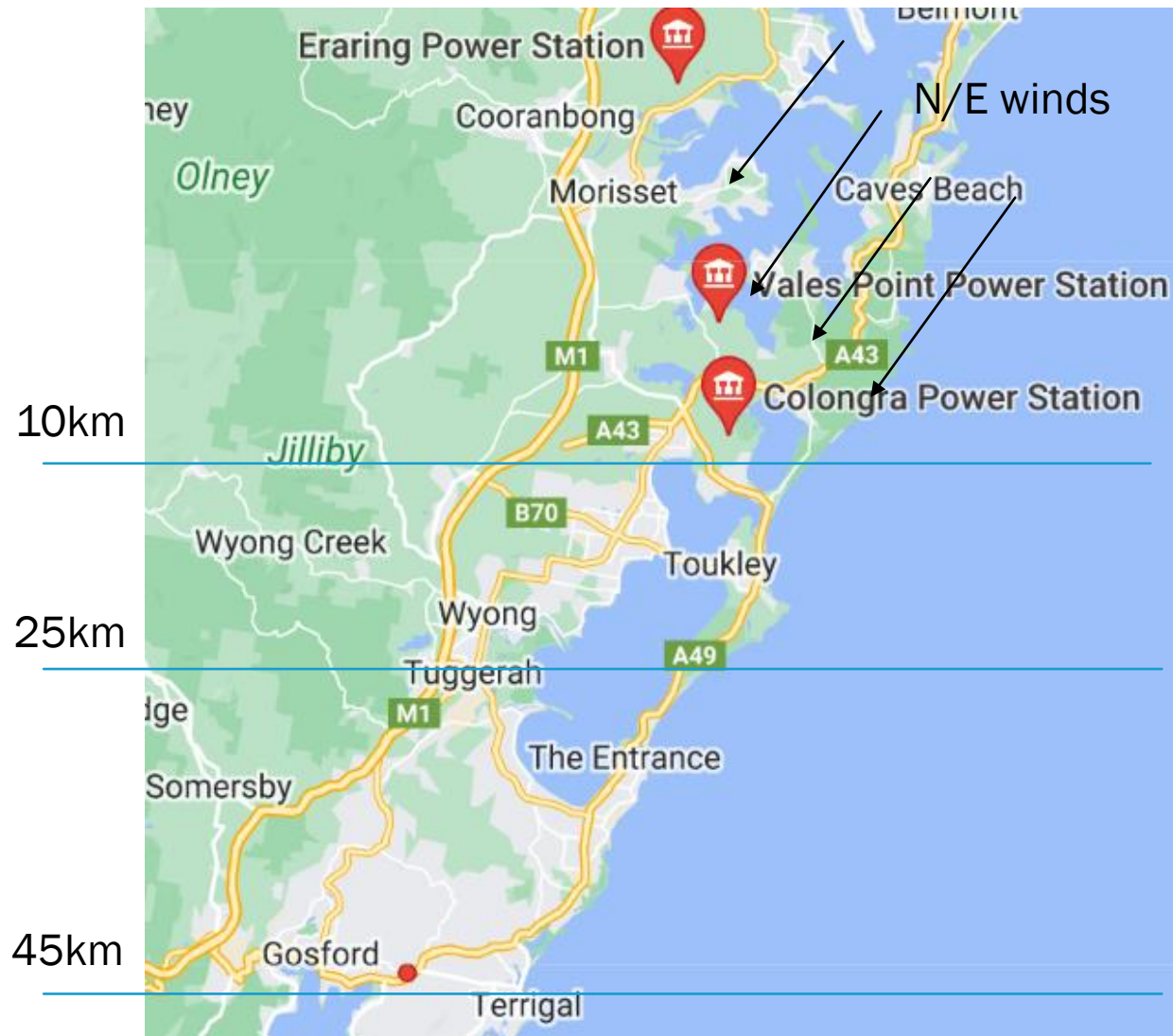
# ORDER OF PRESENTATION

- Zone of Influence by Our Local Coal Fired Power Stations
- Estimates of Heavy Metals in Unlined Coal Ash Dams on the Central Coast & Lower Hunter
- Incidence of Statistically Significant Rates of Cancers in Hornsby vs. Gosford vs. Wyong vs. National 2010-2015 (AIHW)
- Prevalence Rates for >3 Comorbidities in Hornsby vs. Gosford vs. Wyong 2017 (ABS)
- Consequences of Air Pollution from Local Coal Fired Power Stations
- Impact of Coal Fired Powered Stations on School Performance in AU is >4 times greater than in the US
- NAPLAN School Performances Central Coast 2019
- Estimate of Impact of Vales Point Power Station on Lake Munmorah Public School NAPLAN Results in 2019
- Don't Blame Schools, Teachers, Kids or Parents Near Coal Fired Power Stations
- What Is Future Sooner Doing ?



# ZONE OF INFLUENCE OF OUR LOCAL COAL FIRED POWER STATIONS

Distance from V.P.P.S



E.P.S



V.P.P.S



C.P.S: formally  
Munmorah

# ESTIMATES OF HEAVY METALS IN UNLINED COAL ASH DAMS ON THE CENTRAL COAST & LOWER HUNTER

Tons of stored coal ash in unlined dams Munmorah, Vales Point and Eraring	heavy metal in stored coal ash dams <b>in TONS</b>	% of heavy metals in coal ash ( <a href="http://link.springer.com/article/10.1007/BF00282962">link.springer.com/article/10.1007/BF00282962</a> )		Types of Heavy Metals		
<b>70,000,000</b>						
	<b>73</b>	0.00010381%		<b>Mercury</b>		
	<b>5,256</b>	0.00750857%		<b>Arsenic</b>		
	<b>778</b>	0.00111143%		<b>Beryllium</b>		
	<b>500</b>	0.00071429%		<b>Cadmium</b>		
	<b>5,873</b>	0.00839048%		<b>Chromium</b>		
	<b>6,226</b>	0.00889429%		<b>Nickel</b>		
	<b>1,725</b>	0.00246381%		<b>Selenium</b>		
	<b>1,063</b>	0.00151900%		<b>Lead</b>		
	<b>61,770</b>	(Pond 4 Vales Point Ash Dam)		<b>Special waste Asbestos</b>		

## INCIDENCE OF STATISTICALLY SIGNIFICANT RATES OF CANCERS IN HORNSBY VS. GOSFORD VS. WYONG VS. NATIONAL 2010-2015 (AIHW)

	Hornsby LGA				Gosford LGA				Wyong LGA		
	Aged Standardised incidence ratio				Aged Standardised incidence ratio				Aged Standardised incidence ratio		
	95% CI lower bound	Ratio	95% CI upper bound		95% CI lower bound	Ratio	95% CI upper bound		95% CI lower bound	Ratio	95% CI upper bound
Head & Neck	0.64	0.83	1.07		0.98	1.13	1.29		1.18	1.35	1.53
Kidney	0.57	0.79	1.06		0.85	1.01	1.19		1.02	1.20	1.41
Lung	0.76	0.89	1.04		0.99	1.08	1.17		1.23	1.33	1.44
Colorectal	0.82	0.94	1.07		0.98	1.05	1.13		1.06	1.14	1.23
								>150 annual extra cancer cases in Wyong LGA			
Crow Flies Distance to Vales Point											
	88km				43km				25km		

## PREVALENCE RATES FOR >3 COMORBIDITIES IN HORNSBY VS. GOSFORD VS. WYONG 2017 (ABS)

	Prevalence Rates for =>3 Morbidities	Crow Fly Distance to Vales Point
Hornsby	5.80%	88km
Gosford	11.70%	40km
Wyong	15.10%	17km
Lake Munmorah	16.90%	7km

<https://absstats.maps.arcgis.com/apps/MapSeries/index.html?appid=bacd58f73b554c329f431ceb02ef9ab8>  
Morbidities included, CV, Respiratory and Diabetes



# CONSEQUENCES OF AIR POLLUTION FROM LOCAL COAL FIRED POWER STATIONS

- Emission licence limits for our local Coal fired power stations are **decades out of date**
- The EPA permit Vales Point power station to emit up to 850mg of NO<sub>x</sub>/m<sup>3</sup>, 99% of the time, and emit up to 980mg/m<sup>3</sup> for 1% of the time
- **This is 6 times the EU** annual average limit for existing coal power stations of just 150mg/m<sup>3</sup> **AND > 4 times the US** annual average limit
- Jan 2022 Federal Government report showed Vales Point power station emissions for pollutant particles PM<sub>2.5</sub> **tripled** and PM<sub>10</sub> **more than doubled** during the 2019-20 financial year, even though it had an 8 per cent reduction in energy generation
- Ongoing heavy metals toxicities from the air born particles from the stacks of these coal power stations are medically known to affect kids' asthma rates, **IQ, school performances and juvenile criminal reoffending**

[https://www.nature.org.au/vales\\_point\\_submission\\_guide#:~:text=Vales%20Point%20is%20allowed%20to,are%20decades%20out%20of%20date;https://reneweconomy.com.au/new-data-shows-big-jump-in-toxic-coal-plant-pollution-even-as-output-falls/](https://www.nature.org.au/vales_point_submission_guide#:~:text=Vales%20Point%20is%20allowed%20to,are%20decades%20out%20of%20date;https://reneweconomy.com.au/new-data-shows-big-jump-in-toxic-coal-plant-pollution-even-as-output-falls/) .

# THE IMPACT OF COAL FIRED POWER STATIONS ON SCHOOL PERFORMANCE IN THE AUSTRALIA IS MORE THAN FOUR GREATER THAN IN THE US

In 2019 Vales Points Coal fired Power Station produced a little over 8 million megawatt hours of electricity, and emitted 21 million kilogram of NOx. <http://www.npi.gov.au/npidata/action/load/browse-search> .

This represents an emission rate by Vales Point of 2.6 Kilograms of NOx per produced megawatt hour

By comparison, the US coal power generation emission rate of NOx in 2017 was 1.4 pound (0.6 kg) of NOx per megawatt hour, **less than quarter of Vales Point emission rate!!** <https://www.eia.gov/todayinenergy/detail.php?id=37752>

Thus the observed rate of - 0.02σ reduction in school students performance /million megawatt hour in the US is likely to be a **SIGNIFICANT UNDERESTIMATE** for Australia's excessively high NOx emission from our local power stations

Given the linear relationship between emission rate of NOx/megawatt hour and school student performances (see reference below), Vales Point impact on school students performance within 10km is likely to be in the vicinity of an average -0.08σ per million megawatt hours

[https://www.edworkingpapers.com/sites/default/files/Duque\\_Gilraine\\_2020.pdf](https://www.edworkingpapers.com/sites/default/files/Duque_Gilraine_2020.pdf)

# NAPLAN SCHOOL PERFORMANCES CENTRAL COAST 2019

Gosford High School: **654** (1<sup>st</sup> rank on the Coast)

Central Coast Grammar School: 606.9 (Rank 2<sup>nd</sup> )

Tuggerah Lakes Secondary College Berkeley Vale Campus: 540.8 (Rank 18)

Wadalba Community School: 528.6 (Rank 26)

Northlakes High School: 516 (Rank 29)

Lake Munmorah High School: **504.3** (last rank 30)

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The closer the distance to the Coal power stations, the lower the NAPLAN ranking

***“ For every one million megawatt hours of coal-fired power production decreases student performance in schools within ten kilometers by  $0.02\sigma$  “***

Coal Use and Student Performance\* Valentina Duque University of Sydney Michael Gilraine New York University August 2020

[https://www.edworkingpapers.com/sites/default/files/Duque\\_Gilraine\\_2020.pdf](https://www.edworkingpapers.com/sites/default/files/Duque_Gilraine_2020.pdf)

# ESTIMATE OF THE IMPACT OF VALES POINT POWER STATION ON LAKE MUNMORAH PUBLIC SCHOOL NAPLAN RESULTS IN 2019

Munmorah public high school is the closest school to Vales Point power station being <6km downwind as the crow flies

In 2019, the national NAPLAN data for year 9 in reading was 581.3 (67.2); in writing 548.8 (78.7); in spelling 582.2 (66.8); in grammar and punctuation 573.6 (69.4); and in numeracy 592.1 (63.9)

**In 2019, average national standard deviation ( $\sigma$ ) across the 5 NAPLAN domains is 69.2**

In 2019, Vales Points Coal fired Power Station produced a little over 8 million megawatt hours

Applying Dugue and Gilraine formula of  $-0.08\sigma$  per million megawatt hour x 8 million megawatt hours from Vales Point Power station in 2019 =  **$0.64\sigma$**

**Applying =  $0.64\sigma$  to NAPLAN's 2019 average standard deviation of 69.2 = - 44.3 points**

**The impact on lake Munmorah Public School's NAPLAN results for 2019 likely to be > -44.3 point**



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# DON'T BLAME SCHOOLS, TEACHERS, KIDS OR PARENTS NEAR COAL FIRED POWER STATIONS

We SHOULD add proximity to coal fired power stations  
on our kids' harm-minimisation list

# WHAT IS FUTURE SOONER DOING REGARDING COAL ASH DAMS AND AIR POLLUTION FROM COAL FIRED POWER STATIONS ?

Direct representation before the 2021 NSW Legislative Assembly Enquiry into the environmental / health impact of coal ash dams in NSW resulted in the Gov mandated EPA & Area Health Services monitoring

Submitted significant Health Economic impact analysis to the EPA enquiry in 2021 into Vales Point power Station Licence renewal resulting in 25% reduction in their NOx permit

29 April 2022, we had a 2.5 hours meeting with EPA Policy officers and the Directors of Public Health Units of the Central Coast and the Hunter New England area health services to discuss heavy metal leaching from coal ash dams, comparative cancer incidences, comorbidity prevalences and NAPLAN

They agreed on three major action points for reporting back in a month time

- Undertake various analysis for establishing heavy metal baseline concentration in Wyong's soil, water and air

- Establish heavy metal contamination pathways to Central Coast residents

- Establish baseline data on heavy metals levels in children and adults on the central coast in relation to coal ash dams and coal power stations air born zone of influence



# THANK YOU

MAY 2022

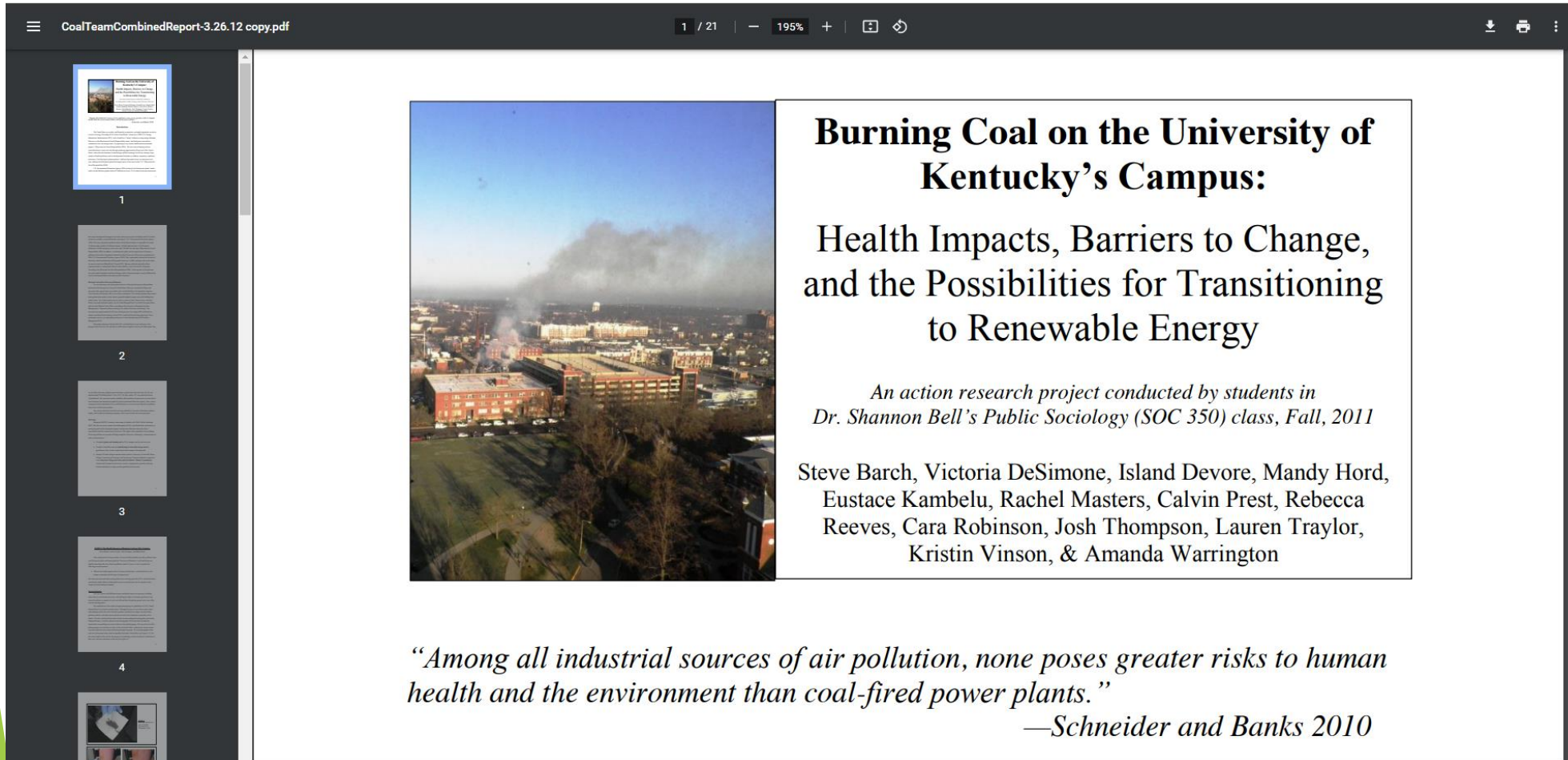
# Coal Fired Power Stations in Universities

Alfred Robert Hogan,

*BSc, M.A. (Journalism). Working towards Phd 1922-2021 history of radio and TV space coverage, FFF activist writing a book on its founder*



# Coal Fired Stations on US University Campuses



<https://www.uky.edu/~tmute2/GEI-Web/password-protect/GEI-readings/CoalTeamCombinedReport-3.26.12%20copy.pdf?fbclid=IwAR2cYBLzDfc9quse3XahBNuLxRc4aA83iQB1eggquq0fWNWa1Gkkk9wmelY#:~:text=It%20is%20not%20only%20large-scale%20power%20plants%20that,of%20Kentucky%20%28UK%29%20is%20one%20of%20these%20institutions>

# Coal Fired Stations on US University Campuses

- ▶ 44.5% of the United States' electricity in 2009 (U.S. Energy Information Administration 2011)
- ▶ coal-fired power can only be considered a low-cost energy source “by ignoring its very serious health and environmental impacts.” (Physicians for Social Responsibility 2009)

*‘true costs of burning coal are externalized onto society not only through producing approximately 40 percent of the United States’ carbon dioxide emissions (contributing to global warming), but also by causing a large number of health problems, such as developmental disorders in children, respiratory conditions, and cancer. Coal-fired power plants produce “millions of pounds of toxic air emissions each year, making coal-fired power plants the largest source of air toxics in the U.S.”*


*(Physicians for Social Responsibility 2009).’*

# Conclusion

- ▶ Where to:
  - ▶ Vales Point - more genuine serious investigation
  - ▶ Stockholm Protest
  - ▶ Fossil Fuel Non-Proliferation Treaty
  - ▶ Continuing to build on Personhood
  - ▶ More Climate Elections

# Fossil Fuel Non-Proliferation Treaty


#EndFossilFuels - Parents Call for a Fossil Fuel Treaty



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## #EndFossilFuels - Parents Call for a Fossil Fuel Treaty



Parents For Future Global, as a diverse network of international climate parent groups, has united their voices to end fossil fuels and is demanding a **Fossil Fuel Non-Proliferation Treaty**, which is a concrete plan to reduce emissions at a global level. The window of opportunity to prevent worst climate disasters is rapidly closing, please join our call and sign our letter:

Parents call for the end of the fossil fuel era to give children a livable planet

Type here to search

20°C Rain 4:19 PM 28/05/2022

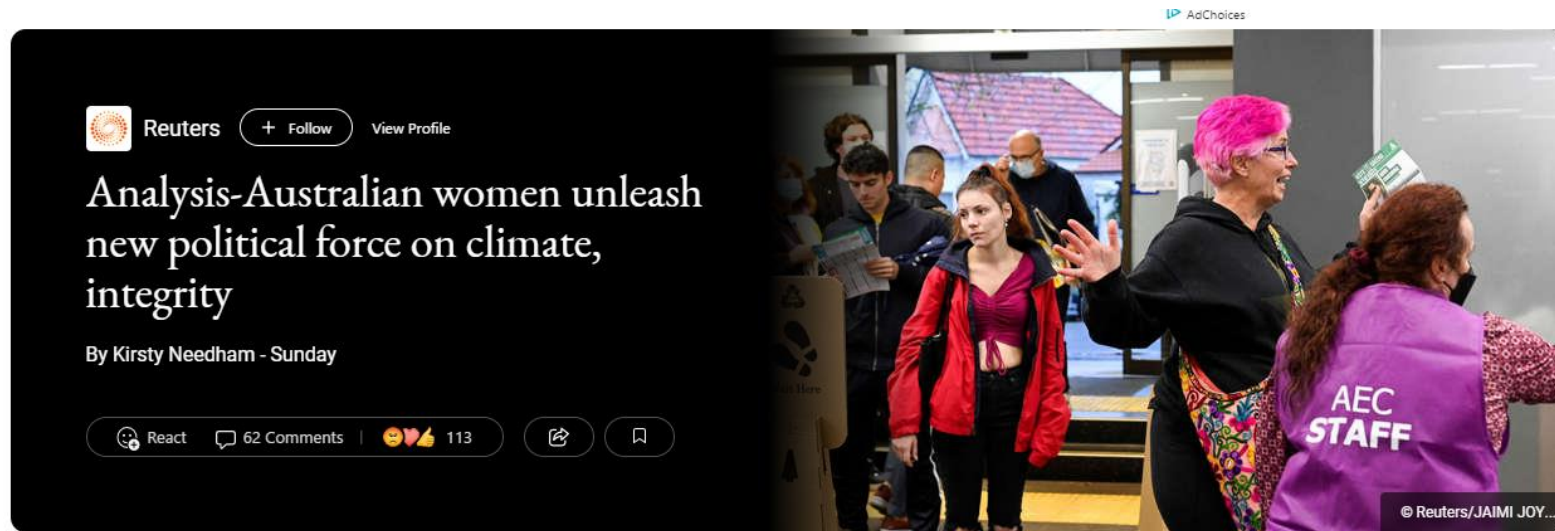


# Personhood for Largest Salt Lagoon in Europe



[https://murciatoday.com/spanish\\_mps\\_vote\\_to\\_give\\_mar\\_menor\\_lagoon\\_personhood\\_and\\_rights\\_1759340-a.html](https://murciatoday.com/spanish_mps_vote_to_give_mar_menor_lagoon_personhood_and_rights_1759340-a.html)

# Climate Election

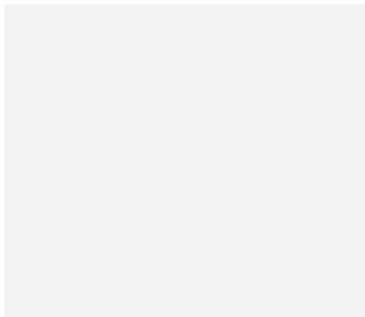


By Kirsty Needham

SYDNEY (Reuters) - Professional women and voters concerned about climate change unleashed a third force in Australia's election, taking a swath of seats that ended nine years of conservative rule even as votes for the winning Labor Party fell.



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