

Fri 3/06/2022 3:08 PM

Joseph Halwagy [REDACTED]

A submission to the NSW EPA and the Minister in response to the Public Consultation Draft POEO (Clean Air) Reg 2022

**Dear Mr James Griffin MP and EPA NSW**

**Re: Submission to the Public Consultation Draft Protection of the Environment Operations (Clean Air) Regulation 2022**

We the undersigned, and copied on this correspondence wish to submit our collective response below for consideration by the EPA and Minister for Environment, Mr James Griffin MP, to the Public Consultation Draft Protection of the Environment Operations (Clean Air) Regulation 2022 as exhibited on [POEO \(Clean Air\) Regulation 2022 | NSW Environment Protection Authority](#)

We request the EPA and the Minister to consider our attached power point slides showing undisputed evidence based data for significantly high multiple complex comorbidity rates; significantly high head & neck/lung/kidney/colorectal cancer rates; and significantly lower NAPLAN achievement in local communities affected by air born pollution from Group 2 industries such as Vales Point Coal Power Station.

Sadly, we note that in January this year the EPA granted Vales Point Power Station exemption to extend the period of time the power station remains within Group 2 to at least 2025.

We are extremely concerned to read section 44 (1) Phasing out of Groups 1–4 of the Draft Regulation proposing *“An activity or plant belonging to Group 1 or Group 2 on the commencement of this Regulation remains in the Group if the licence for the activity or plant continues to include a legacy condition stating the activity or plant is taken to belong to the Group”*

We are also extremely concerned to note this Draft Protection of the Environment Operations (Clean Air) Regulation 2022 makes no reference to the ongoing toxic air born pollution from the millions of tons coal ash dams in open unlined dams generated by and deposited around Group 2 industries such as Vales Point, Eraring, and Munmorah Power stations.

Clearly the Draft Protection of the Environment Operations (Clean Air) Regulation 2022 lacks any cognisance and reference to *NSW Government Response Inquiry into costs for remediation of sites containing coal ash repositories*

(<https://www.parliament.nsw.gov.au/tp/files/80392/NSW%20Government%20response%20Inquiry%20into%20costs%20for%20remediation%20of%20sites%20containing%20coal%20ash.pdf>); and to the NSW Legislative Council Public Works Committee Report 4 March 2021  
(<https://www.parliament.nsw.gov.au/tp/files/79377/Final%20Report%20-%20Costs%20for%20remediation%20of%20sites%20containing%20coal%20ash%20repositories%20-%202022%20March%202021.pdf>)

The evidence-based data presented in the attached power point slides demonstrate that continued emission and pollution rates with standards in place for decades for Group 2 industries will continue to cause unnecessary generational community suffering dealing with significant health burden than the general population. This lack of social justice is even more extreme for children in the developing years, the sick and elderly residing in close proximity to these Group 2 industries.

Given the reported high profitability of these power generation industries surely it is time they were required to operate at a standard comparable to those set in other developed nations.

We would welcome the opportunity to appear in person to present this data in the hope of assisting in the process of transitioning our local environment into an ecologically sustainable one, which is, of course, the *raison d'être* and primary objective of our Environment Protection laws.


Yours Sincerely

**Gary Blaschke OAM; Prof. Gill Boehringer; Assoc. Prof. Ian Charlton; Dr. Merlene Thrift; Dr. Guy Dutson; Joseph Halwagy; Dr. John Shiel; Tom Wilson; De Newton; Wolf Messthaler; John Seed; Julian Halwagy; Tom Da Silva; Suzie Brown; Sonya Mckay; Will Belford; Sam Willis**

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**SUBMISSION TO THE NSW EPA & THE MINISTER FOR ENVIRONMENT ON THE  
IMPACT OF COAL POWER STATIONS ON LOCAL ENVIRONMENT & THE HEALTH  
OF PEOPLE WITHIN THE WYONG LGA  
A SUBMISSION IN RESPONSE TO THE PUBLIC CONSULTATION DRAFT  
PROTECTION OF THE ENVIRONMENT OPERATIONS (CLEAN AIR)  
REGULATION 2022**

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

**WE RECOGNISE THE QUALITY OF THEIR SUSTAINABLE  
LANDCARE OVER THE PAST MILLENNIA**

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THIS SUBMISSION IS ALSO SUPPORTED  
BY



FutureSooner

**Future Sooner**

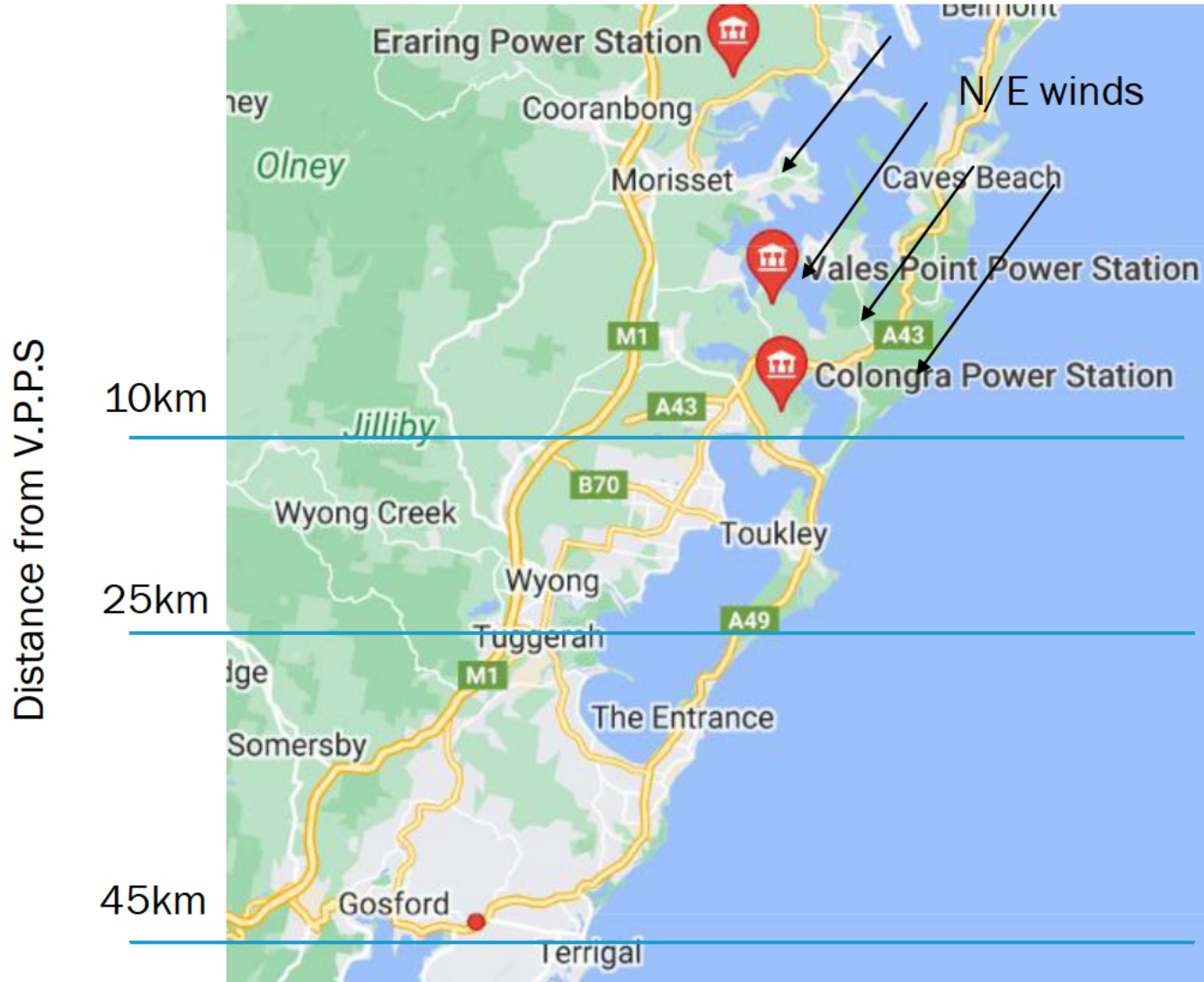
🌐 Public group · 69 members

# ORDER OF THE SUBMISSION

- Zone of Influence by Coal Fired Power Stations on the Wyong LGA
- Estimates of Heavy Metals in Unlined Coal Ash Dams in the Wyong LGA and the 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)
- Comparison of Local vs. Overseas Air Pollution from Coal Fired Power Stations
- Decades long Impact of these Statistically Significant Rates of Cancers & comorbidities in the Wyong LGA
- Impact of Coal Fired Powered Stations on School Performance in AU is >4 times greater than in the US rate
- NAPLAN School Performances Central Coast 2019
- Estimate of Impact of Vales Point Power Station on Lake Munmorah Public School NAPLAN Results in 2019
- Recommendations



# ZONE OF INFLUENCE BY COAL POWER STATIONS ON THE WYONG LGA



Eraring Power Station



Vales Point Power Station



Colongra Power Station (formerly 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>  <a href="https://www.parliament.nsw.gov.au/tp/files/80392/NSW%20Government%20response%20Inquiry%20into%20costs%20for%20remediation%20of%20sites%20containing%20coal%20ash.pdf">https://www.parliament.nsw.gov.au/tp/files/80392/NSW%20Government%20response%20Inquiry%20into%20costs%20for%20remediation%20of%20sites%20containing%20coal%20ash.pdf</a>			
	73	0.00010381%	Mercury
	5,256	0.00750857%	Arsenic
	778	0.00111143%	Beryllium
	500	0.00071429%	Cadmium
	5,873	0.00839048%	Chromium
	6,226	0.00889429%	Nickel
	1,725	0.00246381%	Selenium
	1,063	0.00151900%	Lead
	61,770	(Pond 4 Vales Point Ash Dam)	Special waste <b>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

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## **DECADES LONG IMPACT OF THESE STATISTICALLY SIGNIFICANT RATES OF CANCERS & COMORBIDITIES IN THE WYONG LGA**

Continued emission and pollution rates with standards in place for decades for Group 2 industries in high density population areas such as that observed by Vales Point, Eraring and Munmorah power stations will continue to cause unnecessary generational community suffering dealing with significant health burden than the general population.

Clearly this lack of social justice and equality to basic clean environment is even more extreme for children in the developing years, the sick and elderly residing in close proximity to these Group 2 industries.

**The current Public Consultation Draft Protection of the Environment Operations (Clean air) Regulation 2022 does nothing to abate or bring to modern world standards the toxic emission and poor coal management by these Group 2 industries**

# COMPARISON OF LOCAL VS OVERSEAS AIR POLLUTION FROM 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 Nitrogen Oxides (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
- Even at the lower EU limits, a cross-sectional study from 220,000 adults (18–69 years) showed significantly decrease in cognitive function with increased in NO<sub>x</sub>, Particulate Matter (PM) and black carbon emission from nearby polluting industries
- More concerning, a 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 also 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://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.thelancet.com/pdfs/journals/lanplh/PIIS2542-5196\(22\)00001-8.pdf](https://www.thelancet.com/pdfs/journals/lanplh/PIIS2542-5196(22)00001-8.pdf)

## THE IMPACT OF LOCAL COAL FIRED POWER STATIONS ON SCHOOL PERFORMANCE IS > FOUR TIMES GREATER THAN IN THE USA

- 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>
- An August 2022 published seminal research by Sydney and NY universities of 2.5m grade 2-8 students (9.5m students years between 2001-16) in North Carolina showed a rate reduction of - 0.02σ in school students performance /million megawatt hour in the US  
[https://www.edworkingpapers.com/sites/default/files/Duque\\_Gilraine\\_2020.pdf](https://www.edworkingpapers.com/sites/default/files/Duque_Gilraine_2020.pdf)
- This is likely to be a **SIGNIFICANT UNDERESTIMATE** for Australia's excessively high NOx emission from our local power stations and given the established linear relationship between emission rate of NOx/megawatt hour and school student performances.
- The impact of Vales Point Power Station alone on school students performance within 10km is likely to be in the vicinity of an average -0.08σ per million megawatt hours

# NAPLAN SCHOOL PERFORMANCES CENTRAL COAST 2019

*“ For every one million megawatt hours of coal-fired power production decreases student performance in schools within ten kilometers by  $0.02\sigma$  [undisputed US evidence-based data]”* Coal Use and Student Performance\* Valentina

Duque University of Sydney Michael Gilraine New York University, August 2020

Local NAPLAN results is consistent with US data:-

The closer the distance to coal power stations, the lower the NPALAN ranking.....

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)

[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 one of 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**

## RECOMMENDATIONS (page 1)

- From an environmental social justice and equality perspectives, the current Public Consultation Draft Protection of the Environment Operations (Clean Air) Regulation 2022 IS MANIFESTLY INADEQUATE AND OUGHT TO BE EQUIVALENT TO MODERN WORLD STANDARDS with respect to emission concentration standards from coal fired power stations for NO<sub>x</sub>, particulates and toxic heavy metals from coal ash dams to nearby residents from Group 1 and 2 industries.
- The EPA and the NSW Government HAS A MORAL RESPOINSIBILITY to legislate and enforce laws that protect its citizens from the known deleterious effects of:-
  - Air pollution rates from power stations that are 4-6 times modern world standards (e.g. EU and US); and the
  - Toxic heavy metal leaching from open and unlined coal ash dams; and
  - PREVENTING further residential developments within 10-15km of existing power stations until their NO<sub>x</sub>, PM emission rates and coal ash dams management is comparable to modern world standards

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## RECOMMENDATIONS (page 2)

- **THERE NEED TO BE A MEANINGFUL TIMELINE PHASING PROCESS** which the current Draft Regulation is sadly lacking
  - The exemption process in the draft regulation – means polluters like Vales Point have received exemptions from having to phase their power stations – which defeats the purpose of the intent of the regulation to protect health and the environment.
- **THERE IS A NEED FOR A RIGOROUS HEALTH IMPACT ASSESSMENT WHEN MAKING APPLICATION FOR EXEMPTIONS**
  - The EPA should assess applications with health concerns and evidence at the forefront of its mind, not the *survival* interest of the industries
- **THERE IS A NEED FOR ALL APPLICANTS SEEKING EXEMPTIONS TO PROVIDE INFORMATION ON WHAT POLLUTION REDUCTION IS POSSIBLE WITH CONTROL TECHNOLOGIES - NOT WHAT THEY PLAN ON ACHIEVING – BUT WHAT IS POSSIBLE**
  - The EPA should be empowered to require extensive information from the applicant at the beginning of the process - not late in the game, as we saw with Vales Point.