

Western Sydney Direct Action Incorporated

Contact Details:

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Project:

State Significant Development (SSD) 10395

Proponents:

Cleanaway and Macquarie Capital (Group)

Site:

The site is located at 339 Wallgrove Road Eastern Creek in the Western Suburbs of Sydney NSW, approximately 36km west of the Sydney CBD, 18 km west of Parramatta and 12 km east of Penrith.

Proposal description:

This project is essentially a large incinerator which will burn up to 500,000 tonnes per year of residual municipal solid waste (MSW) and residual commercial and industrial (C&I) waste products and the heat is used to generate electricity. The Incinerator would operate 24/7 for the next 35 years and employ 55 people on completion. This project will cause a cumulative air pollution threat to the Blacktown and surrounding communities. There is no comfort in claims that predicted emissions will meet air quality protection standards while the Federal government postponed action on our air quality protection standards undermining the ability of state regulators to ensure smokestack industries such as this project, ensure the protection of air quality in the Blacktown area and Sydney.

Our Position: Oppose the Cleanaway Incinerator

We are opposed to Cleanaways; Western Sydney Energy & Resource Recovery Centre (Incinerator) We have requested an extension of 4 weeks for our submission, and will provide the finished submission by the 17th December 2020.

following please find our concerns;

We need an additional 4 Weeks to complete our submission

We have found a number of inconsistencies that need to be investigated by our scientist. As per my phone conversation with Chris on Monday 2nd November, it was agreed our group representing the Western Sydney community could have an additional 4 weeks to complete our submission. Additional information will be added by the 17th December 2020.

- p12: The exact stack location (which is the most basic and essential information) is not mentioned anywhere in the report.

(even though they did give the exact stack location of the "Next Generation" incinerator, in Table 6-21).

- p12: Figure 3-4 shows the positions of the buildings, (a) heights are not shown in this plan, and (b) the building layout here is slightly different from another building drawing (elevation). Therefore, the exact building locations/sizes are still needed. They should have been included in this report.
- p40: In Tables 6-4 and 6-5, the headings should say Nm^3/h , not Nm^3/s .
- Other modeling concerns that need checking by a scientist

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1) Studies Confirm Waste to Energy Incineration is harmful to health

The proposal to build the Cleanaway & Macquarie Capital Incinerator at Eastern Creek, is a recipe for disaster. The public health claims made by proponents at their citizen panel are challenged by the experiences of communities around the world where these incinerators are already operating. There is a wide body of scientific study world wide that shows Waste Incineration is dangerous to health, please find some below;

- [A 2020 Study “The Health Impacts of Waste Incineration: A Systematic Review in Australia” states:](#) A range of adverse health effects were identified, including significant associations with some neoplasia, congenital anomalies, infant deaths and miscarriage, but not for other diseases. Ingestion was the dominant exposure pathway for the public.
- [Another 2020 Study on Incineration](#) proves the associated health problems, such as premature mortality, cardiac hospital admission, respiratory hospital admission, chronic bronchitis and cancer. YOLL stands for Years of Life Lost (last column). Vlachokostas.C 'et al.', 2020, 'Externalities of energy sources: The operation of a municipal solid waste-to-energy incineration facility in the greater Thessaloniki area, Greece' *ScienceDirect*, Vol 113, PP 351-358

C. Vlachokostas et al. / Waste Management 113 (2020) 351–358

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Table 3

Concentration – Response Functions and sources per stressor.

Impact	Source	Stressor	YOLL or incidents or days/year × receptor × $\mu\text{g}/\text{m}^3$
Premature mortality (total population)	Vlachokostas et al., 2012	PM_{10}	$R_{\text{AM,PM}_{10}} = 4.0 \times 10^{-4}$
Cardiac Hospital Admission (CHA) (total population)	Vlachokostas et al., 2012	PM_{10}	$R_{\text{CHA,PM}_{10}} = 1.14 \times 10^{-5}$
Respiratory Hospital Admission (RHA) (total population)	Vlachokostas et al., 2012	PM_{10}	$R_{\text{RHA,PM}_{10}} = 1.31 \times 10^{-5}$
Chronic Bronchitis (CB) (aged 27 +)	Vlachokostas et al., 2012	PM_{10}	$R_{\text{CB,PM}_{10}} = 2.65 \times 10^{-5}$
Restricted Activity Days (RADs) (aged 18 +)	Vlachokostas et al., 2012	PM_{10}	$R_{\text{RAD,PM}_{10}} = 9.4 \times 10^{-2}$
Cancer (total population)	Berry et al., 1995	Heavy metals, Dioxins	$R_{\text{CANCER,tm}} = 2.57 \times 10^{-5}$ $R_{\text{CANC,dioxins}} = 6.02 \times 10^{-1}$

- Sydney will have high levels of pollution if five incinerators go ahead. This current Harvard Study proves regions with high levels of air pollution are more likely to have a higher death rate from COVID 19 than less polluted areas. [This current 2020 study](#) is the first to look at the link between long-term exposure to fine particulate air pollution (which is known to be released from incinerators) ($\text{PM}_{2.5}$) And COVID 19.
- There is an increased risk of out-of-hospital cardiac arrest (OHCA) even from short-term exposure to low concentrations of fine particulate matter $\text{PM}_{2.5}$, such as that produced by Incinerators. This current 2020 [nationwide study in Japan](#), chosen for its superior monitoring, population density and relative air quality, is believed to be by far the largest of its kind. It provides comprehensive evidence of the relationship between $\text{PM}_{2.5}$ and cardiac arrests, using a sample three times larger than all previous research combined and demonstrating the impacts on groups such as the elderly.

○

- [The Study “An Industry Blowing Smoke,”](#) disputes claims by proponents of waste to energy Incinerators, that the advanced system they use to convert solid waste to renewable energy is both good for the environment and step toward energy independence. “The core impacts of all types of incinerators remain the same: They are toxic to public health, harmful to the economy, environment and climate, and undermine recycling and waste reduction programs” .
- A [study by Dr George D. Thurston of New York University School of Medicine in November 2017](#) found that living near a waste to energy incinerator carries the same health risks as secondhand smoke. “The increase in lung cancer from long-term exposure to fine particulate matter is roughly the same as the increase in lung cancer of a non-smoker who breathes passive smoke while living with a smoker, or about 20 % increase in lung cancer risk”.
- Waste-to-energy incineration is also a source of mercury emissions. The increased mercury levels have been recorded in fish living in the reservoirs for hydroelectricity. The adverse effects of mercury exposure on human health have been indicated in a number of studies, and there seems to be no ‘zero effect’ exposure level. As a result, the mitigation of mercury emissions is gaining more and more attention. The danger of mercury pollution drew widespread attention after the cause of the Minamata disease ([Ekino et al., 2007](#)) was identified as a severe case of mercury poisoning. Mercury compounds are generally more toxic than the compounds of other nonradioactive heavy elements ([Pushie et al., 2014](#)). Mercury can easily vaporise in combustion processes and be released into the atmosphere as mercury vapours. Moreover, combustion temperatures are usually high enough to decompose mercury compounds and release Hg⁰ vapour (metallic Mercury).
Elemental mercury has a very low solubility in water, which makes it challenging to remove elemental mercury by commonly used methods for flue-gas cleaning. Human exposure to metallic mercury takes place mostly by swallowing contaminated foods or drinks or breathing in mercury vapours. When ingested, only a very small amount of metallic mercury (less than 0.01% of the dose) is absorbed through the gastrointestinal tract ([Da Broi et al., 2017](#)). Inhaling of mercury vapours is much more dangerous as mercury enters the bloodstream through the lungs. The density of saturated mercury vapour strongly depends on the temperature. Charvat. P ‘et.al., 2020, ‘[An overview of mercury emissions in the energy industry - A step to mercury footprint assessment](#)’, *Journal of Cleaner Production, ScienceDirect, Volume 267, No 122087*
- It has recently been reported that Ultra fine Particulates, which are emitted from Incinerators in high quantities - are associated with an increase in blood pressure in schoolchildren, with the smallest particles inducing the largest effect. Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4492263/>

- A Study was completed; "Relationship Between Distance of Schools from the Nearest Municipal Waste Incineration Plant and Child Health in Japan" In Japan, the main source of cancer causing dioxins are incinerators. This study examined the relationship between the distance of schools from waste incineration plants and the prevalence of allergic disorders and general symptoms in Japanese children. Study subjects were 450,807 elementary school children aged 6–12 years who attended 996 public elementary schools in Osaka Prefecture in Japan. The study showed that a positive association with fatigue was pronounced in schools within 4 km of waste incinerators. The findings also suggested incineration near schools may be associated with an increased prevalence of wheezing, headaches, stomach ache, and fatigue in Japanese children.
<https://link.springer.com/article/10.1007/s10654-005-4116-7>
- A recent study that looked into a medium sized city in southwestern Sweden, clearly identified their new modern incinerator as the single most significant source of PM2.5's.
<http://senedd.cynulliad.cymru/documents/s7994/Yr%20Athro%20Vyvyan%20Howard%20Papur%202.pdf>
- A [study published recently](#) in the American Medical Association's [Jama Pediatrics journal](#) is the first to examine the impact of particles of 1 micrometre (PM1) – a millionth of a metre – or smaller on health. It found an increase in PM1 of 10 micrograms per cubic metre over the entire pregnancy led to a 9% increased risk of a preterm birth. This research confirms - There is no safe concentration of fine particle pollution.
- [Two large American studies](#) confirm that Waste to Energy Incinerators increase particulates therefore increasing the risk to health. The studies proved that fine (PM2.5) particulate air pollution causes increases in all-cause mortality, cardiovascular mortality and mortality from lung cancer, after adjustment for other factors. A more recent, well-designed study of morbidity and mortality in postmenopausal women has confirmed this, showing a 76% increase in cardiovascular and 83% increase in cerebrovascular mortality in women exposed to higher levels of fine particulates. These fine particulates are primarily produced by combustion processes and are emitted in large quantities by incinerators.
- L M Brown and his colleagues have pointed out that “long-term exposure to even low concentrations of fine particles may be associated with reduced life expectancy” [Brown L.M., Collings N., Harrison R.M., Maynard A.D. and Maynard R.L. Ultrafine particles in the atmosphere: introduction. Philosophical Transactions of the Royal Society of London A 358 (2000) 2563-2565].
- The Environmental Protection Agency cites health studies indicating that particles smaller than 2.5 micrometers (PM2.5) (and emitted from Incinerators) are “the major contributor to serious health problems like respiratory illness and premature mortality”

[\[http://www.crw.org/textfiles/partem.htm\]](http://www.crw.org/textfiles/partem.htm)

- Another recent study (Mao, et al. 2007) found that the concentrations of PM2.5 and PM10 in the study area located downwind of the incinerator were significantly higher (between 220% and 700% higher) than the study area upwind of the incinerator. The study indicated that the air had “significant contamination by air pollutants emitted” from a waste incinerator, representing a public health problem for nearby residents, despite the facility being equipped with a modern air pollution control system.
- Many studies, old and new, show that communities all around the world, living close to incinerators, even modern facilities, suffer higher rates of cancer and respiratory problems (e.g. <http://tinyurl.com/y7dteo>). The recently released Paris Appeal Memorandum, supported by the European Standing Committee of Doctors (representing 2 million doctors), urged a moratorium on building any new incinerators (www.artac.info/static.php?op=MemorandumParisAppeal.txt&nps=1).
- This study “Toxic ash contaminates our food supply” Ash and other residues from waste incineration contain dioxins, furans (PCDD/Fs) and a range of other highly toxic POPs at levels which are a threat to human health and the environment. Current management practices and regulatory threshold levels for POPs that contaminate incinerator residues are not preventing releases of POPs into agricultural settings, the food chain and the broader environment. http://ipen.org/sites/default/files/documents/ipen-toxic-fly-ash-in-food-v1_4a-en-web.pdf
- The study “Public health impacts associated with incinerators – a compilation” results support the hypothesis of a statistically significant higher risk, among men and women alike, of dying from all cancers in towns situated near incinerators and hazardous waste treatment plants, and specifically, a higher excess risk in respect of tumors of the stomach, liver, pleura, kidney, and ovary. Furthermore, this is one of the first studies to analyze the risk of dying of cancer related with specific industrial activities in this sector at a national level, and to highlight the excess risk observed in the vicinity of incinerators and installations. <https://zerowasteoz.org.au/wp-content/uploads/2017/12/Public-health-impacts-associated-with-incinerators.pdf>
- [A recent study](#) by The Small Area Health Statistics Unit has revealed an area in Dundee, Scotland, near a waste incinerator has one of Europe's largest cancer clusters. There were 81 more cases of non-Hodgkin's lymphoma than average and evidence of clustering for myeloid leukemia, around the incinerator. https://www.whatdotheyknow.com/request/matters_relating_to_the_incinera

2) **INCINERATION - MORE CO₂ THAN COAL & GAS - NOT RENEWABLE ENERGY**

"To make the same amount of energy as a coal power plant, Incinerators release 28 times as much dioxin than coal, 2.5 times as much carbon dioxide CO₂, twice as much carbon monoxide, 3 times as much nitrogen oxides (NO_x), 6-14 times as much mercury, nearly 6 times as much lead and 70% more sulfur dioxides". (EJN), <http://www.energyjustice.net/incineration/worsethancoal>

3) **Air Pollution from the Incinerator**

Cleanaway states in their own Incinerator Scoping Report that "Air emissions from the stack have the potential to impact on human health", therefore admitting it is dangerous to our health.

Health Studies Prove Particulate Pollution is Deadly

The "Health Risk Assessment of Air Pollution in Australia" Report

Proves particulate pollution is deadly. An Incinerator will increase ultra-fine nano particulate pollution, there is no current technology available to capture or monitor these particles. They are so small they are able to breach the blood brain barrier.

On 3rd August 2017 a health study was published by the National Environment Protection Council that stated;

- "Ongoing exposure to air pollution will cut months from the life expectancy of Sydneysiders"
- Long-time city residents will have their lives reduced by an estimated 72 days for men and 65 for women by ongoing inhalation of fine particle pollution.
- Particulate pollution causes an estimated 520 deaths in Sydney every year, based on exposure to 2008 levels, as well as being linked to cardiovascular and asthma hospitalisations.
- Sydney's air kills more people than traffic accidents.
- A study published in the *Environmental Research Letters* journal found that 2.1 million people die prematurely each year because of fine particle pollution, particles less than 2.5 micrometres in diameter. Most deaths were from cardiopulmonary disease and a smaller percentage from lung cancer.

The "State of Global Air 2020" Report

Said more than 90% of the global population experienced fine particle air pollution that exceeded safety guidelines from the World Health Organization.

Incinerators produce ultra-fine particulates of nano particulate size, there is no technology available to capture particles this small.

This study said 476,000 newborn babies died last year due to pollution. "Air pollution is linked with an increased risk of low birth weight and preterm birth," it states. "Babies born too small or too early are more susceptible to health problems such as lower-respiratory infections, diarrheal diseases, brain damage and inflammation, blood disorders, and jaundice."

Source:

https://www.upi.com/Top_News/World-News/2020/10/21/Air-pollution-killed-nearly-a-half-million-newborns-last-year-study-says/9551603289509/?fbclid=IwAR3Ksat-tvClYrCsyo5MB0BWbnhe98zCpkMVvXPSbqsZmpi7d6xC__bcUY

Further Health Studies on Particulate Pollution

- Cardiovascular morbidity and mortality [Miller K.A., Siscovick D.S., Sheppard L., Shepherd K., Sullivan J.H., Anderson G.L. and Kaufman J.D. Long-term exposure to air pollution and incidence of cardiovascular events in women. *New England Journal of Medicine* 356 (2007) 447-458]
- Cardiopulmonary mortality [Pope C.A. Mortality effects of longer term exposures to fine particulate air pollution: review of recent epidemiological evidence. *Inhalation Toxicology* 19 (2007) 33-38]
- Respiratory, immunological, haematological, neurological and reproductive / developmental problems, sometimes with long time-lags between exposure and health effects [Curtis L., Rea W., Smith-Willis P., Fenyves E. and Pan Y. Adverse health effects of outdoor air pollutants. *Environment International* 32 (2006) 815-830]
- Every 10 µg/m³ increase in fine particulate levels was associated with a 4% increase in deaths from all causes, a 6% increase in deaths from cardiopulmonary illness and an 8% increase in lung cancer mortality [Pope C.A., Burnett R.T., Thun M.J., Calle E.E., Krewski D., Ito K. and Thurston G.D. Lung cancer, cardiopulmonary mortality, and long-term exposure to fine particulate air pollution. *Journal of the American Medical Association* 287 (2002) 1132-1141]
- There is particular concern about the effects of particulate pollution on infants. Increases in infant deaths from respiratory causes with a 10 µg/m³ increase in PM_{2.5}s have been identified [Woodruff T.J., Darrow L.A. and Parker J.D. Air pollution and postneonatal infant mortality in the United States, 1999-2002. *Environmental Health Perspectives* 116 (2008) 110-115]
- A 10 µg/m³ increase in PM_{2.5}s was related to a 5% increase in the risk for wheezing bronchitis [Pino P., Walter T., Oyarzun M., Villegas R. and Romieu I. Fine particulate matter and wheezing illness in the first year of life. *Epidemiology* 15 (2004) 702-708]

Health Problems caused by Particulate Pollution

There are many health effects from exposure to particulate matter. Numerous studies have shown associations between exposure to particles and increased hospital admissions as well as death from heart or lung diseases. Despite extensive epidemiological research, there is currently no evidence of a threshold below which exposure to particulate matter does not cause any health effects. Health effects can occur after both short and long-term exposure to particulate matter.

Short-term and long-term exposure is thought to have different mechanisms of effect. Short-term exposure appears to exacerbate pre-existing diseases while long-term exposure most likely causes disease and increases the rate of progression.

Short-term exposure (hours to days) can lead to:

- Irritated eyes, nose and throat
- Worsening asthma and lung diseases such as chronic bronchitis (also called chronic obstructive pulmonary disease or COPD)
- Heart attacks and arrhythmias (irregular heart beat) in people with heart disease
- Increases in hospital admissions and premature death due to diseases of the respiratory and cardiovascular systems

Long-term exposure (many years) can lead to:

- Reduced lung function
- Development of cardiovascular and respiratory diseases
- Increased rate of disease progression
- Reduction in life expectancy

<https://www.health.nsw.gov.au/.../particulate-matter.aspx>

4) Cleanaway' EIS Confirms the Incinerator Will Release Dangerous Ultra fine Particulates

Cleanaways EIS confirms

- "In this case the predominant particles being emitted by this facility are those that are less than 2.5 microns (PM2.5)" (Page 63 Human Health Risk Assessment)
- "Gases (and fine particles) are emitted at around 60-70°C from the stack and they are pushed out of the stack using fans (i.e. at some speed) so these gases (and fine particles) rise up into the air from the top of the stack" (Health Risk Assessment Page 23)
-

5) Failure of Waste to Energy Incinerator Filters

Information from a multi-national waste management company (Veolia) confirms Incineration baghouse filter collection efficiency as the following;

- 95-99% for PM10s
- 65-70% for PM2.5s
- 5-30% for particles smaller than 2.5 microns

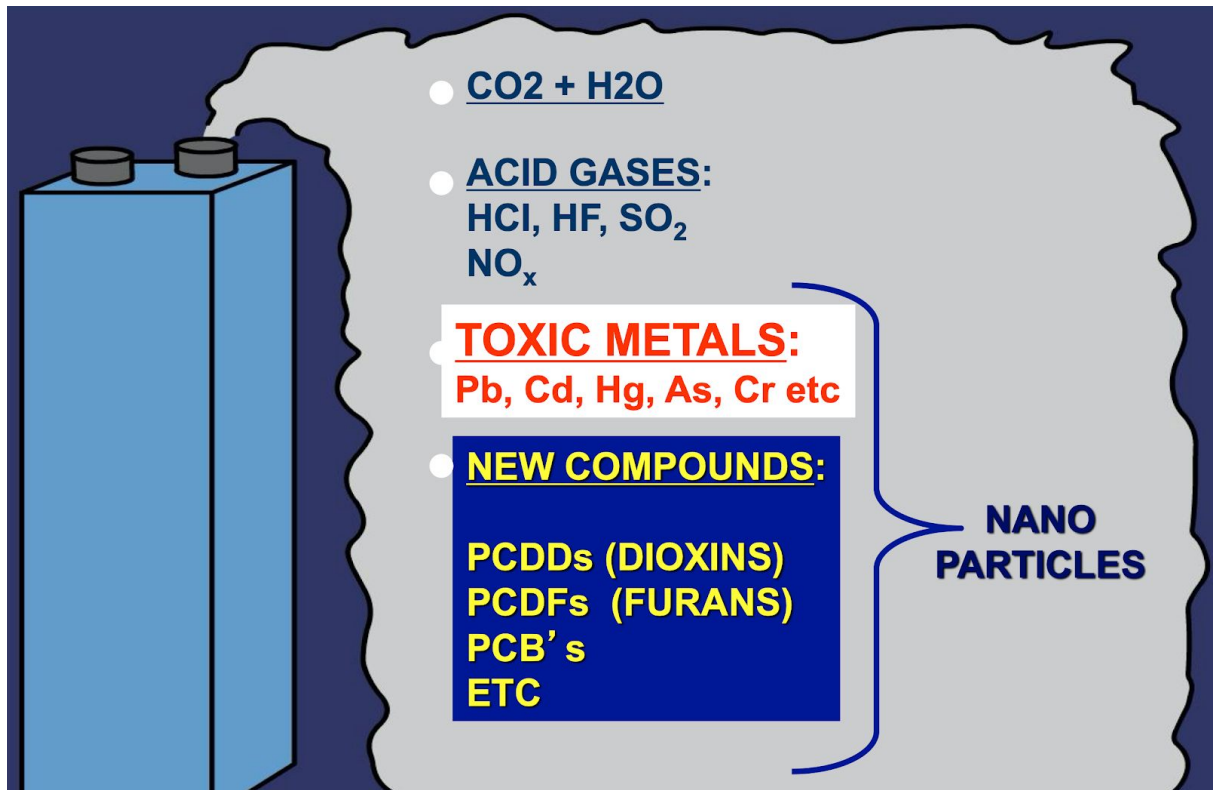
Source: Howard C.V. The health impacts of incineration. Proof of Evidence submitted to East Sussex and Brighton and Hove Local Plan Public Inquiry, 2003

These Incineration filter bags tear. The Sunday Herald (Scotland) discovered a major incident on 19 June 2001 which led to Dundee Energy Recycling Limited filing a formal report with Scottish Environment Protection Agency (SEPA). "A spokesman for SEPA said that a lot of black dust had poured from the incinerator for an hour after filter bags suddenly burst. The pollution emission dials went off-scale, so there were no readings for the amounts that were discharged. The incinerator was shut down and the operators are trying to find out why the filter bags, which were new, had failed"

6) There Are No Regulations For Ultra-Fine Particulates Emitted From Incinerators

- There are no regulations for particles smaller than 2.5PM.
- Nanoparticles and Ultra-fine Particles are not efficiently captured by air pollution control devices.
- Ultra-fine particles travel long distances and remain suspended for long periods of time.
- Ultra-fine particles penetrate deep into the lungs.

Source: "Incineration, Nanoparticles & Health", (Howard 2009). Statement of Evidence Particulate Emissions and Health proposed, Ringaskiddy, Waste to Energy Incinerator.



*Paul Connet PHD, "Incineration Doesn't Make Sense in the 21st Century",
AmericanHealthStudies.org*

7) Incinerator Filters only 5% - 30% Of Ultra fine Particulates Captured

Information submitted to the UK East Sussex, Brighton & Hove Local Plan Public Inquiry in 2003 by Veolia confirms Incinerator baghouse filter collection efficiency for ultra fine particulates is only 5-30%. This proves 70- 95% of these ultrafine particulates will be released into the air if the Cleanaway Incinerator goes ahead.

Source - Failure of Waste to Energy Incinerator filters (Howard C.V. The health impacts of incineration. Baker N, Proof of Evidence submitted to East 95-99% for PM10s - 65-70% for PM2.5s - 5-30% for particles smaller than 2.5 microns)
<https://books.google.com.au/books?id=3azaAAAAQBAJ&pg=PT61&lpg=PT61&dq=P+roof+of+Evidence+submitted+to+East+Suss+ex+and+Brighton+and+Hove+Local+Plan+Public+Inquiry,+2003&source=bl&ots=Yidh6Oxu4U&sig=F8pnSrX0amAVDA5nqc9W7V55FRc&hl=en&sa=X&ved=0ahUKEwi8vb73ifaAhUBwrrwKHRhVDIcQ6AEIRTAf#v=snippet&q=Baker%20N%202003%20Proof%20of%20Evidence&f=false>

8) False Statement in EIS Regarding Particulates

Cleanaway have made the following statements in their Human Health Risks Assessment (Page 63);

- "Particles are measured as those particles less than 10 micron in size (PM10)
or

- those that are less than 2.5 micron in size (PM2.5).
- It is important to note that PM10 includes all the particles that are less than 2.5 microns in size as well as the ones that larger than 2.5 microns but less than 10 microns.
- **The same goes for PM2.5 – it includes all the ultrafine particles (those less than 1 micron or 0.1 micron) as well as those between 1 and 2.5 microns.**
- **This means these ultrafine particles are included in the health effects assessments even if not specifically mentioned.**
- In this case the predominant particles being emitted by this facility are those that are less than 2.5 microns (PM2.5)"
- - this is a lie, lets prove it find references (Message to myself so I don't forget to find info)

Cleanaway also made their own contradictory statement (Page 23 Human Health Risks Assessment) that reads as follows

- "Gases (and fine particles) are emitted at around 60-70°C from the stack and they are pushed out of the stack using fans (i.e. at some speed) so these gases (and fine particles) rise up into the air from the top of the stack as the gases (and fine particles) cool and slow down a bit they begin to interact with the wind above the stack (i.e. >76.5 m high). This mixes the gases (and fine particles) into the atmosphere".

Cleanaway also made another contradictory statement (Page 48 Human Health Risks Assessment) that reads as follows

- Unlike many other pollutants, particulates comprise a broad class of diverse materials and substances, with varying morphological (shape), chemical, physical and thermodynamic properties, **with sizes that vary from less than 0.005 microns to greater than 100 microns.**

Information from a multi-national waste management company (Veolia) confirms Incineration baghouse filter collection efficiency as the following;

- 95-99% for PM10s
- 65-70% for PM2.5s
- 5-30% for particles smaller than 2.5 microns

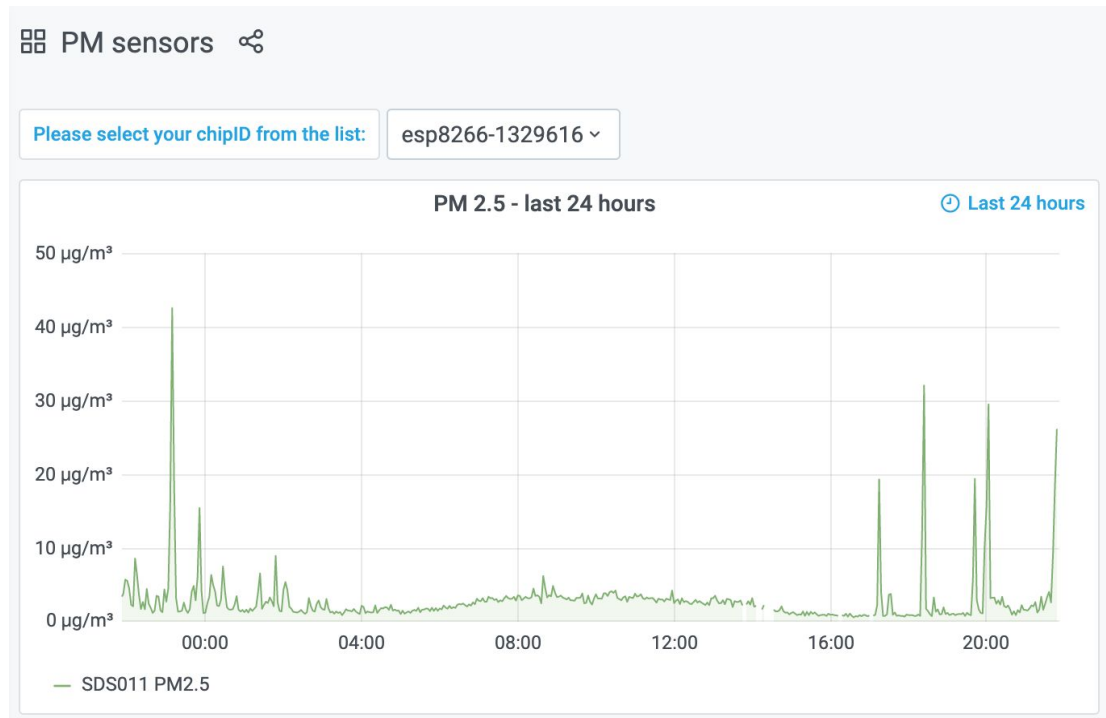
Howard C.V. The health impacts of incineration. Proof of Evidence submitted to East Sussex and Brighton and Hove Local Plan Public Inquiry, 2003

9) Particulate Pollution near Incinerator Site Already Exceeds Safety Limits

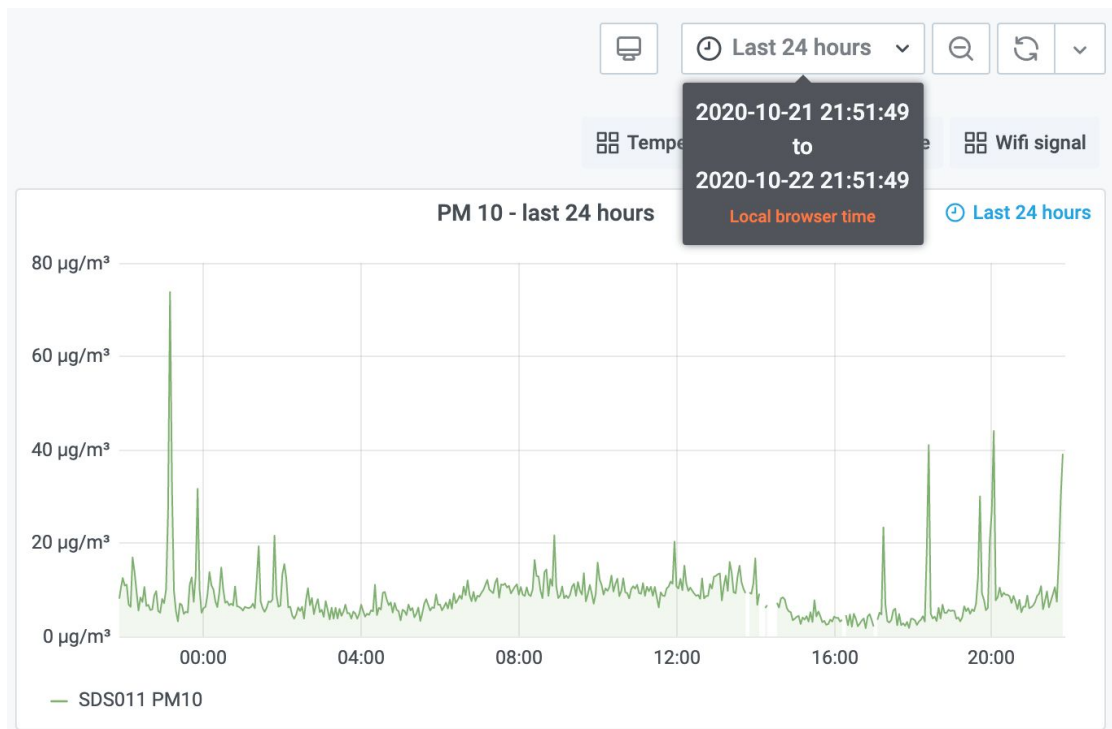
We have a real time air monitor operating in Blacktown to collect baseline air emissions for particulates PM2.5 and PM10.

The safety standard for particulate pollution was set in 1997, The annual standard was set at 15 micrograms per cubic meter($\mu\text{g}/\text{m}^3$).

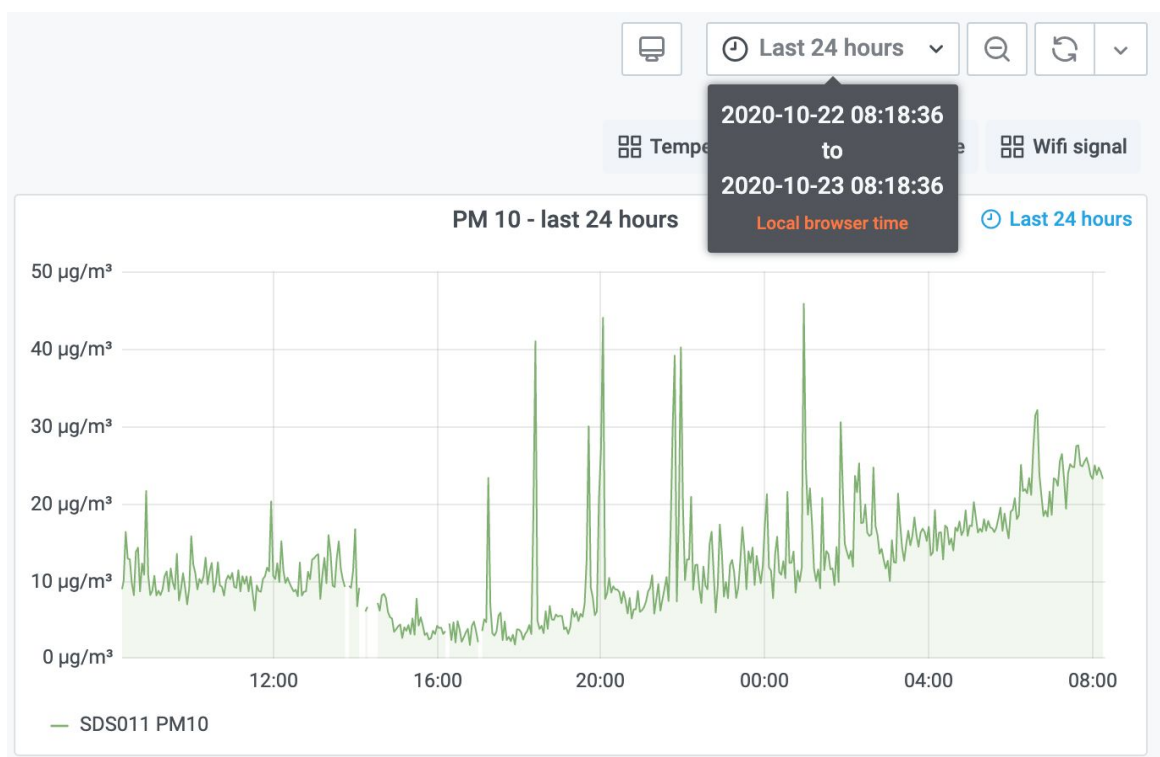
This real time air monitor below shows ambient air already exceeded the safety standard for PM2.5 on the 21/10/2020 at 40($\mu\text{g}/\text{m}^3$).



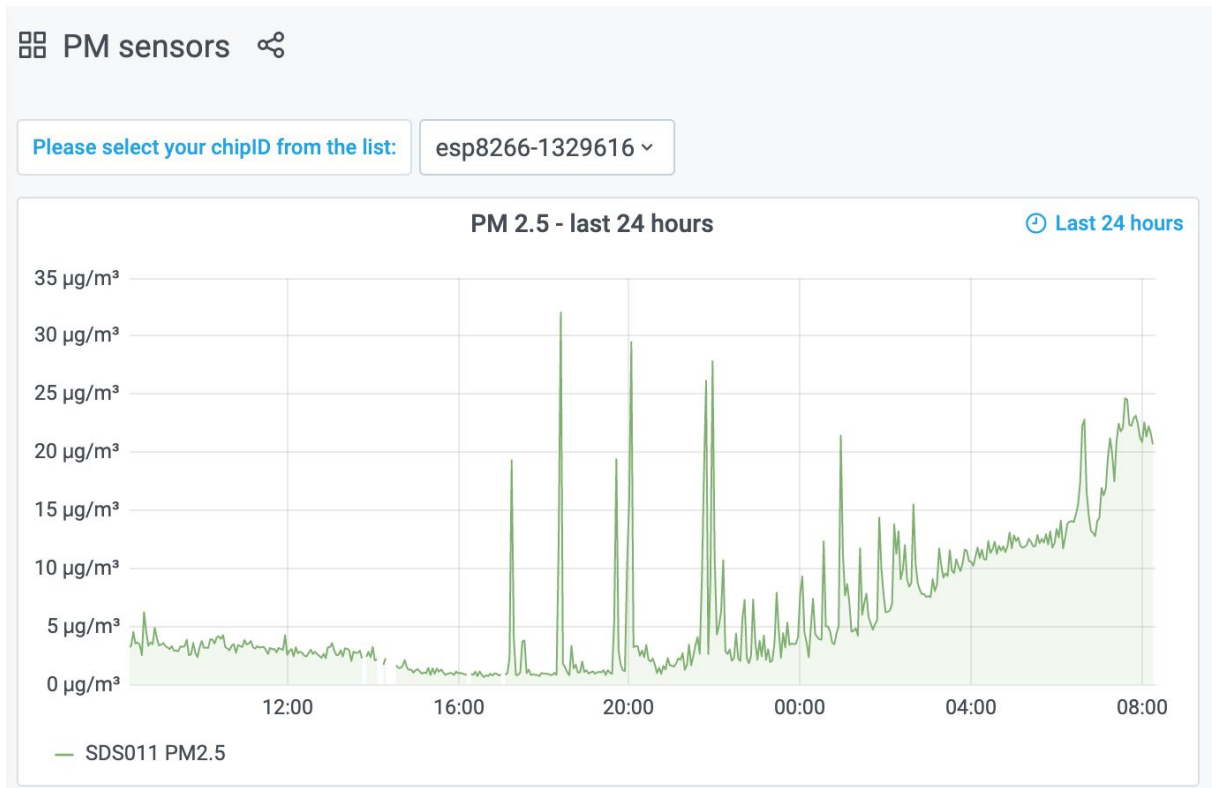
This real time air monitor below shows ambient air exceeds the safety standard for PM10. On the 21/10/2020 recorded at 80($\mu\text{g}/\text{m}^3$).



This real time air monitor below shows ambient air already exceeded the safety standard for PM10 on the 23/10/2020 at 45($\mu\text{g}/\text{m}^3$).

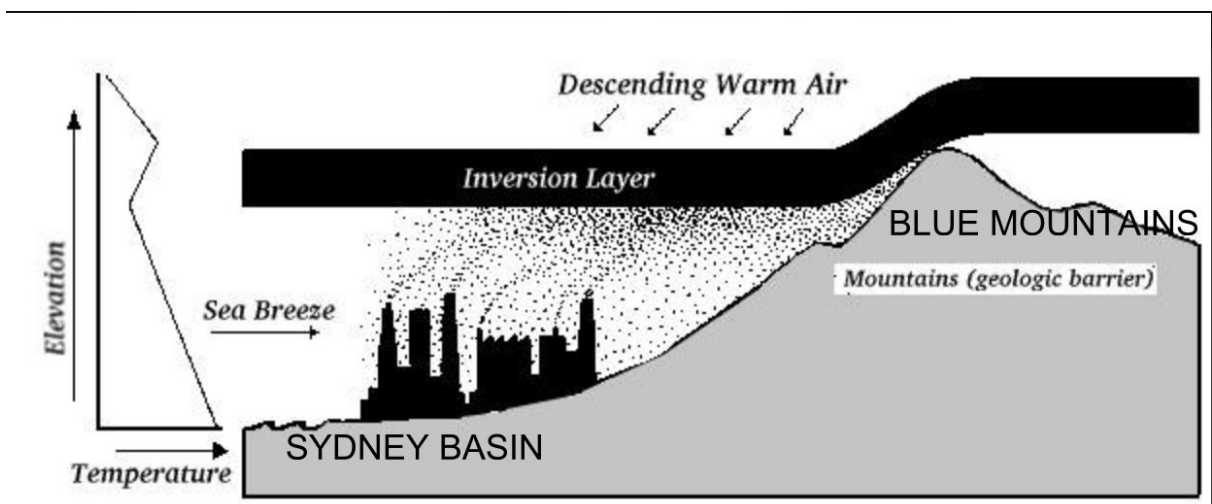


This real time air monitor below shows ambient air already exceeded the safety standard for PM2.5 on the 23/10/2020 at 32($\mu\text{g}/\text{m}^3$).



10) Sydney's Basin shape causes it to trap pollution.

In summer cool overnight air drains off the mountains and moves towards the sea picking up air pollution. Morning sea breezes then push it back over urban Sydney areas collecting more pollution and creating Sydney' smog. Sydney's air quality frequently exceeds the national health standard on particulates PM2.5, PM10, Nephelometer levels and Ozone levels.



“Areas with heavy pollution are prone to unhealthy air and an increase in smog when an inversion is present because they trap pollutants at ground level instead of

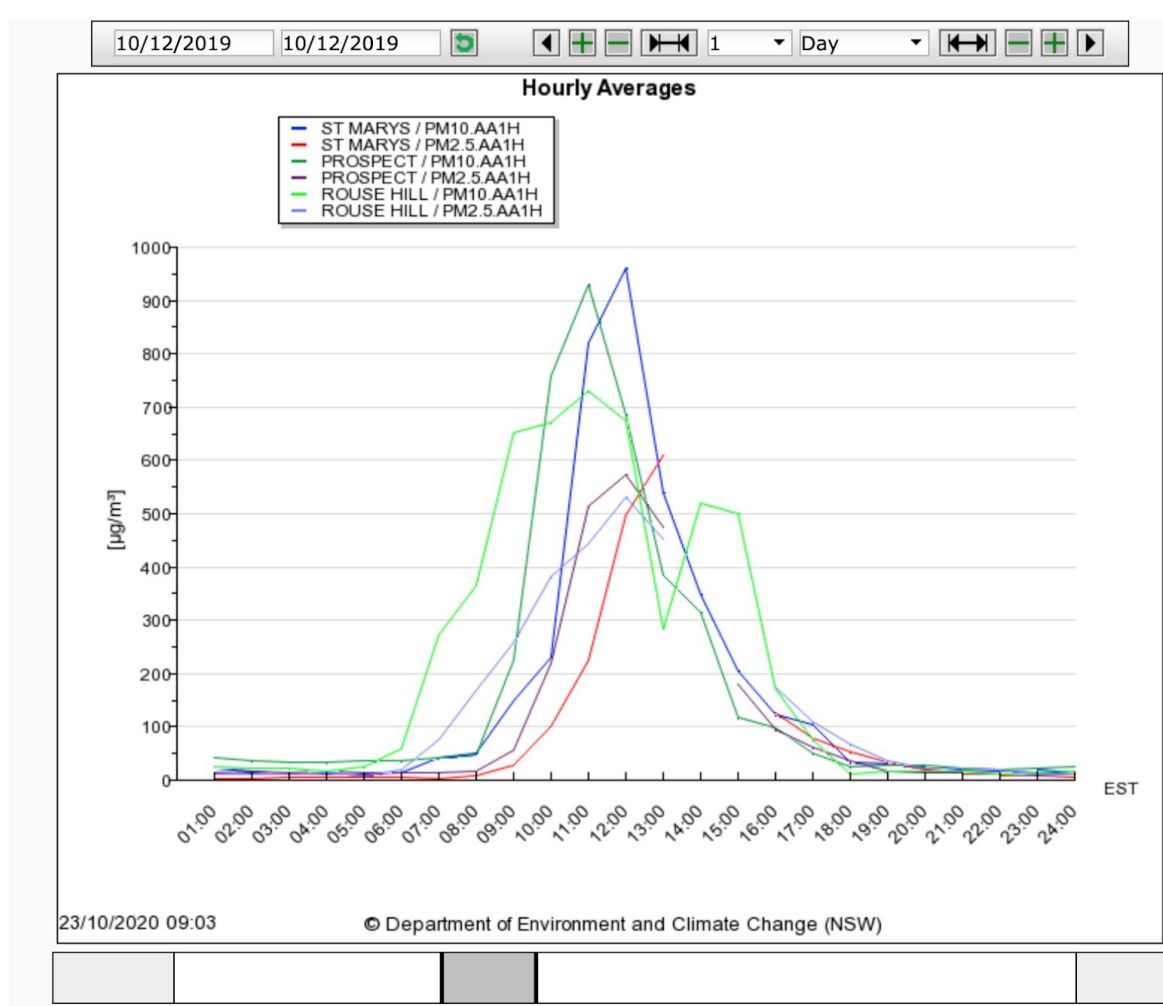
circulating them away”.

Source: <https://www.thoughtco.com/temperature-inversion-layers-1434435>

On the 10th December 2019 BAM Air Monitoring recorded particulate levels between 900($\mu\text{g}/\text{m}^3$) and 1000($\mu\text{g}/\text{m}^3$). The safety standard was exceeded for PM 2.5 and PM10 see graph below.

Source: <https://bit.ly/1UGgcUH>

The addition of Cleanaways incinerator at Blacktown would further add to our poor air quality. This Incinerator would release ultra-fine particulates and substances such as arsenic, cadmium, nickel, polycyclic aromatic hydrocarbons and Persistent organic pollutants (POPs) into the Sydney Basin.



Dangerous Particulate pollution recorded on the 10th December 2019

11) Cleanaways Reference Facility Breached Environmental Licence In First Week Of Operations

Dublin's Poolbeg Incinerator is named by Cleanaway in their EIS as their reference facility. This incinerator breached its environmental protection licence during its first

week of operation. This proves these incinerators can not be run safely. This choice of incinerator as the reference facility just reinforces the community's concerns about Cleanaways proposal for an Incinerator.

- The Poolbeg Incinerator had a total of 37 notifiable incidents referred to the EPA in the first year of operation, resulting in a total of 14 non-compliance notices being issued by the EPA.

Source:

https://www.thejournal.ie/poolbeg-incinerator-fine-3925667-Mar2018/?fbclid=IwAR2I5yY131FxTER4hmDL3CRiyJ_lhG0AaTxRtOuWPjG834jNuKuSgOzHT-s

- On 08/06/2017 Eleven people were hospitalised after an uncontrolled release of a cloud of Lime at this Waste to Energy Incinerator.

Source:

https://www.irishtimes.com/news/ireland/irish-news/eleven-hospitalised-after-incident-at-dublin-s-poolbeg-incinerator-1.3112097?fbclid=IwAR3GWFka3bRrydNsDkCX_rooqJ9kT5nM3M2lbRQmGlIC15oidNQYE0g9IBE

- In 2017 Poolbeg Incinerator was issued with an order from the Health and Safety Authority to cease operations pending an investigation into an uncontrolled release of a cloud of Lime that injured eleven people.
- There were Three further serious incidents at Poolbeg Incinerator on 1st, 5th and 8th June 2017. The first involved problems with a filter used to control pollution, the second and third incidents involved non-compliance over the dropping of temperatures to below an agreed level of 850C on three occasions and then failing to notify the EPA of the breach.

Source:

<https://www.dublinlive.ie/news/dublin-news/three-further-serious-incidents-poolbeg-13255511?fbclid=IwAR1vJz22blqpKL3kaO5kQN7CB7qgLstlF63T4BNyGHlTJshiZ4IFGX3QN8U>

- The proponent of the Poolbeg incinerator in Dublin was fined €1,000 and ordered to pay €14,000 in costs after they breached their environmental protection licence during the first week. **Source:**

<https://www.thejournal.ie/poolbeg-incinerator-fine-3925667-Mar2018/?fbclid=IwAR3U8pFFUsF9nicMccCZUPsxT8oQzYts0J3cPaiWknCI5ttjxP29IXPTh7s>

12) The Cleanaway Incinerator Proposal Fails To Meet The Basic principles of the NSW Energy from Waste Policy Statement - No Social Licence for Incinerator

- Our community fought off a Waste to Energy Incinerator in 2018 proving they do not want this toxic industry to be established here in NSW.

- 12,000 People signed petitions to the Legislative Council and Legislative Assembly against an Incinerator going ahead.
- Over 500 people have completed our own community survey [99.6% are against the Cleanaway Incinerator](#) going ahead.
- This proves, Community acceptance to operate has not been obtained.

13) The Incinerator fails to meet the basic principles of The Renewable Energy (Electricity) Act 2000

The main objectives of Incinerator developments are "To offer a viable alternative to the burning of fossil fuels by utilising a green and renewable energy source." These objectives will not be met by burning waste fuels based on petrochemicals (which are fossil fuels). Burning plastics derived from fossil fuels does not create 'green' energy – it is simply burning fossil fuels in another form. This does not comply with "The Renewable Energy (Electricity) Act 2000, which specifically excludes fossil fuel-based materials such as plastics.

14) Cleanaway Incinerator too Close to our Water Supply

The incinerator site has Warragamba Pipelines running adjacent to the southern boundary of the site that supply drinking water to Prospect Reservoir only 1.7km away.

Incinerators create toxic fly ash, which contains some of the most poisonous concentrations of substances such as dioxins and heavy metals. Incinerators actually need more landfill space than regular landfill disposal. Overseas Toxic fly ash is stored in large piles, often inches from roads, communities, and waterways, blowing ash over schools, playgrounds, rivers and streams.

Incinerators release particulate matter (PM), which can be found in solids, liquids (like our water supply), and suspended within the air.

PM has been found to:

- *Increase the risk of respiratory death in infants*
- *Affect cough and bronchitis in children*
- *Increase death rates from cardiovascular and respiratory diseases including*
- *lung cancer and asthma.*

15) Cleanaway Incinerator Too Close to Homes & Schools

This site is very close to homes, schools and preschools. Horsley Park Public School is around 2 km south of the site. A childcare centre is located only 1 km to the west of the site, while homes are located only 1km away.

A Study was completed; "Relationship Between Distance of Schools from the Nearest Municipal Waste Incineration Plant and Child Health in Japan" In Japan, the main source of cancer causing dioxins are incinerators. This study examined the relationship between the distance of schools from waste incineration plants and the

prevalence of allergic disorders and general symptoms in Japanese children. Study subjects were 450,807 elementary school children aged 6–12 years who attended 996 public elementary schools in Osaka Prefecture in Japan. The study showed that a positive association with fatigue was pronounced in schools within 4 km of waste incinerators. The findings also suggested incineration near schools may be associated with an increased prevalence of wheezing, headaches, stomach ache, and fatigue in Japanese children.
<https://link.springer.com/article/10.1007/s10654-005-4116-7>

15 Schools Near The Site Proposed For Cleanaways Incinerator

1. Horsley Park Public School
2. Marion Catholic School
3. Erskine Park Primary School
4. Erskine Park High School
5. Clairgate Public School
6. Minchinbury Public School
7. Eastern Creek Public School
8. Minchinbury Early Learning Centre
9. Tyndale Christian School
10. Bethel Christian School
11. Sacred Heart Primary School
12. Rooty Hill Public School
13. Walters Road Public
14. Blacktown West Public
15. St Patrick's Primary School

16) Proximity to Public and Social Infrastructure

The site is located within the Wallgrove Precinct of the Western Sydney Parklands. The M7 motorway is located immediately west of the site with the Eastern Creek industrial area located farther to the west. The closest infrastructure is in the Western Sydney Parklands. With the closest publicly accessible area located about 1 km north of the site. Other public and social infrastructure include the Sydney Motorsport Park located at only 1.4 km north-east, the Drift School Australia, a driving school, only 1.5 km north-east and the Western Sydney International Dragway, drag racing facility, only 1.4 km east of the site. The land is not zoned for industrial use, it is not zoned as anything but the area is surrounded by farmland and homes, and is wholly within the Blacktown Local Government Area (LGA).

17) The precautionary principle has not been applied

- In Australia the precautionary principle is specified in the Intergovernmental Agreement on the environment which was signed on the 1st May 1992 by the Federal, State and Territory governments and the Australian local governments association. The precautionary principle was stated in cl 3.5.1 of the agreement in these terms; ***Where there is threat of serious or irreversible environmental damage, lack of full scientific certainty***

should not be used as a reason for postponing measures to prevent environmental degradation.

- In the application of the precautionary principle, public and private decisions should be guided by; careful evaluation to avoid serious or irreversible damage to the environment.

18) The Incinerator fails to meet the basic principles of the “European Human Rights Convention”

- Waste to Energy Incinerators contravene basic human rights as stated by the United Nations Commission on Human Rights
- The foetus, infant and child are most at risk from incinerator emissions: their rights are therefore being ignored and violated, which is not in keeping with the concept of a just society. Nor is the present policy of locating incinerators in deprived areas where their health effects will be maximal.

19) The Incinerator fails to meet the basic principles of the “Stockholm Convention on Persistent Organic Pollutants”

- The Stockholm Convention is a legally binding international instrument that aims to eliminate or restrict the production and use of [persistent organic pollutants](#) (POPs).
- Waste to Energy Incineration goes directly against the directive of the Stockholm Convention by releasing [persistent organic pollutants](#) (POPs) such as Dioxin and Furans into the environment. These carcinogenic substances enter our bodies and the food chain and never leave bioaccumulating.

20) Both Cleanaway & Macquarie Capital (Group) fail to meet the “Fit and proper person test under section 83 of the “Protection of the Environment Operations Act”

Cleanaway & Macquarie Capital both have a history of operating outside the law. Both proponents have contravened environment protection legislation making their corporations an unfit person under the Act. Below lists some of their EPA violations. This is why our community has no faith in them building and operating an incinerator near our homes. Cleanaway (Over 35 EPA violations) and Macquarie Capital can't be trusted to keep our air quality clean.

21) Cleanaway EPA Violations

Cleanaway has over 30 EPA Violations, this proves they can not be trusted to operate an incinerator under the law. The community has no confidence in Cleanaway doing the right thing to protect our air quality.

- [16/11/2018 - Failed to comply with condition 330-155 of the environment](#) authorisation 50320 in that you did not take all reasonable and practicable measures to prevent dust leaving the Premises. An EPA Authorised Officer recorded failure of site operatives to use the dust suppression hoses at the site whilst handling wastes with the onsite machinery. At the same time the

under roof dust suppression misters were observed not to be operating. By failing to use the appropriate dust suppression controls you have caused or permitted dust to leave the Premises in contravention of condition 330-155.

- 2008 - 2013 Transpacific (Cleanaway) are among companies in NZ which have been [prosecuted for injuries including death- 2 convictions](#)
- 2011 - Transpacific (Cleanaways old name) have a history of not protecting their workers' health and safety. In 2011 Transpacific (Cleanaway) were fined \$363,000 after a fatal accident in Perth breaching federal work health and safety laws. The penalty is the largest against an employer as a result of a single court proceeding by Comcare. It is also the first time multiple breaches of Commonwealth work health and safety laws have been found against an employer in regard to an ongoing risk to health and safety.
- On the 2nd September 2009 at the Wagerup Refinery (owned by Cleanaway) an employee, Paul Herbert Fry, fell through one of the open manholes to his death. Transpacific breached the OHS Act by its failure to take all reasonably practicable steps to protect the health and safety at work of its employees. There was a court case, pursuant to cl 4 of Pt 1 of Sch 2 of the OHS Act the respondent was convicted and paid a \$170,500 penalty to the Commonwealth of Australia.
- 14/082008 - [Death of Colin Arthur GREAVES](#) who died from multiple injuries sustained when he fell through an open hatch on the top of Settler tank 6 at the Queensland Alumina Ltd plant at Gladstone, owned by Transpacific (Cleanaways old name). There was a coronial Inquest into the death of Colin GREAVES, Transpacific prosecuted and pleaded guilty to a **breach of the Workplace Health and Safety Act 1995 (QLD)**
- 2011 Transpacific (Cleanaway) were [fined \\$110,000 after an employee was exposed to hazardous chemicals](#)
- 29/03/2001 - Cleanaway (previously known as) [Transpacific EPA Order](#) Allowed waste to be stored outside of concrete bunded areas at the site in breach of a licence condition. *Also received waste from interstate, for the purpose of treatment by incineration, when the waste was physically unsuitable for incineration.*
- 25/03/1997 - Transpacific (Cleanaways old name) [Failed to comply with conditions of a licence to undertake the following prescribed activities of environmental significance: incineration of chemical, medical and solid trade waste, waste depot and activities producing listed wastes.](#)
- 07/05/2002 - Brambles Australia (owned by Transpacific, Cleanaway old name) [Caused an environmental nuisance in the form of odour](#) from the depot.

- 3. June 2010 – Transpacific (old cleanaway name) who owned Rutherford Oil Processing and Recycling Plant were [fined \\$70,000 – for emitting benzene at levels in breach of environmental protection licence during March and Aug 2008.](#)
- 4. June 2010 – Transpacific (old Cleanaway) **fined for supplying false information – whiting-out emission test results** (the subject of the above breach) in its annual return for its oil [recycling facility to NSW EPA](#)
- Since Nov 2010 – VIC EPA has issued 18 Pollution Abatement Notices in an attempt to address odour impacts on the Clayton / Dingley area of VIC administered by Kingston City Council. Of these, 8 were issued to Transpacific (Cleanaway) companies (TWM & Baxter Business P/L).
- In Aug 2011 Transpacific (Cleanaway), in contravention of its EPA licence, set up a treatment trial to deodorise “Elf Atochem Spotleak” an odorous compound added to natural gas and LPG. The offensive odour was discharged beyond the boundary of the company’s Portland site and reported by 130 residents who complained of nausea, throat irritation and general illness. Fined \$80,000 and Court costs \$10,000.
- Feb 2011 – VIC EPA Notice of Contravention Transpacific (Cleanaway) Deals Rd Landfill (Clayton South), putrescible / municipal waste – off-site odour (landfill closed 2010, matter ongoing)
- Feb 2011 – VIC EPA Notice of Contravention Transpacific (Cleanaway) Fraser Rd Landfill (Clayton South) – off-site odour (matter ongoing)
- Jan 2011 – [VIC EPA Penalty Infringement Notice Transpacific \(Cleanaway\) Victory Rd Landfill / Green Waste Transfer Station \(Clayton South\) – penalty paid](#)
- April 2012 – [Transpacific \(Cleanaway\) agreed to pay up to \\$35million \(before tax\) to settle a class action](#) – over claims it misled investors about the true state of its accounts between Aug 2007 and Feb 2009.
- Dec 2012 – VIC EPA Pollution Abatement Notice Transpacific (Cleanaway) Fraser Rd Landfill (Clayton South), putrescible / municipal waste – surface emissions (matter ongoing)
- Dec 2012 – VIC EPA Pollution Abatement Notice Transpacific (Cleanaway) Victory Rd Landfill (Clayton South), C&D waste – progressive site rehabilitation required (matter ongoing)
- Aug 2012 – VIC EPA Pollution Abatement Notice TPI Fraser Rd Landfill (Clayton South) – poor leachate management (matter ongoing)

- Aug 2012 – VIC EPA Pollution Abatement Notice TPI Victory Rd Landfill (Clayton South) – poor leachate management (matter ongoing)
- Aug 2012 – VIC EPA Pollution Abatement Notice TPI Henry St Landfill (Heatherton), C&D waste – poor leachate management (matter ongoing)
- Aug 2012 – VIC EPA Pollution Abatement Notice TPI Henry St Landfill (Heatherton) – progressive site rehabilitation required (matter ongoing)
- Aug 2012 – VIC EPA Pollution Abatement Notice TPI Carol Rd Landfill (Clarinda), C&D / green waste – poor leachate management (matter ongoing)
- Aug 2012 – VIC EPA Pollution Abatement Notice TPI Carol Rd Landfill (Clarinda) – progressive site rehabilitation required (matter ongoing)
- 2. Dec 2012 to March 2013 (4 months) – 155 pollution reports made by residents to Kingston City Council. Two Notices of Contravention and one Penalty Infringement Notice (\$6,000 penalty) were issued to Transpacific (Cleanaway) companies. Offensive odours and other licence breaches were detected either on-site or within residential areas. As a result, the sites are subject to ongoing monitoring by EPA and stakeholders including Kingston City Council to ensure day-to-day obligations of site management are met.
- 1. April 2013 – VIC EPA Conviction of Transpacific (Cleanaway) for air pollution and licence breach
- On 15 April 2013, Transpacific (Cleanaway) was convicted on 2 charges brought by VIC EPA for [pollution of atmosphere and breach of licence](#).
- Transpacific (Cleanaway) were [fined \\$30,000 for illegally discharging Coal Seam Gas Wastewater, into the sewer system from its treatment site](#).
- [Kingston Ratepayers To Pay Millions For Landfill Clean Up](#)
- 25/11/11 - 3 separate workplace injuries in which Transpacific (Cleanaway) employees were injured; Each incident was found by Comcare to be caused by failures of Transpacific (Cleanaway) to appropriately assess risks for the tasks being undertaken and to provide appropriate information, instruction, supervision and training to its employees in relation to the tasks. The enforceable undertaking targeted every level of the Transpacific (Cleanaway) hierarchy, requiring Transpacific (Cleanaway) to make extensive improvements to their WH&S systems. The undertakings operated until the end of 2013. Comcare accepted court enforceable undertakings from Transpacific (Cleanaway) in relation to 3 separate workplace injuries in which Transpacific (Cleanaway) employees were injured;
 - i) Mandurah WA,
 - ii) Olympic Dam SA

- iii) Airport West, Melbourne.
- 5 Feb 2011 – Comcare filed 3 enforcement proceedings against Transpacific (Cleanaway) in the Federal Court of Australia (SA) for breaches of the OHS Act (employee injuries);
 - i) acid burn injuries Dec 2008
 - ii) hand burn Sept 2008
 - iii) foot crush / toe amputation Aug 2008
- June 2006 - Transpacific (Cleanaway) Conviction for wastewater discharge from sewer into Dry Creek wetlands in SA. Charge: Material environmental harm, section 80(2), EP Act 1993. ERD Court. Guilty plea. Convicted and fined a total of \$15,000 plus \$650 prosecution costs awarded and \$120 victims of crime levy.
- 28/06/06 - Convicted of material environmental harm Section 80(2) EP Act 1993. They were fined \$15,000 plus prosecution costs.
- 5. Dec 2009 – VIC EPA Pollution Abatement Notice Transpacific (Cleanaway) Western Ave Landfill (Tullamarine) - Infiltration of rainwater and formation of leachate within the landfill had resulted in a mound of leachate forming above the water table beneath the landfill, and leachate was radiating from the site precluding the beneficial use of groundwater within a broadly defined area with risk to Moonee Ponds Creek. This resulted in the establishment of an extensive monitoring and management regime on the part of EPA VIC and the company.
- ALL SOURCES & FURTHER EPA VIOLATIONS HERE:
https://www.epa.sa.gov.au/data_and_publications/completed_prosecutions_and_civil_penalties

22) **Macquarie Capital (Group) Financial Misconduct & Tax Fraud**

Macquarie Capital (Group) are Cleanaway' JVP, they are being investigated overseas for financial misconduct and tax fraud and should not be allowed to be a property developer in Australia. Both proponents have contravened environment protection legislation making their corporations an unfit person under the Act.

- Macquarie group is currently being investigated for massive tax fraud in 2018, across several European countries over long periods. Macquarie's internal documents, reviewed by a collaboration between 17 European media, show that Macquarie continued to make money available for speculation and fraud with dividend tax after their legal advisers expressed concern.
- Macquarie Group through its subsidiary Macquarie Equipment Rentals was criticised by the Australian Competition and Consumer Commission for suing

300 small businesses caught up in misleading telephony bundling deals.^[46]

- In 2017, Macquarie, via a deal in which it acquired Thames Water, a private utility company responsible for public water supply and waste water treatment in the London region of the UK, was found to have transferred to Thames Water £2bn of debt before selling its stake in the company. These disclosures followed scrutiny of the possible financial causes of Thames Water's extensive pollution of the Thames, and other rivers, with untreated sewage between 2012 and 2014, for which Thames Water was fined a record £20m.^{[47][48]}
- [Macquarie Group did business with a British hedge fund investor who has been accused by the Danish government of orchestrating a large-scale alleged tax fraud](#)
- [Top executives](#) of Macquarie Group were among 30 staff likely to be classified as “suspects” as part of a German tax investigation over a 2011 deal. Macquarie Group chief executive Nicholas Moore and his successor, Shemara Wikramanayake, were involved in approving deals that are now at the centre of an investigation by German prosecutors into an alleged tax fraud scandal.
- Danish Fund refuses to do business with Macquarie Group. PFA, which oversees about \$90 billion in assets, is refusing to enter new deals with Macquarie Group Ltd. amid a national campaign in Denmark to fight **financial misconduct**. Macquarie is one of a number of banks being investigated by German authorities in connection with alleged dividend tax fraud. In November, Danish Tax Minister Karsten Lauritzen said his country was also looking at the Australian firm’s conduct. That came amid a broader crackdown on tax fraud in Denmark after offshore financiers stole almost \$2 billion from state coffers in a fraudulent rebate scheme. “Before we see a settlement on this and can see a stronger commitment from them on a new way of conducting business, we cannot do new business,” Allan Polack, the chief executive officer of Copenhagen-based PFA, said in a phone interview

23) Sydney is a C40 City Which Goes In Direct Opposition To Incineration

Sydney is a C40 City and should be leading the way on renewable energy projects to reduce climate changing emissions like CO₂ and improve the health of communities. The Cleanaway incinerator will emit more CO₂ than coal and gas as well as dangerous emissions such as dioxins and furans that are cancer causing. This is in complete opposition to what a C40 city should be doing.

24) Incineration is not Renewable Energy

Incineration cannot be classed as Renewable energy due to the high pollution levels created. One objective of the The Renewable Action Plan states “Our vision is for a

secure, reliable, affordable and clean energy future for NSW. We are working towards an energy system that is less polluting and attracts new jobs and investment to NSW at the lowest possible cost.”

Mass combustion Incinerators rank as one of the dirtiest known forms of energy production. Incinerators release 2.5 times Co2, 28 times more dioxin, twice as much carbon monoxide, 3 times as much nitrogen oxides (NOx), 6-14 times as much mercury, nearly six times as much lead and 70% more sulphur dioxides than Coal, Oil and Gas. Source:

<http://www.energyjustice.net/incineration/worsethancoal>

FUNDING OF INCINERATORS IN SYDNEY

ARENA' true purpose is supposed to be to provide funding for renewable energy projects like wind and solar, instead they are now funding incineration which is more damaging to the environment than coal and gas.

Source:

ARENA has provided \$118 million in funding to support the development of bioenergy technologies, including several waste-to-energy projects. The European Union is no longer subsidising the Incineration industry as Renewable Energy unlike Australia.

25) The Incinerator “Sacrifice Zone”

The Incinerator “Sacrifice Zone” includes the area within a 5km radius of the Incinerator site. The sacrifice zone is a geographic area that has been permanently impaired by environmental damage or economic disinvestment. These zones are most commonly found in low-income and minority communities.^[1]

Commentators including [Chris Hedges](#), [Joe Sacco](#), and [Stephen Lerner](#) have argued that corporate business practices contribute to producing sacrifice zones. https://en.wikipedia.org/wiki/Sacrifice_zone

26) There are Better Alternatives to Incineration that don't affect health

Incinerators and landfills are not the answer to waste management. New technology and innovation has provided alternative options that do not affect the public health or environment in the way incinerators and landfills do:

Source Reduction.

Researchers estimate that 70% of all current waste and emissions from industrial processes can be prevented at the source by using technically sound and financially profitable procedures. New Jersey mandates pollution prevention planning based on the tracking of materials throughout each industry. Ultimately, saving companies a total net sum of \$105 million per year.

Recycling and Composting.

An analysis of recycling potential (including composting) found that 72.8% of waste reclamation was possible. Recycling facilities produce more than twice the number of jobs provided by landfills and incinerators combined, as well as profitable for companies.

Other technologies that offer safer and cleaner methods exist

45% of medical waste can be sterilized and reused through autoclaving, and the remaining materials can be treated and reduced through microwave disinfection and steam sterilization. Biomass and household waste can be handled through a process called thermal desorption and vitrification

Sources:

http://www.energyanswers.com/our_company/mission_&_philosophy/index.php

<http://www.epa.gov/oaqps001/combustion/>

27) Health Effects of Dioxin

The adverse effects of dioxin exposure are well-established following accidental releases of dioxins into people, the environment and food chain. “In addition, studies of wildlife, as well as domestic and laboratory animals, have furthered the understanding of potential adverse outcomes of exposure”. [Source].

“In the Great Lakes area, which has been extensively polluted with dioxin and dioxin-like compounds, multiple species of birds, fish, reptiles, and mammals have exhibited developmental toxicity, reproductive impairment, compromised immunologic function, and other adverse effects correlated with these exposures. Specific observations correlated with dioxin or dioxin-like compound levels in multiple vertebrate species included hyperplasia of the thyroid and adrenal glands, porphyria, suppressed T-cell-mediated immunity, mammary and ovarian pathologies, reduced viability of offspring, congenital malformations, growth retardation, and an edematous syndrome among the offspring of fish-eating birds comparable to chick edema disease [Source]. Humans in this area also consume much local fish, and have shown signs of both developmental and immunologic consequences of exposure to these persistent organic pollutants, via dietary fish intake [Source, Source].”
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2788749/>

28) Dioxins Will Not Be Continuously Monitored at Cleanaway Incinerator

Cleanaway’ EIS shows that Dioxins will not be continuously monitored. Cleanaways EIS states “For those pollutants with levels so small that they are below any possible limits of detection and/or for which online measurement is not technically possible or sufficiently accurate, a periodic sampling and testing regime will instead be created” .

This monitoring system for Dioxin is not acceptable considering exposure to Dioxins is dangerous to health. Exposure to Dioxin and any addition of these persistent organic pollutants, however small, to the Sydney Basin airshed compromises our health, particularly our children.

Article 10 of the Stockholm Convention requires that the public be given full access to information on POPs sources and how they are impacted by them.

The International Agency for Research on Cancer (IARC) classes Dioxin as Group 1, carcinogenic to humans

- National Toxicology Program (NTP) classes Dioxin as a Group 1, known to be human carcinogen (Causes Cancer)
- Risks to health from eating home-grown food, drinking rainwater and skin absorption of pollutants emitted from the Incinerator. Present safety measures ignore the fact that many of the pollutants bioaccumulate, enter the food chain and can cause chronic illnesses over time and over a much wider geographical area.
- I would also like to highlight recent research which has demonstrated the very high releases of dioxin that arise during start-up and shutdown of incinerators. This is especially worrying as most assumptions about the safety of modern incinerators are based only on emissions which occur during standard operating conditions. Of equal concern is the likelihood that these dangerously high emissions will not be detected by present monitoring systems for dioxins. Source: <https://www.ncbi.nlm.nih.gov/books/NBK233627/>
- The only method to eliminate and minimize dioxin formation from waste management is to avoid incineration and adopt alternatives.
- For Australia to comply with its international obligations under the Stockholm Treaty on Persistent Organic Pollutants, it should not approve any incinerators.

Cleanaways EIS Confirms the difficulty in analysing Dioxins produced by Incinerators

“Methods for the analysis of these chemicals (POPS, DIOXIN) in air are not routinely available (HEPA 2020). There is no requirement for analysis of these chemicals in emissions from similar plants in Europe due to the difficulty in undertaking such analysis. As a result, there is no monitoring data available and it is not currently possible to undertake a detailed quantitative assessment.” (Health Risk Assessment Pg 42)

Dioxins need to be continuously monitored due to the serious health concerns for the surrounding community. Cleanaways spot check method is not acceptable. If they can't be monitored they should not be released under Australia' obligations under the Stockholm Treaty.

29) Toxic Incinerator Ash Poisons Our Food Chain

“Ash and other residues from waste incineration contain dioxins, furans (PCDD/Fs) and a range of other highly toxic POPs at levels which are a threat to human health and the environment. Current management practices and regulatory threshold levels for POPs that contaminate incinerator residues are not preventing releases of POPs into agricultural settings, the food chain and the broader environment.

Waste incineration is often proposed by industries as a “solution” to waste management problems and a superior alternative to landfill. However, burning waste creates large amounts of toxic ash and other residues (approximately 30% by weight of the original waste volume) which are either dumped in landfill, on open ground and in some countries deep in underground voids”.

Source: <https://ipen.org/news/toxic-ash-poisons-our-food-chain>

30) Cleanaways Plan To Put Toxic Incinerator Ash Into Construction Products

“Overseas ash has been incorrectly thought to be benign resulting in its use in agricultural settings and construction leading to significant POPs exposure potential. Incineration destroys valuable resources and converts non-toxic material into toxic ash”.

Source: <https://ipen.org/news/toxic-ash-poisons-our-food-chain>

“In the past, even in industrial countries, improper use of fly ashes from waste incineration has led to contamination of soils rendering them unfit for livestock” (Pless-Mullooli et al., 2000).

“In developing and transition economies, ash management is a contemporary and increasing challenge leading to environmental pollution and food contamination from the incineration ashes” (Petrlik & Bell, 2017; Petrlik et al., 2018).

Cleanaway state in their Human Health Risk Assessment (Pg 15) “The project's intention over the long term is to create an opportunity in New South Wales to beneficially re-use this bottom ash within construction products.”

THE HIDDEN IMPACTS OF INCINERATOR ASH

The standards set overseas for the “useful” application of bottom ash residue are based on outdated regulations on toxicity, and may result in disastrous impacts. Notably, Weber et.al show in their publication, that animals foraging on soil which has been contaminated with bottom ash residues, can have highly toxic impacts across

the food chain.

Source: Weber et al (2015), High levels of pcdd/f, pbdd/f and pcb in eggs around pollution sources demonstrates the need to review soil standards, organohalogen compounds vol. 77, 615-618.

Waste incinerators generate highly toxic compounds which are released as residues/ash (e.g. heavy metals, dioxins, and other persistent organic compounds). These residues are then often used in so called “useful” applications as “green” solutions throughout the construction sector. However, the content of hazardous compounds in those solutions exceed the safety limits recommended by scientific researches and the [amended Basel Convention](#). Specifically, regulations are based on outdated data, posing a significant threat to human health and the environment. A truly green deal means taking all efforts to minimize the impact of hazardous compounds such as dioxins.

In the past, even in industrial countries, improper use of fly ash from waste incineration has led to contamination of soils rendering them unfit for livestock (Pless-Mullooli et al., 2000). In developing and transition economies, ash management is a contemporary and increasing challenge leading to environmental pollution and food contamination from the incineration ashes (Petrlik & Bell, 2017; Petrlik et al., 2018)

DIOXINS CONTAMINATE THE FOOD CHAIN, ENVIRONMENT AND HUMANS

“This [study](#) shows how the current weak Low POPs content Level for dioxin is resulting in poor management of waste incineration ash, allowing transboundary movement of wastes and contamination of food products such as eggs which exceed EU standards and tolerable daily intakes for humans”.

KEY FINDINGS OF THE REPORT INCLUDE:

- The amount of dioxins released (contained) in waste incineration fly ash is highly underestimated, making current exposure and risk assessments unreliable.
- Fly ash contains a wide range of other POPs including undestroyed POPs treated by waste incinerators.
- Fly ash is reused for different purposes on a broad scale, and is getting out of control and leading to POPs recycling on a massive scale through ash distribution.
- The use of incineration ash as a food additive for poultry (see the Toxic Egg Scandal in Taiwan), for agricultural use as fertilizer, or as a soil amendment is contaminating the food chain.
- Regulatory efforts to reduce dioxin levels in incineration ash are non-existent.
- Using fly ash for backfilling, embankment, and remediation of contaminated sites is creating new POPs- contaminated sites, which will each cost millions of dollars to remediate.

- Weak Low POPs Content Levels (LPCL) are allowing transboundary movement of contaminated ash with virtually no controls, spreading the contamination problem around the globe.
- Leachate tests fail to predict dioxin leaching from incineration wastes.
- There are a wide range of alternative waste management practices and waste disposal (use) technologies and techniques that can prevent formation of dioxin as occurs in waste incineration.
- Even the most strict proposal by consultants of the EU for a Low POPs Content Level (1 ppb) is under- estimating the true risk, as it does not include dioxin-like (DL) PCBs in the modeling and ignores the fact that lower levels of dioxin in soil (4 – 75 pg TEQ g⁻¹) can lead to serious exceedances of the EU standard for eggs.

31) **Storage of Toxic Incinerator Bottom Ash Onsite**

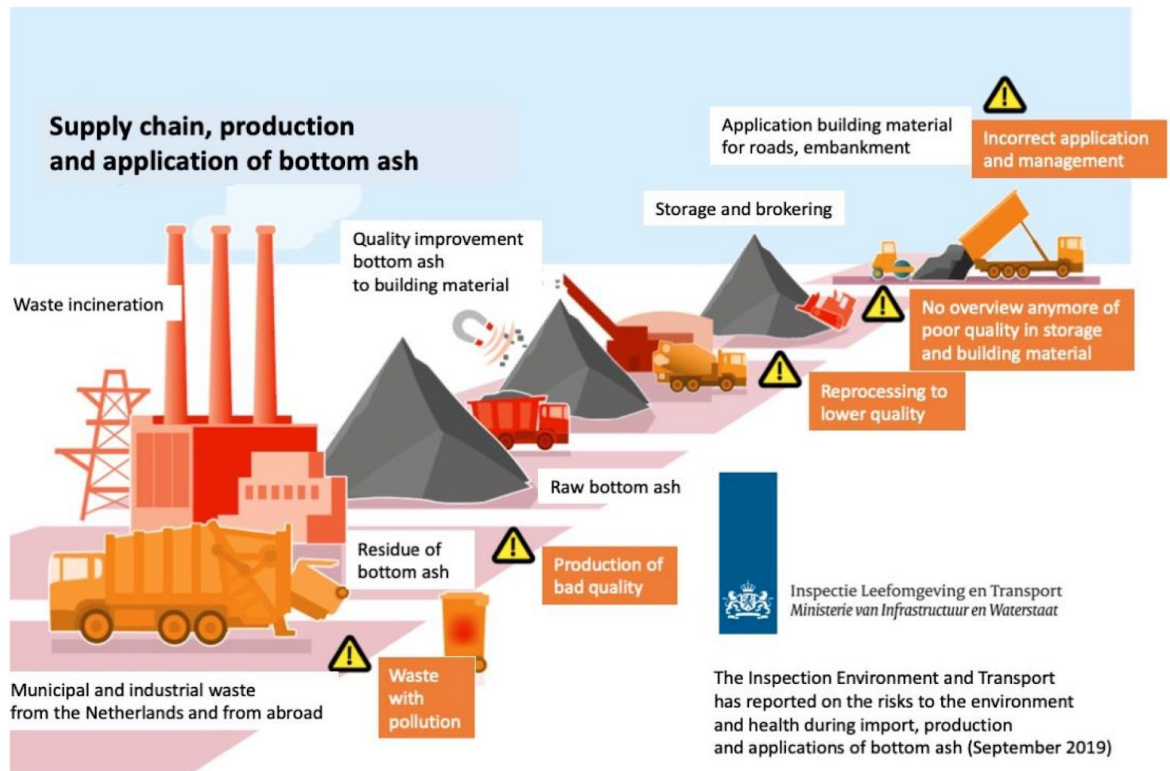
Cleanaway state in their Human Health Risk Assessment (Pg 15) “The remaining portion of Incinerator Bottom Ash (IBA) is transported using a conveyor to the ash storage hall where ash will be stored in bays with a minimum of 5 days storage capacity. IBA will be collected and transported to a dedicated ash facility. The purpose of this ash facility is storage of IBA, further metal recovery and, subject to further investigation, incorporation of the ash into construction products (either at this facility or by transporting the ash to another facility).

The Inspectorate of Human Environment and Transport of the Dutch Ministry of Infrastructure and Water Management (Ministry of Health, Welfare and Sport) released a report in September 2019 highlighting the risks of the import, production, and application of bottom ashes to the environment and human health. The diagram on the next page shows the level of perceived risk in relation to supply chain, production, and application of bottom ash. This research was supported by another government report by the Netherlands National Institute for Public Health and the Environment in September 2019 which also warned of the high damage that bottom ash has on soil, ground and surface water. Significantly, the earlier report by the Inspectorate concluded that there was a high risk of fraud coming from industry due to the negative market value of bottom ash - indicating a clear problem with current implementation of regulations.

Source:

https://zerowasteeurope.eu/wp-content/uploads/2019/11/zero_waste_europe_cs_the_hidden-impacts-of-incineration-residues_en.pdf

Figure 6. Report inspectorate 'Human Environment and Transport' (ILT 2019)



This raises serious questions about the control of toxicity in public works. There is therefore a need to ensure that hazardous substances such as endocrine disrupting compounds are not leaking out of concrete or other building materials containing bottom ash, now or in the future.

Waste incinerators generate highly toxic compounds which are released as residues (e.g. heavy metals, dioxins, and other persistent organic compounds). These residues are then often used in so called “useful” applications as “green” solutions throughout the construction sector. However, the content of hazardous compounds in those solutions exceed the safety limits recommended by scientific researches and the amended Basel Convention. Specifically, Dutch regulations are based on outdated data, posing a significant threat to human health and the environment. A truly green deal means taking all efforts to minimize the impact of hazardous compounds such as dioxins

Although current research is limited, what exists indicates strong concerns for public safety and the environment. This should prompt reconsideration over the impacts of using incineration ashes in a wide variety of applications. Until then, any “useful” application of bottom or fly ash from incineration should be suspended. Continuing to use these residues, could put our health and the environment at risk.

Samples of water were taken from near the loading locations of ash as well as reference samples (kilometres away from the loading station). The results showed elevated oestrogenic activity (stimulated changes in female reproductive organs

during the oestrous cycle), expressed as estradiol equivalent in the Era CALUX10, of water near the transshipping place. This research therefore demonstrates a significant threat to Prospect Reservoir, which forms part of the drinking water for 4.5 Million people in Greater Sydney.

Fishermen in Europe near a bottom ash loading station have testified to catching fish with abdominal growths as well as growths on the mouths of certain species of European eel (*Anguila*).

Source:

https://zerowasteurope.eu/wp-content/uploads/2019/11/zero_waste_europe_cs_the-hidden-impacts-of-incineration-residues_en.pdf

32) Cleanaway Incinerator Does Not Eliminate Landfill

“Cleanaway state in their Human Health Risk Assessment (Pg 15) “Boiler fly ash recovered downstream of pass 3 is not suitable for disposal with the inert IBA due to its higher concentration of heavy metals. So, it will be diverted to the FGTr stream to be transported for pre-treatment at Cleanaway’s hazardous solid waste treatment facility at St Mary’s. Then it will be disposed of to a licenced restricted solid waste landfill facility such as at Kemps Creek.”

33) Toxic Flue Gas Incinerator Ash Will Be Stored Onsite

Cleanaway states in their Human Health Risk Assessment (Page 15) “The current design includes two silos to allow for redundancy in the system. Flue Gas Incinerator Ash is classified hazardous due to its ecotoxicity and physical characteristics, so cannot be reused in the same way that Incinerator Bottom Ash can. FGTr is collected within the bag house filters and will be conveyed to silos for temporary storage.

34) Toxic Incinerator Ash, Transported By Truck, Further Risk Of Contamination

Cleanaway state in their Human Health Risk Assessment (Pg 15) that “Flue gas treatment residues (FGTr) contain spent flue gas treatment reagents as well as residual boiler fly ash that has remained entrained within the flue gases through the flue gas treatment stages.

“Flue Gas Treatment Fly Ash will be transported for pre-treatment at Cleanaway’s hazardous waste treatment facility located at St Mary’s before being disposed of to a licenced restricted solid waste landfill facility such as at Kemps Creek.”

Several accidents have occurred (see below photo) from transporting bottom ash by truck, resulting in direct contamination of the ground.

Figure 4. Accident with bottom ash (2011), picture by Ruben Alkema, www.scannernet.nl



About 6 days of storage will be installed on-site for collection of FGTr across the silos.” (Human Health Risk Assessment Pg 16)

6 DAYS OF HAZARDOUS WASTE KEPT IN TWO SILOS??? Examples of Dust escaping the silo - Photo in 2018 IPC Presentation.

35) Incinerator using same technology knocked back in 2018 on Health Grounds

The Cleanaway Incinerator will use the same moving grate technology as the Next Generation Incinerator that was knocked back in 2018 due to uncertainty” over the project’s human health risks, and impact on air and water quality. These incinerators are not new technology but outdated at 18 years old. The [European Union is moving away from incineration due to air emissions](#) exceeding safety levels.

36) EIS Shows no impact for The Next Generation Incinerator

How can values stay the same when factoring In the Next Generation Proposal -
Makes no sense at all - (Health Risk Assessment Pg 46)

Table 13 shows the comparison of modelled NO₂ levels and the relevant NEPM guidelines for the facility alone, the facility plus the existing/background levels and this facility plus the proposed Next Generation facility as well as the existing/background levels.

Table 13: NO₂ impacts from the project

Parameter	NO ₂ (µg/m ³)	
	1-hour average	Annual average
Guideline (NEPM 2016)	246 (0.12 ppm)	62 (0.03 ppm)
Maximum off-site location		
Contribution from project	174	1.47
Project + background	200	22
Project + background + Next Generation facility	200	22
% contribution of project to NEPM	71%	2.3%
Maximum residential location		
Contribution from project	48	1.21
Project + background	109	22
Project + background + Next Generation facility	109	22