

Submission
No 184

**INQUIRY INTO CURRENT AND POTENTIAL IMPACTS OF
GOLD, SILVER, LEAD AND ZINC MINING ON HUMAN
HEALTH, LAND, AIR AND WATER QUALITY IN NEW
SOUTH WALES**

Organisation: Lead Education and Abatement Design (LEAD) Group
Incorporated
Date Received: 25 October 2023

Partially
Confidential



How to change the gold, silver, lead & zinc mine approval system from not fit-for-purpose to one that balances the needs of all as we transition to a sustainable future in NSW

**Can proposed NSW lead mines be stopped?
What do we even need the lead for?**

This submission is in respect to:

Current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in New South Wales

Submission to: Dr Amanda Cohn, Member of the NSW Legislative Council
Lodged with the Secretariat of Portfolio Committee 2

Email: PortfolioCommittee2@parliament.nsw.gov.au (due 24 October 2023)

Parliament House, Gadigal Land

6 Macquarie St, Sydney NSW 2000

<https://www.parliament.nsw.gov.au/committees/inquiries/Pages/inquiry-details.aspx?pk=2976>

Date submitted: Tuesday 24th October 2023

This submission addresses some of the Terms of Reference:- (a), (b), (c), (c), (e), (g)(i)(iii)(iv)&(vi), (h) and (i).

I was born on Wakka Wakka Country and live and work on the sovereign unceded lands of the Dainggatti Nation and the Gadigal and Wangal people of the Eora Nation and I pay my respects to Elders, past, present and future. Always was, always will be, Aboriginal Land.

About the authors:

Author: Elizabeth O'Brien, BSc (Syd), Grad Dip Health Edn;

is the lead scientist, lead advisor and vice-president of

The Lead Education and Abatement Design (LEAD) Group Incorporated (founded in 1990).

Elizabeth O'Brien (author) is very keen to give verbal evidence at a hearing.

Editor: Ian Smith, BSc, BEng, MBA,

Is a systems analyst and volunteer for the LEAD Group Inc.

About The LEAD Group Inc

Elizabeth O'Brien co-founded The LEAD Group with two other families in Summer Hill in inner west Sydney, following the lead poisoning of her three children, mainly by lead from petrol and paint. Elizabeth has served as the full-time Lead Scientist and Lead Advisor of The LEAD Group charity now for 33 years, helping nearly 40,000 clients to solve lead problems through over 120,000 "call" (email or phone) records and development of the world's largest publicly-accessible lead library searchable database and over 6,600 referrals to experts to support this work.

The LEAD Group's Technical Advisory Board was created by Elizabeth inviting the most helpful referrals, and comprises the best experts on lead from around the world, including Australia's Professor Mark Taylor.

Elizabeth has been twice-nominated by enquirers to The LEAD Group for Australian of the Year (1996 and 2016) and is the Winner of the United Nations of Australia Association (UNAA) Award for Outstanding Service to the Environment (2004).

Under her leadership, The LEAD Group's advocacy successes include reductions in Australia's: blood lead "action" level from 25 ug/dL to 10 ug/dL and then to 5 ug/dL; and the residential paint maximum lead level from 0.25% to 0.1% and then to 0.009%; and mentoring the development of the Australian Dust Removalists Association – www.adra.com.au – the only professional body for ceiling void and other building cavity dust removalists in the world, and convincing the NSW WorkCover Authority to write a [Guidance Note for Lead Containing Ceiling Dusts](#).

Elizabeth has been working ever since achieving the elimination of leaded petrol in Australia in 2002, with the United Nations to finally achieve the global elimination of leaded petrol in September 2021.

Elizabeth O'Brien and Prof Mark Taylor have both participated in meetings of the Lead Paint Alliance of the World Health Organisation and UN since 2008 and Elizabeth successfully advocated with WHO to set up the International Lead Poisoning Prevention Week of Action in the last full Sunday to Saturday week in October, now in its 11th year.

The LEAD Group aims for a Lead Safe World by 2041.

Elizabeth O'Brien represented the community at every meeting of 8 of the 9 Working Groups of the NSW Lead Taskforce which resulted in the *NSW Lead Management Action Plan* (1994), and wrote The LEAD Group's *Submission to the NSW Parliamentary Select Committee Upon Lead Pollution* (October 1994). Subsequent to being called to give evidence, Elizabeth was then employed by the Select Committee to create an annotated bibliography of the key information in 34 file boxes of lead information subpoenaed by the Select Committee from 16 NSW Government Agencies, and further to proofread the Findings and Recommendations of the Select Committee prior to publication of the *Report Of The Select Committee Upon Lead Pollution* (December 1994).

Abstract

With Respect to Terms of Reference

That Portfolio Committee No. 2 inquire into and report on current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in New South Wales, in particular:

(a) the impact on the health of local residents and mine workers, including through biomagnification and bioaccumulation

(b) the impact on catchments and waterways, affecting both surface and groundwater destined for, local and town water supplies, including rainwater tanks, and on aquatic biodiversity

(c) the impact on land and soil, crops and livestock, including through biomagnification and bioaccumulation

(d) the adequacy of the response and any compliance action taken by the regulatory authorities in response to complaints and concerns from communities affected by mining activities

(e) the effectiveness of the current regulatory framework in terms of monitoring, compliance, risk management and harm reduction from mining activities

Building on the adage 'you cannot manage what you don't measure', there are proven, NATA lab certified environmental test and measurement processes for establishing the presence of lead in the environment, bio-accumulation of lead in the blood and bones of an affected individual and population and isotopic testing of environment samples or blood and breastmilk samples that can finger-print the mine from which the lead was extracted.

Only blood lead testing of lead workers is currently mandated in the NSW regulatory framework.

Neither the public's blood lead monitoring nor environmental sampling protocols for lead assessments are effective in prevention or timely intervention in cases of lead poisoning or contamination and are typically reactive not proactive.

Abstract with respect to Terms of Reference

(g) the effectiveness of New South Wales Government agencies to regulate and improve outcomes including:

(i) the measurement, reporting and public awareness

(iii) the ability to ensure the health of at-risk groups

(iv) the suitability of work health and safety regulations, and

(vi) the adequacy of existing work, health and safety standards for workers

While lead mining and smelting operations often test and monitor staff and worksites (e.g crib rooms and board rooms) for lead contamination, they do not accept responsibility for testing and monitoring the wider local community, nor the greater population.

Abstract with Respect to Terms of Reference

(h) whether the regulatory framework for heavy metals and critical minerals mining is fit for purpose and able to ensure that the positive and negative impacts of heavy metals and critical minerals mining on local communities, economies (including job creation) and the environment are appropriately balanced

Capture by mining interests of regulatory and political processes voids the fitness for purpose of the mine approvals process with no true independent oversight nor any authority vested in opposing views.

Production of the necessary artefacts, (EIS and so on) have become tick-the-box exercises with the EIS, bought and paid for by mining interests, its existence deemed adequate for the approval with the contents left un-considered for merit or scientific rigour.

In order to maintain fitness-for-purpose, the EIS must be subjected to peer-review processes where assertions can be verified, with statements and assumptions of the proposed Bowden Lead mine as a case in point being without scientific basis, but yet accepted and the mine approved without question.

With Respect to Terms of Reference

(i) any other related matters

This submission proposes altering the legislation to require lead metal miners (and smelter, manufacturing and recycling plant operators) to adopt a 'stewardship' position over lead across its life-cycle, including accounting for the costs of ongoing testing and medical care of the population whenever lead emissions or lead uses are not sufficiently controlled.

A true accounting of the societal damage indicates the true value of recycling lead instead of mining new lead.

Potential Solutions/Recommendations

These recommendations comprise the conclusions of the full text.

1. Change NSW legislation so that the most toxic estimated greatest weight metal ore product of any metalliferous mine proposal gives its name to the mine, In most cases, this will mean that "gold mine", "silver mine", "zinc mine" will be proposed as "lead mine" from the start of the exploration license and mine EIS process.
2. Change NSW OHS legislation re: Lead Exposure so that we no longer treat mine and other lead workers (and, due to take-home dust, their families) as second-class citizens, with no power to stop work if toxic exposures occur. Instead, adopt the current action blood lead level in use for other adults in the jurisdiction, into Lead OHS regulations, ensure families of lead mine workers are not being lead poisoned from take-home dust (through work vehicle and home dust wipe monitoring, family blood lead monitoring and in-home isotopic fingerprinting studies), and adopt the system used in NSW coal mining whereby workers are able to call out hazardous work conditions and have work stop until the Hierarchy of Controls is implemented to abate the lead and other toxic metal hazards.
3. Change NSW legislation so that lead miners are required to adopt stewardship of the mine's output across its life-cycle including collection of used lead products and final recycling into a designated lead-safe use such as radiation shielding or 100% recyclable lead storage batteries.
4. Change **from** the current NSW metalliferous mine approvals system, which based on the other Submissions I've read and the evidence I've heard at the Orange and Mudgee Hearings comprises:

Old Step One: Metalliferous mine is proposed

Old Step Two: Metalliferous mine is approved ignoring all objections

Old Step Three: Investors are found, EPA issues a licence and mine begins operation with our current lax OHS lead regulations

Old Step Four: Tiny fines and changed licence conditions re: emissions may be applied if the community notices and tests and repeatedly complains about:

- damage to or loss of indigenous heritage sites,
- lead and other toxic mine shaft air vent and open-cut mine dust emissions
- tailings dam breaks and acid mine drainage
- water overuse and water contamination
- loss of biodiversity
- increased body burdens of toxic metals in humans, livestock, wildlife, bees, crops and other plants

Old Step Five: When profitability wanes, mine site is left unrehabilitated and leaching lead and other toxic metals into the environment with all mine jobs lost.

Change **to** a metalliferous mine product stewardship system based on creating a circular economy in which toxic metals can only be mined if the life cycle is controllable such that the lead and other toxic metals are only manufactured in to 100% recyclable products which in turn are actually collected and actually recycled.

New Step One: Suspend all current approvals for gold, silver, lead and zinc new mines and mine expansions in NSW.

New Step Two: Require all current metalliferous mine operators and proponents in NSW to develop product stewardship plans over the whole life cycle of lead and other toxic metal mine products and specifically require proponents of new gold, silver, lead and zinc mines to devise alternative scenarios whereby the most abundant toxic metal that's already out there, typically lead, can be collected and recycled and manufactured and recycled again endlessly, instead of being freshly mined.

New Step Three: Investors are found and a circular economy created.

New Step Four: A NSW government-run industry-funded baseline blood lead survey of all ages and environmental survey and annual follow-up surveys are continuously run in this new stewardship era. Supply chain analysis of where NSW freshly-mined lead has gone for smelting, refining and manufacturing plus isotopic fingerprinting research is carried out within and beyond NSW borders to properly assess the economic impacts on education, crime and health costs of lead that was mined in NSW.

New Step Five: Expert analysis of the ongoing survey data, supply chain analysis and isotopic fingerprinting research conclusions is used to set and re-set priorities for industry-funded lead safety action and awareness programs not only in NSW but beyond – wherever NSW-mined lead has gone in the past.

5. The above changes could potentially be facilitated by the NSW government assigning negative points for Lead Hazard Creation and positive points for Lead Hazard Management in a system that balances Lead Hazard Creation with Lead Hazard Management; setting a target of 50% Reduction in Lead Hazards Created and a 50% Increase in Lead Hazards Managed by 2031; and a goal of Net Zero Lead Hazards Created/Managed by 2036; all the while also achieving the Paris 2015 Greenhouse Gas Emissions Reduction targets.

Submission

Can proposed NSW lead mines be stopped? What do they even need the lead for?

“You do realise that you are directly co-creating a future world don’t you?”

-Ken Wilber *Integral Meditation Ch2 Waking up: The steps to Enlightenment:*

“We’re in this together, to create a world our children and grandchildren can flourish in.” Grandma Lead

“They say it’s the people who are crazy enough to think they can change the world, who do!”

- *Australian Story* episode on ABC TV broadcast 2nd October 2023



Context

Broken Hill New South Wales (NSW) is home to the most productive lead mine in the world. NSW is the most populous state of Australia which is the world’s largest exporter of lead.

Practically all the lead that was ever added to petrol came from Australia. It’s time NSW sets the balance sheet right and makes amends for the lead we’ve already added to the world, rather than adding more.

The world is so full of mined lead, lead products in use, lead products that have yet to be phased out, lead products being dumped, lead contamination from

- lead mining,
- smelting,
- manufacturing,
- recycling and waste disposal,
- emissions from past use of leaded petrol,
- current use of leaded AvGas,
- poor management of leaded paint on billions of structures,
- lead from burning fossil fuels,
- lead from wildfires increased by climate change,
- lead from crematoria,
- lead in sewage,
- acid mine and other waste leachates,
- lead in food cycles
- and a smattering of non-anthropogenic lead from volcanoes)

that the World Bank has recently accounted for just two of the negative impacts of the lead that’s “out there” – impacts on the IQ of children and cardiovascular health of adults (when there are actually hundreds of other negative impacts of lead on

learning, crime, health and longevity) - and the results for 2019 alone are astounding:

Pure Earth Event Presented World Bank and Pure Earth Results on Lead

On **14 September 2023**, the results of a World Bank analysis on the global economic impact of lead exposure and a Pure Earth study on lead in consumer products were presented at an event hosted by Pure Earth and the Center for Global Development in New York City.

The World Bank study **published in the Lancet Planetary Health** estimated that children younger than 5 years lost 765 million (95% CI 443–1098) IQ points and that 5.5 million adults died from cardiovascular disease in 2019 due to lead exposure. 95% of the total global IQ loss and 90% of the total cardiovascular disease deaths due to lead exposure occurred in Low- and Middle-Income Countries (LMICs). The global cost of lead exposure was estimated to be US\$6 trillion in 2019 (6.9% of the global gross domestic product).

The Pure Earth **Rapid Market Screening** study found high percentages of samples exceeding relevant reference levels for lead in metallic foodware (52%), ceramic foodware (45%), paint intended for large surfaces (41%), paints for arts and crafts (11%), toys (13%), and cosmetics (12%). The presentations and recording are available **here**.

[Ref: World Health Organisation (WHO) *Eliminating lead paint matters! October 2023 edition*, 20/10/23, <https://mailchi.mp/54716a9e9259/eliminating-lead-paint-matters-october-2023?e=44da2fe22d>]

go to latest World Bank GDP 7.76% Pb figure and 5,545,000 adult deaths due to (only the) cardiovascular disease due to lead exposure and IQ pts lost and % of both these in LMIC. Then remind readers of earlier Tsai and Hatfield UN GDP 4.6% due to lead in petrol alone.

Lead exposure costs 7.76% of GDP as graphed in Slide 10 of the World Bank Powerpoint deck on “The World’s Top Toxin: Lead” at <https://www.pureearth.org/lead-briefing/> and attached as filename: <Larsen & Sanchez-Triana, World Bank The Global Health Burden & Cost of Lead Exposure 20230914 Slide 10.pptx> and that most all the lead in gasoline worldwide was Australian lead.

We argue that Australian lead (we are the world’s largest lead exporter) has caused so much damage globally that it is time to stop mining lead (and the other metals typically found in lead ores like zinc, silver and gold) and start taking back the lead that is out there in the world (in ammunition, lead roof flashing, lead acid batteries etc) and returning it and recycling it as safely as is possible in Australia to create a 100% recycled lead product stream for the transition to renewables.

The impact of decisions made in NSW about whether to open a new mine that will produce lead as in the Bowdens Silver Mine near Mudgee and (presumably) the McPhillamys Gold Mine near Orange, or to expand an existing lead mine, per Cadia Lead Mine near Orange, don’t just stop in the vicinity of Orange or Mudgee. The impacts go on, down the ore transport corridor, interstate to the smelter and thence

overseas to add to the man-made disaster that is Australian lead's impacts on global intelligence and early deaths, especially in Low- and Middle-Income Countries (LMICs).

Response to Terms Of Reference

With Respect to Terms of Reference

That Portfolio Committee No. 2 inquire into and report on current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in New South Wales, in particular:

(a) the impact on the health of local residents and mine workers, including through biomagnification and bioaccumulation

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(d) the adequacy of the response and any compliance action taken by the regulatory authorities in response to complaints and concerns from communities affected by mining activities

(e) the effectiveness of the current regulatory framework in terms of monitoring, compliance, risk management and harm reduction from mining activities

I'm in awe of the quality of the submissions and witness testimonies at the Orange and Mudgee Hearings of this Inquiry, demonstrating huge time and effort being put in by local residents just because a mine was proposed in their vicinity.

Bruce Reynolds at the Orange Hearing asked why the rainwater metal results Cadia found differed so much from the results Dr Ian Wright of the University of Western Sydney obtained. The answer is that how you sample determines the metal results! The rainwater sampling protocol requires a re-write but here's what I recommend to LEAD Group Kit purchasers who use rainwater:

Collect, preferably after a heavy down pour overnight:

1. 1st flush after 9 hours non-use of the kitchen tap for rainwater
2. Flushed after flushing the tap (2 seconds)
3. Flushed for enough time to capture water that was stagnant in the water pump
4. Flushed until cooler tank water is captured

Building on the adage 'you cannot manage what you don't measure', there are proven, NATA lab certified environmental test and measurement processes for establishing the presence of lead in the environment, bio-accumulation of lead in the blood and bones of the affected individual and population and for isotopic testing of the affected environmental, blood and breastmilk samples that can finger-print the mine from which the lead was mined.

Only blood lead testing of lead workers is currently mandated in the NSW regulatory framework and neither the public's blood lead monitoring nor the environmental

sampling protocols for lead assessments are effective in prevention or timely intervention in cases of lead poisoning or contamination.

One resident of Broken Hill has contacted my free lead information and referral service over 80 times since 1996 and I published the following letter from her to a founding member of The LEAD Group's Technical Advisory Board in 1999 in LEAD Action News LANv7n1 at <https://lead.org.au/lanv7n1/L71-8.html>; and part of <https://lead.org.au/lanv7n1/lanv7n1.html> :

Dr Peter Bentivoglio is correct in his submission (and in his statement in the Mudgee hearing on 4th October 2023) that the government's idea of biomonitoring for lead exposure in children is blood lead testing at 12 months of age, then at 12 monthly intervals up to the age of 6 years, but to test at 3 monthly intervals if the blood lead level exceeds the notifiable level, currently set at 5 µg/dL in Australia and 3.5 µg/dL in the USA.

The LEAD Group's biomonitoring for lead exposure for both children and adults is a proactive strategy is aimed at never allowing the blood lead level to rise above our action level of 1 µg/dL if at all possible.

It involves baseline testing of every child at birth through testing the cord blood for lead. Then if there is any risk of lead exposure through dust inhalation, testing the baby's blood lead as early in life as is feasible.

Note that babies in Broken Hill lead mining town have been found to have elevated blood lead levels as early as at 4 months of age.

If the major pathway of lead exposure is predicted/modelled to be the more typical ingestion (hand-to-mouth) pathway, then The LEAD Group recommends the first early life blood lead test take place two weeks after crawling begins or at 12 month (whichever comes first).

All subsequent blood tests for lead should be as frequent as is required to ensure that the blood lead level never exceeds 1 µg/dL and if it does that action is taken and the blood lead level is retested within 2 weeks to determine whether the action taken was sufficient to bring the blood lead level below 1 µg/dL.

Blood lead testing is recommended for every community member if a gold, silver, zinc, tin, copper, nickel or lead mine or smelter is proposed in their area because, contrary to mining progaganda, elevated blood lead levels, i.e. blood lead levels above 1 µg/dL, are remarkably common and a silent epidemic.

The LEAD Group recommends that every Australian have a blood lead test now, and that if the result exceeds 1 µg/dL, you take action to bring the blood lead level down.

Depending on your age and what action was taken, you retest the blood lead level as frequently as is required to determine that the action was/is sufficient or that further actions are needed to bring the blood lead level down below 1 µg/dL.

Blood lead monitoring should be a part of everyone's annual health check.

Pathology labs whose equipment is so old that it can only determine that the blood lead level is less than the equipments detection limits of 2.1 µg/dL or less than 1.8 µg/dL should send their samples to labs with more modern equipment that can at worst, determine that the blood lead level is less than 1.0 µg/dL or better still, that the level is less than .02 µg/dL or lower.

World's best blood lead analysis equipment is used in the US NHANES national blood lead surveys and the lowest possible result there is "less than 0.17 µg/dL.

That is, ongoing lead mining means that no one in the world has ever been found to have a blood lead of zero.

Open-Cut Mining in the Heart of Broken Hill Causing Health & Education Problems In Broken Hill

Prof Brian L Gulson
Head of School
Graduate School of the Environment
Macquarie University, NSW 2109



Dear Sir,

I am writing with my concerns for the children of Broken Hill. I have been talking to parents of children who have developed tumors in their hip sockets and their knees. Children who have developed cysts on their ovaries, having to have their tubes removed. This really concerns me as a parent. The mother of the child who had the tumor in her hip, is only told that it is very rare, you don't hear of tumors in a child so young "developing cancer". Then some weeks later a phone call to let the parent know that they had another child from Broken Hill with the same tumor. There is growing numbers of females developing breast cancer and young males with lumps in their breast. We have a growing number of young children with mental illness attempting suicide, and young children with cognitive dysfunction. These children can't learn, and are branded as bad behavioural children or their families are blamed or they're given the label Attention Deficit Hyperactivity Disorder (ADHD).

I have read an article on heavy metals in our systems, stating that heavy metals are stored in our bone marrow. Which is why they can be a problem, but simply they reduce our body's ability to create fresh red blood cells from the bone marrow, since heavy metals are taking up the room. Is this why the children of Broken Hill are getting so ill. I am appalled at the whole cover up by Far West Health Service and the Education Department, with how much damage to children's brains has been caused through open cut mining in the heart of the city of Broken Hill. The dust spilling out over the city, the health of the community I think is a major concern. We have young children developing tumors on their lungs, having to have a lung removed. I cannot understand how they can cart this toxic material CERRUSSITE through the streets uncovered, from 1991 and are still removing it from the south mine when they know how toxic this material is. Is this why the mining company hired outside contractors to open cut this toxic material so they would not be liable if workers get sick? Workers are sick, some of the men had lead readings of 80 micrograms per decilitre (ug/dL) and had to be treated, one young lad was falling over all the time passing out, he has now been given 2 years to live:- tumor in his liver. I cannot understand how they can stockpile this

toxic material on the out skirts of town, which is now killing cattle and has contaminated a station owner's land and water supply. This station owner has been told he cannot sell his remaining cattle, and the whole thing has been swept under the carpet.

The land where the Cerussite is stock piled is a tourist spot. If you pay \$25 you can fossick and take home as much toxic material as you can carry. Young children and adults are encouraged to do so. I asked "what if a child gets sick from this material?" Their answer was "we have a \$5 million dollar insurance policy". This company is making millions out of the open cut, and as a side line is putting young children's lives at risk to feather their own nest. This makes me so angry, "but who really cares what happens to Broken Hill's children". Normandy mining company and Craig Williams will leave the town with millions, and the children will be left with no future. Their health and their ability to learn has been taken away by the sheer greed and lack of responsibility to mine safely, and to adhere to regulations.

These children have blood noses for no reason, skin rashes, head aches, nausea, depression, bowel and bladder loss (children as old as 13 years), reflux, fainting spells and the list goes on. I have contacted the Broken Hill Environmental Lead Centre with no answers. They are only concerned with 0 to 5 year old's. I have spoken to a parent whose child had a level of 48 ug/dL and because the child had turned five they did nothing for this child and this is not the only case. There are quite a lot of children over the age of 5 who have abnormal lead readings but because they're over five, the Lead Centre staff don't want to know. They say the lead readings are going down, but they are not documenting the older children where there is a problem. I have spoken to Port Pirie Environmental Lead Centre, and their children don't have the same health problems as our children are having. I was told to look at the Cadmium, Arsenic and other heavy metals that are in our children's systems.

I am concerned with the health problems our children are suffering today, and what will become of them in the future. I would appreciate any information regarding heavy metals or your input into this troubling matter.

Jenny Rowbottom
Broken Hill NSW
8/3/99

According to Andy Whitmore who wrote in *The emperor's new clothes: sustainable mining?* (2005) at [https://www.academia.edu/34300936/The emperors new clothes sustainable mining](https://www.academia.edu/34300936/The_emperors_new_clothes_sustainable_mining) :

Over the last few years, the idea of 'sustainable mining' has, thanks to industry sponsorship, been working its way into the agenda of many international processes. There is now a push in many countries to invite in multinational mining companies with the idea that there is a 'new, sustainable mining' that is different from the old, bad practices of the past. Yet what has actually changed in the industry to match this shift in rhetoric? From the perspective of mine-affected communities, nothing seems to have changed. Their land is still being taken from them without giving their free, prior and informed consent, and they are suffering the same ill effects on their ways of life, health and environment.

Evidently, nothing has changed since 2005. At least not in New South Wales.

In 2017 I received multiple phonecalls and photos sent by text then published a report from the same resident (as above) of Broken Hill explaining how even the "clean sand" provided for

children to play in (because the soil is too contaminated) is lead contaminated, at <https://lead.org.au/lanv17n4/lanv17n4-7.html> and the same resident wrote the following damning *Letter to the Editor*, *LEAD Action News - LANv17n4: Broken Hill community - data and advice needs* that I published at <https://lead.org.au/lanv17n4/lanv17n4-8.html> ; and in <https://www.leadsafeworld.com/wp-content/uploads/2017/06/LANv17n4-Lead-Safety-in-the-United-Kingdom.compressed.pdf>

Letter to the Editor: Broken Hill community - data and advice needs

Dear Elizabeth

I have just read an article about Parks in Broken Hill - how contaminated they are. They are stating that underground mining is the cause of lead contamination of local parks. This is not the case. Surface mining started at CBH mining Lease 7 after Development consents were given in 2002. Surface mining has continued from 2002 until today (2017). This is why the lead levels are spiking again.

In 2008 Bill Balding of NSW Health was quoted in the Barrier Daily Truth (newspaper) as stating that it was parents being complacent that was causing the spike in children's blood lead levels.

At the time of the surface mining there were no working Air monitors recording air lead levels. I have photos of the lease during these dates and millions of tonnes of skimps / tailings / mineralised ore have been extracted and put in rail trucks and shipped off overseas for re-processing.

All this material has been mounded and stockpiled on site for the past 100 years.



Photo: Broken Hill Line Of Lode, from Visit NSW website.

<http://www.visitnsw.com/destinations/outback-nsw/broken-hill-area/broken-hill/attractions/line-of-lode>

At that time (100 years ago) they only took the lead and silver. The stockpiled waste material contains large amounts of Zinc and other metals that was left behind during mill processing. This mill waste also contains Hexavalent Chromium which they used in the milling process.

They used cyanide and arsenic as well so all of this toxic material is in the dust that they are belching all over the town since 2002 with no environmental licences in place.

It wasn't until CBH was audited by NSW Department of Planning this year that the TEOM1 Air monitor was in operation and the surface toxic dumps were covered with a green dust suppressant.

In their audit they stated that surface mining grants had to be handed back. This was the second time that NSW Planning had asked for the licences to be handed back.

How would one go about getting a petition for the community to have independent air and soil / dust monitoring done?

Could this be done through a government grant so they can't dispute the results?

As even now when they are getting a high result they discount it, stating that the monitor has been tampered with. This has been going on since the onset of the 1990 Lead Program.

We have been told that the \$13million that was given this time was not for the children, it was to put up hazard signs in parks, etc.

I think the community should set up their own Lead and Heavy Metals Centre where parents can come and get real face-to-face info on the contamination their children are exposed to and discuss their health concerns.

As I feel the real health concerns from this toxic dust are being overlooked.

I have noticed the whole time I had my three children to doctors and paediatricians in Broken Hill, not once did they state my children had lead poisoning – they were just labelled “ADHD”.

Only when I was fed up and took them to Adelaide were they diagnosed with heavy metal poisoning and given treatment. That was the first time we knew the full extent of their toxic poisoning blood results. After their treatment they had to continue with oral DMSA which at the time was over \$400 for one month supply so that was x3.

The Dr seen in Adelaide asked why didn't the Dr in Broken Hill refer the children to a toxicologist?

Why isn't there a toxicologist visiting Broken Hill if there are so many sick children?

Even the NSW Education Department keeps the effects of Lead in the children under wraps. I took my children to Adelaide and had a Leading child psychologist complete testing to see what learning levels they were at, as I had concerns we had employed teachers for private lessons and still they were not learning. We had one teacher came from Sydney and he had concerns at how far behind these children were and the children he was teaching in Broken Hill schools.

These children in the Broken Hill School system that suffer from Lead Poisoning are LABELLED as disruptive. There is no support for them, no understanding of how damaged their Brains are from the poisoning.

Most times the Education Department blames the parents stating low social economic status or single parents or dysfunctional parents.

When I have spoken to some parents I was told one female child had a Blood Lead Level of 60ug/dL and had an enema and was not referred for any medical treatment. The child got sicker. It was the parent taking her to a private dr for the enema. No treatment was given for Lead Poisoning.

My question is: how do parents keep their children safe from Lead Exposure when the very government departments set up to protect our children are not naming it as LEAD POISONING in the children of Broken Hill.

And if the children are poisoned so too are the parents with all the health concerns as well, depression, lethargy, hypertension, anxiety, dementia, aggression, the list goes on.

Don't forget the air monitors are only tested for insoluble Lead not bio(soluble) content so if you imagine it as segmenting an orange - only 1 quarter of the lead in the sample is being recorded as "Total Lead".

So therefore the community is being deceived with the results.

Where the tax payers millions of dollars are going it is not into protecting or helping the community of Broken Hill.

Jenny Rowbotham,
Broken Hill, NSW Australia
18 June 2017.

Jenny's experience in Broken Hill from Australian lead as it is dispersed around the globe is echoed the world over but especially in Low- and Middle-Income Countries as demonstrated in the Philippines article extract below under Terms of Reference (i).

With Respect to Terms of Reference

(g) the effectiveness of New South Wales Government agencies to regulate and improve outcomes including:

(i) the measurement, reporting and public awareness

(iii) the ability to ensure the health of at-risk groups

(iv) the suitability of work health and safety regulations, and

(vi) the adequacy of existing work, health and safety standards for workers

While lead mining and smelting operations often test and monitor staff and worksites (e.g crib rooms and board rooms) for lead contamination, they do not accept responsibility for testing and monitoring the wider local community, nor the greater population. Local residents are forced to spend time and money they could be dedicating to their own careers and lives, but all this time and testing costs should be resourced by the mine proponents, who should also contribute to government funding of information services such as The LEAD Group's that the community turns to when approaches to government agencies and mine proponents prove fruitless.

In April 2012 The LEAD Group provided the Lue Action Group with a copy of the World Bank's Responsible Mining:- The Key to Profitable Resource Development and below is another example from 2013 of the service provided by The LEAD Group in the vacuum created by ineffective NSW government actions on lead mine proposals which give mine proponents free reign to promise what they think the community wants to hear yet which the proponent has no obligation to provide.

In the case of Kingston Bowdens Silver Mine proposal, I actually advised their consultant that replacing lead washers and lead flashing with non-lead products on rainwater collection roofs in the vicinity of the proposed mine would reduce lead in rainwater tanks but they evidently preferred to have their neighbours continue to drink leaded rainwater so that the mine emissions might seem minor in comparison.

QUESTION

From: Jayne Bentivoglio

Sent: Sunday, February 17, 2013 1:43 PM

To: The LEAD Group

Subject: Question for Prof Taylor re: stats on dust from opencut silver and lead mines and the impact it will have on olives and olive oil production

First_Name: Jayne

Last_Name: Bentivoglio

Organisation: Rylstone Olive Press + Bentivoglio Olives

Comments:

This is a Question for Prof Taylor.

Prof Taylor could you please provide the stats on dust from opencut silver and lead mines and the impact it will have on olives and olive oil production.

There are a number of growers within a 6 mile radius to the Bowden mine in direct line of prevailing winds. We are a family business with an extensive olive and olive oil processing facility and we process for a large number of olive growers in the Central Tablelands. We have invested significantly in our olives for the health benefits of extra virgin olive oil and the potential risks to our business is significant if this mine receives a Licence.

Lead dust and Cadmium dust fallout will contaminate the olive trees and subsequently the fruit and the high quality extra virgin olive oil and Table Olives produced in this area therefore rendering all trees and crop production worthless. Let alone the cattle and sheep grazing properties and the families with businesses associated with this.

What EIS has been provided by Bowden Pty Ltd and does it incorporate Olive Oil processing, olive oil production, olive food crops, cattle and sheep grazing within the dust fallout area?

ANSWER

From: The LEAD Group

Sent: Tuesday, February 19, 2013 10:10 AM

To: Jayne

Cc: Mark Patrick Taylor

Subject: Does the EIS provided by Bowden Pty Ltd incorporate Olive Oil processing etc?

Dear Jayne,

I sent your enquiry to Professor Taylor and he replied:

"I have not seen the EIS - has the person contacted the Lue Action Group [www.lueactiongroup.org] to see if they have a copy?

"The dust fall out pattern can affect really large areas, especially in smelter cities. However the fallout's effect tends to be most pronounced over ~ 4km (based on my Mt Isa work)."

I then phoned _____, Manager, New Projects, Kingsgate Bowdens Pty Ltd, Kingsgate Consolidated Limited and took the following contemporaneous notes of his reply to my question: does the EIS take into account Olive Oil processing, olive oil production, olive food crops, cattle and sheep grazing within 6 kms [that was my error, I realize now I should have said miles] of the mine site? He said something like [not verbatim]:

"The EIS probably doesn't take olives into account - I'd think less than a km would be the extent of the wind & the effects of fallout haven't been envisaged more than 3-4 kms away. Cattle & sheep will be grazed on the areas of land that we own that remain grassed around the mine. The only olive grove I know is 15 kms away but perhaps I have the distance wrong. The further away from the operations the less impact. Talk _____ who will be at the Rylstone Show in a couple of weeks. Phone him on _____ about olives and also about the samples in household water tanks re flashing and lead washers etc."

I then phoned _____, Environmental Consultant (for on-site environmental issues), Bowdens Silver Mine Project at Lue, Kingsgate Bowdens Pty Ltd, who replied to the same question, something like:

"The EIS won't be finished for several months & it's proposed that we'll study the uptake of metals including lead & including settling of dust on grass & the only olive grove I know, with a 60 ML dam, I'll test his rainwater water & sediment & I'll test his dam. 82 rainwater tanks have had water tested before cleaning and for those 62 tanks that were cleaned, after cleaning, including testing the sediment and I'll do a newsletter article when the report is out and email both to you. There's no probability of dust coming from the mine site or soil around the site. We've seen lead in tanks where there is lead flashing or paint or washers on the roof and where there is a rusty iron roof you get cadmium as well, but only in small amounts. Lead is very insoluble. We've found 14 - 4000 or 5000 mg/kg in sediment but unless it's over 800 mg/kg in the sediment you won't have detectable lead in the water. The detection limit is 0.001 mg/L. We know that if sediment goes into the stomach the metals will be stripped out by the stomach acid, but mostly the sediment doesn't get into the water so is not generally imbibed.

There may be some sediment entrainment near the tank outlet or within a day of stormwater going in. We recommend a first flush device anyway which limits the sediment buildup. Then filter the water or thirdly put in an ion exchange system which costs \$2-300 and \$60 for the filters which last several mths. And we recommend repainting lead flashing. [I advised instead that they recommend replacing lead flashing with non-lead flashing such as Wakaflex, because we've never found a paint company that will guarantee their paint will adhere to lead flashing for more than a few years.] We will look at metal uptake in plants and we're aware of some results of stock that have been grazing on undisturbed soils for 30 yrs.

We would monitor olives and grapes (which are further away than the one olive grower I know of) and if they want us to check the dust levels on the olives and grapes once before and at least once after the mine opens, we could do that but if the first post-mining results are not detectable, we wouldn't continue to monitor that. It costs \$350 to clean a tank and we're paying for that plus the cost of analysis, so it's not an insignificant cost."

I hope this helps. Please make further contact if other questions arise.

Yours Sincerely

Elizabeth O'Brien

Manager, Global Lead Advice & Support Service (GLASS) run by The LEAD Group Inc.

www.lead.org.au

"We give lead knowledge today to guide your actions towards a lead-safe tomorrow"
[end of my email to Jayne Bentivoglio]

What sort of jobs are created by the lead industry?

We know they are evanescent, disappearing as soon as the profits wane, but what else does it cost the worker to work with lead?

Ken Wilber writes in Chapter 3 *Showing Up: The Many Perspectives of Consciousness* in the Book: *Integral Meditation* (2020):

The famous polling company Gallup conducted a world-wide survey asking people what is most important for their happiness. The answer given most often was not money, not family or marriage, not fame, rather it was a good job: work that is meaningful, purpose-driven and valuable. As the Chairman of Gallup Inc stated: "what the whole world wants is a good job. This is one of the most important discoveries Gallup has ever made."

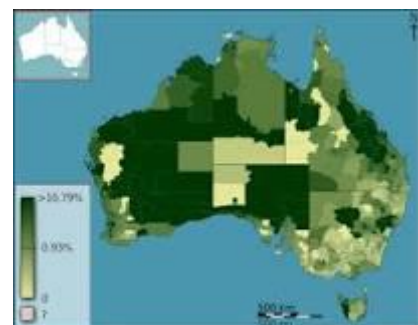
When I spoke at the Port Pirie International Lead Conference Sept 28-30, 2003, another presenter, Dr Yossi Berger, National Director OH&S, Australian Workers Union (AWU) impressed me with his understanding of the psychology of smelter workers there. Jennie George also said of him: "Yossi Berger has put a magnifying glass to many workplaces in many industries and has provided a texture of meaning, sometimes harsh, sometimes humorous, sometimes touching, ever thoughtful." Jennie George (The Vulgar Press - www.vulgar.com.au)

After his brilliant and witty speech at the Port Pirie lead conference Yossi was asked about parents who don't seem to care that their children have high blood lead levels. He responded that parents may be in denial if their income depends on them being so.



Calling a mine a gold mine, a silver mine, a tin mine, a copper mine or a zinc mine is a marketing technique based on the dollar signs in the eyes of the mine proponent – which metal they are going to make the most money from - because the truth, calling it by the most toxic and voluminous mine product, “a lead mine”, is so much harder to sell. So in popular culture Broken Hill is “a former gold-mining town” (eg in Desert Horizon sleepcast narrated by Eric Bana in the Headspace App) but in reality it has been and is today still the world’s most productive lead mining town.

Who owns most of the mines in Australia?



Australia's mining industry is 86% foreign owned, Although many people think BHP and Rio Tinto as Australian companies, BHP is 76% foreign owned, and Rio Tinto is 83%. Between them they constitute 70% of listed mining company resources.

Ref:

https://en.wikipedia.org/wiki/Mining_in_Australia#:~:text=Australia's%20mining%20industry%20is%2086,of%20listed%20mining%20company%20resources

Glencore recently announced the closure of its Mt Isa (lead, called) Copper Mine by 2025 affecting 1200 workers and made no announcement about Glencore helping those workers to find other work, even after the Queensland government announced a \$50m package to assist. Is a job which you can lose as soon as the overseas mine operator finds that the ore quality is too low to turn a profit, a good job?

If governments wish to prop up industry, create good jobs AND protect local communities, land, air, water, wildlife, etc from lead and other toxic metals and emissions from gold, silver, zinc and lead mining and smelting, they should give more support to brass, lead, zinc, silver and gold collection and recycling industries, companies which rehabilitate heavy metal mine and smelter sites and require proponents of new gold, silver, zinc and lead mining sites to also create within Australia, the smelting and refining capacity to deal with our own toxic mining products. When proponents realize that they cannot design smelting and refining operations which comply with Australia's OHS and Environmental protection regulations (even if they claim they can comply with the lax mining OHS and Environmental protection regulations), then they should be advised by government to either invest in existing gold, silver, zinc and lead mining and smelting companies (to satisfy their greed) and invest in metals recycling (from collected brass, bronze, lead products, etc), environmental clean-up of lead contaminated sites including the ceiling void and other building cavities of every residence, child care facility and school in every lead mining or smelting community as well as those built prior to 2002 when leaded petrol was finally phased out in Australia, and in lead-safe removal, transport and recycling of the lead in the paint debris removed from every residence painted prior to 1997 when the lead limit in new residential paint sold was reduced to 0.1%, etc.

Let's switch the mine approval process from one where, if you propose it, it will be approved, to one where if you propose it, you'll first need to prove that no harm will come to the land and waters, animal and plant life all around the mine site; that for the entire life of all the mine waste and mine products, you'll achieve zero harm from toxic metals, net zero carbon emissions, stewardship of toxic metals until the end of time, and collection and safe management of lead products and leaded wastes in a circular economy that's transitioning to 100% renewable energy.

Lead mine operators today are still in the pre-Anthropocene paradigm of only operating when there's a profit to be made, making any concept that they care about mine workers' livelihoods a nonsense. Example:

Mr. Fairweather, the general manager of the respondent [Broken Hill South Ltd], ... said that the mine could be worked profitably again if the price of ore rose to thirty pounds sterling per ton, the use of lead was increasing, no new lead mines were being discovered, and the possibilities of such a price, although rare in the past, would not be so remote in the future.

[Ref: Federal Commissioner of Taxation v. Broken Hill South Ltd, 65 CLR 150, 1941 - 1107C – HCA, (Judgment by: Williams J) Between: Federal Commissioner of Taxation And: Broken Hill South Ltd. Court: High Court of Australia,

[https://www.ato.gov.au/law/view/document?Mode=type&TOC=%2205%3ACases%3AHigh%20Court%3A1941%3AFederal%20Commissioner%20of%20Taxation%20v.%20Broken%20Hill%20South%20Ltd%20-%20\(7%20November%201941\)%3A%230105%23Judgment%20by%20Williams%20J%3B%22&DOCID=%22JUD%2F65CLR150%2F00005%22](https://www.ato.gov.au/law/view/document?Mode=type&TOC=%2205%3ACases%3AHigh%20Court%3A1941%3AFederal%20Commissioner%20of%20Taxation%20v.%20Broken%20Hill%20South%20Ltd%20-%20(7%20November%201941)%3A%230105%23Judgment%20by%20Williams%20J%3B%22&DOCID=%22JUD%2F65CLR150%2F00005%22)]

Given that mine workers or indeed any workers are not immune to the health impacts of lead and cannot evolve such immunity by over exposure to lead at work, it has never been reasonable to permit workers to think that their action blood lead levels should be higher than the rest of the population. In effect, OHS regulations which permit workers blood lead levels to get to 6 or more times the non-works action level before action is taken, are treating workers as second class citizen whose future health is scarified in the name of mining company profit.

If governments required mine operators to take action whenever a worker's blood lead level exceeded 1 µg/dL, mining would quickly be recognised as not economically viable. Add in protecting the community livestock and wild life from excess lead exposure and preventing contamination of the environment, and the only possible conclusion is that lead mining is only economically viable if all involved are lead poisoned, like in Broken Hill.

By contrast, collecting gold, silver, zinc or lead items that are already out there and smelting them to produce new products, is a much safer option and with lead, has the huge benefit of reducing lead exposure e.g. reducing lead flashing with non-lead.

With Respect to Terms of Reference

(h) whether the regulatory framework for heavy metals and critical minerals mining is fit for purpose and able to ensure that the positive and negative impacts of heavy metals and critical minerals mining on local communities, economies (including job creation) and the environment are appropriately balanced

Capture by mining interests of regulatory and political processes voids the fitness for purpose of the mine approvals process with no true independent oversight nor any authority vested in opposing views.

Production of the necessary artefacts, (EIS and so on) have become tick-the-box exercises with the EIS, bought and paid for by mining interests, its contents left un-considered for merit or scientific rigour.

Corporations do not go through psychological development stages in the same way individuals do. Psychological development stages, often associated with the field of psychology, primarily apply to the cognitive and emotional growth of humans. Corporations, on the other hand, are legal entities created for economic purposes and do not possess psychological characteristics.

Corporations are subject to legal and regulatory frameworks rather than psychological development stages. The legislation and regulations governing corporations vary by jurisdiction, but they typically focus on areas such as corporate governance, taxation, employment practices, environmental responsibility, and consumer protection.

Legislation and regulation related to corporations are designed to establish the rules and standards by which they operate, protect the interests of various stakeholders (e.g., shareholders, employees, consumers), and ensure that they contribute positively to the economy and society. These laws can evolve over time in response to changes in the business environment, economic conditions, and societal expectations.

Psychological development stages, on the other hand, pertain to human development and include theories like Erik Erikson's stages of psychosocial development or Jean Piaget's stages of cognitive development. These theories describe how individuals develop psychologically and emotionally from infancy through adulthood.

While corporations do not undergo psychological development stages, they are often composed of individuals who may collectively make decisions and engage in actions influenced by their own psychological and ethical perspectives. The legislation and regulations governing corporations aim to guide and control the behaviours of these corporate entities to ensure they act in accordance with the law and in the best interests of society.

As legislation evolves to put guard rails around what society deems un-acceptable behaviours, and corporate bottom lines are impacted as a consequence, lobbying and capture of legislative processes had become the new 'coal-face' of wealth defence industry.

Australia's mining industry is **86%** foreign owned and has spent over \$541 million in the last ten years on lobbying Australian governments through its peak lobby groups, which are dominated by foreign interests.

In order to maintain fitness-for-purpose of the legislative process and counter the moneyed self-interests of the empathically stunted, the EIS and approvals must be subjected to peer-review processes where assertions can be verified. Statements and assumptions of the proposed Bowden Lead mine are a case in point, with many assertions being without scientific basis, but yet accepted and the mine approved without question.

With Respect to Terms of Reference

(i) any other related matters

This submission proposes altering the legislation to require lead metal miners (and smelter, manufacturing and recycling plant operators) to adopt a 'stewardship' position over lead across its life-cycle, including accounting for the costs of ongoing testing and medical care of the population whenever lead emissions or lead uses are not sufficiently controlled.

A true accounting of the societal damage indicates the true value of improving recycling of lead (to make all lead products 100% recyclable) while transitioning to less toxic products, instead of mining new lead.

The powers that be claim lead needs to continue to be mined for the transition to cleaner renewable energy but lead acid storage batteries are old toxic technology

which must be made more lead-safe until we can transition to new cleaner battery solutions.

Lead is ONLY still in use because its cheap (and useful). Lead is ONLY cheap because its real costs (externalities like worker health, community health, monitoring, remediation, water pollution, over-use of water resources, loss of biodiversity) are never paid by mining companies.

STOP ALL NEW LEAD MINES and expansions of existing lead mines in NSW

It is time to draw a line and STOP NEW LEAD MINES globally with the logical place to stop being Bowdens Lead Mine at Lue. It's time for the NSW govt to demonstrate to the world that it can reject (reverse the approval so easily given) the old toxic material we've mined, exported and contaminated the planet with, and start to transition to cleaner solutions to every use of lead, while at the same time collecting and recycling to fulfil all current lead needs during the transition to these cleaner alternatives.

While there's no pit at Lue, there's hope!

As the Wiradjuri man at the water ceremony at Lue after the Mudgee Mine Inquiry Hearing on 4th October 2023 said:

“Our ancestors are watching us.”

From a first nations point of view, lead should remain in the ground. Prior to white settlement in Australia, not one single indigenous person was ever lead poisoned yet every blood lead study in lead mining towns that I've ever seen where race is distinguished in the analysis, shows higher blood lead levels in Aboriginal children. Whether this is due to lead's effects on iron or Vitamin D or calcium metabolism in darker skinned people, is worthy of research.

There's enough lead, zinc, silver and gold already been dug out of the earth so let's leave the rest in the ground so as to honour Indigenous heritage, protect waterways, biodiversity, good jobs and the serenity of local residents.

From 1994 when the Ethyl Corp TEL plant closed in Nth America, the only remaining TEL Plant, Innospec in UK, was using Australian lead, and had been doing so since 1956 when it started operations. I asked then Australian Prime Minister Julia Gillard to stop Australian lead being used in Innospec's TEL but she played the free trade card to justify inaction such that, now that the century of leaded petrol use was finally ended in September 2021, it is still very likely Australian lead being used by Innospec to make the lead additive for all the Leaded AvGas sold in the world. Leaded AvGas is the final frontier awaiting our attention to achieve a global phase-out. Let us hope and pray that it does not take a century to achieve that phase-out. Australia is the top exporter of toxic lead. So besides leaded fuel, what else is Australian lead used for in the world? Our mining companies should know and be telling us. Time to clean up!



My vision is that Australia will switch from being the world's largest exporter of lead to being the world's largest exporter of lead-safety wisdom, as a way to reconcile the damage that's been caused. There are good jobs awaiting creation in the field: researchers who can figure out how to detox lead from our bodies so our brains don't age so fast and we live longer, healthier lives free from Alzheimers and other forms of dementia, cardiovascular disease, osteoporosis, hearing and balance problems which cause falls, bone breaks, etc. the world needs lead-safe hearts and brains to avert

In our lead-safe future, the only source of lead in air, will be volcanoes. Painting "Elizabeth O'Brien and the Volcano" by Tony Lennon

climate crisis. The world needs for the only lead in the air to be coming from volcanoes and wildfires and for all the lead that's ever been mined to be collected and endlessly recycled into lead-acid batteries and radiation shielding until safer storage options for renewable energy and less toxic radiation shielding take over. And we can safely bury that lead again in orphan or abandoned mines. Chat GPT says increased temperature and precipitation pattern changes can influence volcanic activity (due to glacia melting reducing pressure on some volcanos' Potentially leading to increased volcanic eruptions or the stability of volcanic slopes. (see 18/10 email below). Look for lead cycle graphic: soil/plant/wildfires/coal Biokinetics incl. intergenerational Pb. Pb mining → waste/contamination → recycling.

Skin Pb in sweat reabsorbed. Lead detox → sewage → ag. Crops.

Stewardship → Lead Credits

Privatising profits and socialising your losses. If you steward the lead you mine and buy Lead Hazard Reduction Credits you can prevent the socialisation of the disbenefits of lead mining.

In a drought-prone country heading into yet another drought it is criminally wasteful for any government agency or water authority to advise people to run their taps for 30 seconds to 2 minutes if they suspect lead is in the mains water, before drinking it. Let's be proactive and replace every water meter made from 4.5% lead brass with a zero-lead water meter, and every brass drinking water tap with a stainless steel one and recycle the lead and copper from the brass instead of mining more.

Similarly collecting all roof lead for recycling and replacing it with non-lead flashing, roofing, paint guttering, etc will not only massively reduce lead in rainwater tanks

but will reduce lead pollution in stormwater, waterway sand ocean water and sediments. Improved battery and metallic lead re-smelting and Technologies to remove/extract lead from paint, chips/debris, soil and building cavity dusts – with the kind of investments companies put into mining, could provide an endless source of recyclable lead.

Lead products that can be collected and recycled (so lead miners can gain Lead Credits) until all lead uses are phased out:

- Lead acid batteries
- Leaded ammunition
- Lead sinkers
- Lead flashing/roofing/guttering/piping lead roof void and other building cavity dusts: in inner cities and lead industry towns
- Lead paint removed from buildings and infrastructures.
- Lead radiation shielding
- Lead ballasts/weights for diving/exercise/weight vests for stability in tremor patients

How to name a mine proposal

Current formula; the metal which will generate the most profits will be chosen e.g Bowden Silver Mine, Glencore Mt Isa Copper Mine... Glencore says the quality of the ore is 0.6 to 0.2/ton grade falling. Operations at its copper smelter, George Fisher mine and smelter in Townsville will continue.

New formula, list the toxic metals in order of expected tonnage, then list the other metals in tons/ounce and name the mine by the most toxic highest volume metal, typically lead.

Lead Hazard Reduction Credits – how would that work? Credits would be generated by:

1. Lead collection
2. Paying for independent research to:
 - Prolong healthy life and slow brain ageing thru Pb detox
 - Recycle the lead in sewage instead of applying it to crops
 - Improve legislation and enforcement in LMIC black market where lead gets into spices, foods, medicines, etc
 - Develop recycling smelting, transport technologies in OECD countries to process the lead collected from LMICS and domestically.
3. Purchasing bone lead XRF (x-ray fluorescence) equipment and setting up an institute for independent research into which lead detox methods decrease the bone lead level and thus the body lead burden of cohorts such as retired lead miners and other lead workers, adults who were likely exposed to lead as children but never had a blood lead test, women experiencing menopause (which can be associated with a release of lead from bone stores but not necessarily a decrease in body lead burden due to resorption), etc. Currently, people have to travel to US or Canada for bone lead tests on these rare XRF instruments.



Given that:

“Australia’s mining industry is **86%** foreign owned and has spent over \$541 million in the last ten years on lobbying Australian governments through its peak lobby groups, which are dominated by foreign interests. Spending on lobbying by individual mining companies is not public information, but would bring this number up significantly.” (<https://australiainstitute.org.au/report/undermining-our-democracy-foreign-corporate-influence-through-the-australian-mining-lobby/>), the case in “Kabwe, Zambia, where a class action against Anglo American South Africa has been brought on behalf of 140,000 Zambian children and women for mass lead poisoning” is relevant {quote is from Katie Greenslade’s 18/10/2023 email in which she says a key judgement is expected to be handed down soon}. See Children of Kabwe website = <https://www.childrenofkabwe.com/>

Good News for Some

Lead Smelters Move from Developed to Developing Countries

Reference: The following extract is from the Greenpeace Website.

<http://www.greenpeace.org/international/en/campaigns/toxics/>

Through the years, there has been a noticeable movement by secondary lead smelters out of industrialized countries. Correspondingly, there has been a dramatic increase in lead acid battery recycling in developing countries. According to the Journal of Metals in 1987, "the inability to economically install emission controls and purchase liability insurance (has) forced the closure of over half of the secondary lead smelters (lead recycling facilities) in North America". "

But so much COULD be done to clean up lead if Lead Hazard Management Credits or “Lead Credits” for short, were introduced to encourage lead research, eg

Vermitech has won the \$50,000 first prize in the 1998 Australian Yellow Pages Business Ideas Grants, for turning sewage sludge and green waste into vermicast (worm poo), which can then be applied to crops or for the rehabilitation of mine sites and degraded soils. As part of their research Vermitech is looking at the bio-accumulation by worms of lead and other heavy metals (and other toxics). For instance, worms can reduce the selenium in sewage by 50%. Worms could be used to take up toxics from soil at contaminated sites but the dead bodies would need to be disposed of. [Information taken from a Vermitech Pty Ltd media release 25/9/1998]

Both above articles - Ref: LEAD Action News vol 6 no 3 pp 19-21, September 1998, [Good News for Some \(lead.org.au\)](http://www.lead.org.au) - <https://lead.org.au/lanv6n3/lan6n3-18.html>

On 8th September 1996, a Permaculturist from Broken Hill rang me to say: “I’m thinking of using earthworms to decontaminate soil at Broken Hill. My proposal is to use the dried carcasses and detritus from the worms as a laminated lining material in buildings requiring protection from radiation eg hospital/dental x-ray rooms.” The caller was Brett Pritchard, formerly of the now defunct Permaculture Association of

Far West NSW, now working with James Cook University, Townsville, on the BioWicked Urban Food Growing System – organic, pro-biotic, carbon-negative food waste wicking worm farm processor.

In 1997, Brendon Price founded Australian Vermiculture in Broken Hill.

These two companies could really benefit from Lead Credits funding from lead mining companies, to research whether Brett Pritchard's brilliant idea could actually work!

Having been born in 1956, I'm a child of the Anthropocene, our current geological age during which human activity has been the dominant influence on climate and the environment...the natural outcome of egocentric values which also developed our current Mining/Exploration Rights to Land. How should the laws be changed? The Australian High Court recently found, and our federal Environment Minister Tanya Plibersek agreed that coal mine expansion is legal even when species extinctions are an inevitable outcome. Australian federal and state governments currently have a vested interest in environmental destruction because mining royalties and taxes raise the value of our dollar and primary industry is the only growth industry in Australia, having lost our manufacturing industries like cars, whitegoods we are now dependent on overseas manufacturing as well as often overseas lead smelting (primary and secondary) and refining.

In the Climate Council of Australia's *Case for Fixing Australia's National Environment Law* (September 2023) at https://www.climatecouncil.org.au/wp-content/uploads/2023/08/CC_MVSA0373-CC-Policy-Brief-EPBC_V2-FA-Screen-Spread.pdf Dr Claire Rayner writes: Project proponents should be encouraged and enabled to pursue projects which minimise environmental and climate impact through detailed design guidance.

Bathurst Community Climate Action Network state in *At a time when Australia faces a climate emergency and NSW is in the face of an El Nino and accompanying bush fires and water shortage, our rivers are our life blood - Submission No 82 to NSW Parliamentary Inquiry into Gold, Silver, Lead & Zinc Mining*, at <https://www.parliament.nsw.gov.au/lcdocs/submissions/81818/0082%20Bathurst%20Community%20Climate%20Action%20Group.pdf> that:

“mining of all kinds impacts upon Australia's carbon emissions and as such contributes to the increase in global emergencies like wildfires, floods, droughts and rising sea levels.”

And Central West Environment Council (CWEC) state in *Poor performance and regulation of the Cadia goldmine near Orange and the poor assessment and approvals process for the Bowden's lead and silver mine near Mudgee - Submission No. 24 to this Inquiry* at <https://www.parliament.nsw.gov.au/lcdocs/submissions/81628/0024%20Central%20West%20Environment%20Council.pdf> :

“Climate change will reduce water availability in the Central West with longer, more severe droughts. We note that both the Bowden's and McPhillamy's

mines have been approved with insufficient water to maintain operations, including dust suppression during and extended drought”

and

https://www.parliament.nsw.gov.au/lcdocs/submissions/81907/0088%20Environmental%20Defenders%20Office_Redacted.pdf recommends:

“Climate change considerations must be embedded comprehensively in decision making across mining, planning and pollution laws in NSW.

“Recognise the right to a Healthy environment in NSW law.”

Bron Wannan’s Submission on Bowdens Silver Climate Change and Greenhouse Gas Emissions includes:

“What is the Bowdens Silver Project impact on Climate Change?”

Bowdens have not calculated their impact on Climate Change and Global Warming and to what extent they will contribute to NSW, Australian and Global CO₂ emissions.

Bowdens have only partially calculated their total Greenhouse Gas Emissions for their lead, silver and zinc mine. In addition to incorrect and incomplete calculations, because the Bowdens Silver Project is located in NSW they are allowed to reduce the reported financial impact of their emissions calculated to only those generated in NSW.

Specifically Bowdens have not calculated the Scope 3 emissions generated by the processing and smelting of the silver / lead concentrate from their mine which will be processed at Port Pirie in South Australia.”

NSW Regulations need to change to balance the rights of existing land users and end the era of orphan mine sites, unremediated mine sites and acid mine drainage. Lead Mine Proponents have to provide evidence that they can do what has never been achieved anywhere in the world, ie run a lead mine without irreversible damage and huge externalities - costs to the local environment, water, climate, wildlife, communities and global costs due to poor regulation of lead smelting and refining globally, manufacturing into leaded products and their collection and recycling globally, and due to poor management of leaded wastes including acid mine drainage from lead mining and smelting wastes.

Following the World Bank’s findings, by continuing to mine lead much less open new lead mines, is NSW / Australia committing an international crime?

Summarising the World Bank’s findings, Anke Brodmerkel in Lead Pollutants as Harmful to Health as Particulate Matter (9 Oct 2023) at

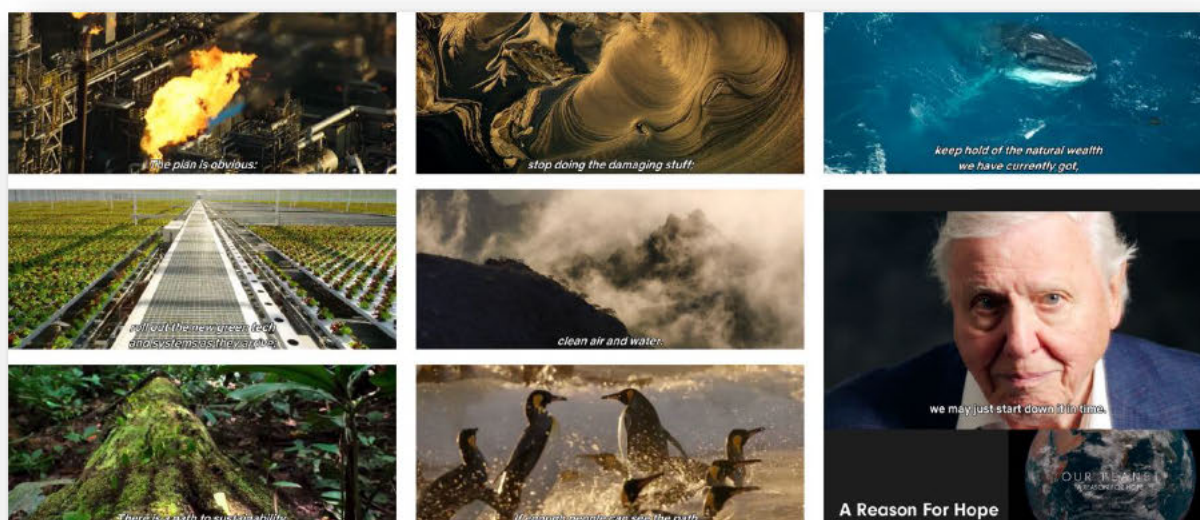
<https://www.medscape.com/viewarticle/997182?form=fpf> ; and https://www.medscape.com/viewarticle/997182?form=fpf#vp_2 writes:

As reported by Larsen and Sánchez-Triana, children younger than 5 years lost an estimated 765 million IQ points worldwide due to lead exposure in this period. In 2019, 5,545,000 adults died from cardiovascular diseases caused by lead exposure. The scientists recorded 729 million of the IQ points lost (95.3%) and 5,004,000 (90.2%) of the deaths as occurring in LMICs.

According to Larsen and Sánchez-Triana, the global cost of increased lead exposure was around \$6 trillion USD in 2019, which was equivalent to 6.9% of global GDP. About 77% of the cost (\$4.62 trillion USD) comprised the welfare costs of cardiovascular disease mortality, and 23% (\$1.38 trillion USD) comprised the present value of future income losses due to IQ loss in children.

"Our findings suggest that global lead exposure has health and economic costs on par with PM_{2.5} air pollution," wrote the authors. This places lead as an environmental risk factor on par with particulate matter and above that of air pollution from solid fuels, ahead of unsafe drinking water, unhygienic sanitation, or insufficient handwashing.

The vast majority of submissions and evidence presented to this Inquiry are from ecocentric people who've evolved beyond the egocentric epoch of the industrial revolution where greed was good and only job-creation taxes and mining royalties to government mattered. Mining companies embedded their interests in government regulation and the mine approval process in the 1950s and it's time for these regulations and the process to evolve to catch up with the values of all stakeholders



As David Attenborough says, “The plan is obvious: stop doing the damaging stuff...” ([Attenborough 2019](#)) [Video screenshots collaged by Lucinda Curran and Elizabeth O’Brien]

working together to “stop doing the damaging stuff” as David Attenborough says, to protect biodiversity, rewild the planet and most critically, to avert climate crisis.

I contend that in order to avert climate crisis, we must make the world lead-safe and that if we simply continue to create lead contamination and poisoned organisms, we will be much worse off as the planet warms. It cuts both ways: sharper minds (than lead affected minds) are needed to avert climate crisis; anyone who is already lead poisoned will be unable to survive in hotter temperatures which move lead from their bone stores back into the circulating blood where it increases the risk of fatal heart attack stroke, dementia and kidney failure. Whilst sweating is one way to get lead out of the body, the lead from sweat left on the skin can be reabsorbed trans-dermally if there’s insufficient water (due to drought) for people to shower as soon as they perspire.

The following Addendum is from *Model National Lead Safety Policy - Towards a Lead-Safe World: The LEAD Group's Proposal for National Government Policy on the Prevention and Management of Lead Exposure, Poisoning and Contamination*, by Elizabeth O'Brien, Lucinda Curran, Ananda Card, Tim Pye and Anne Roberts, with review comments by Members of The LEAD Group's Technical Advisory Board (TAB), 23 July 2023, <https://leadsafeworld.com/directory> ; <https://leadsafeworld.com/directory-model-national-lead-safety-policy/>

Global Cumulative Lead Mine Production and compared to "1000 years of Carbon Dioxide"

There is a striking similarity in the shape of the following two graphs. This Model National Lead Safety Policy aims to drastically slow the rate of cumulative lead mine production ... and eventually stop it ... In turn, the reduction in lead in humans will help to reduce carbon dioxide in the atmosphere.

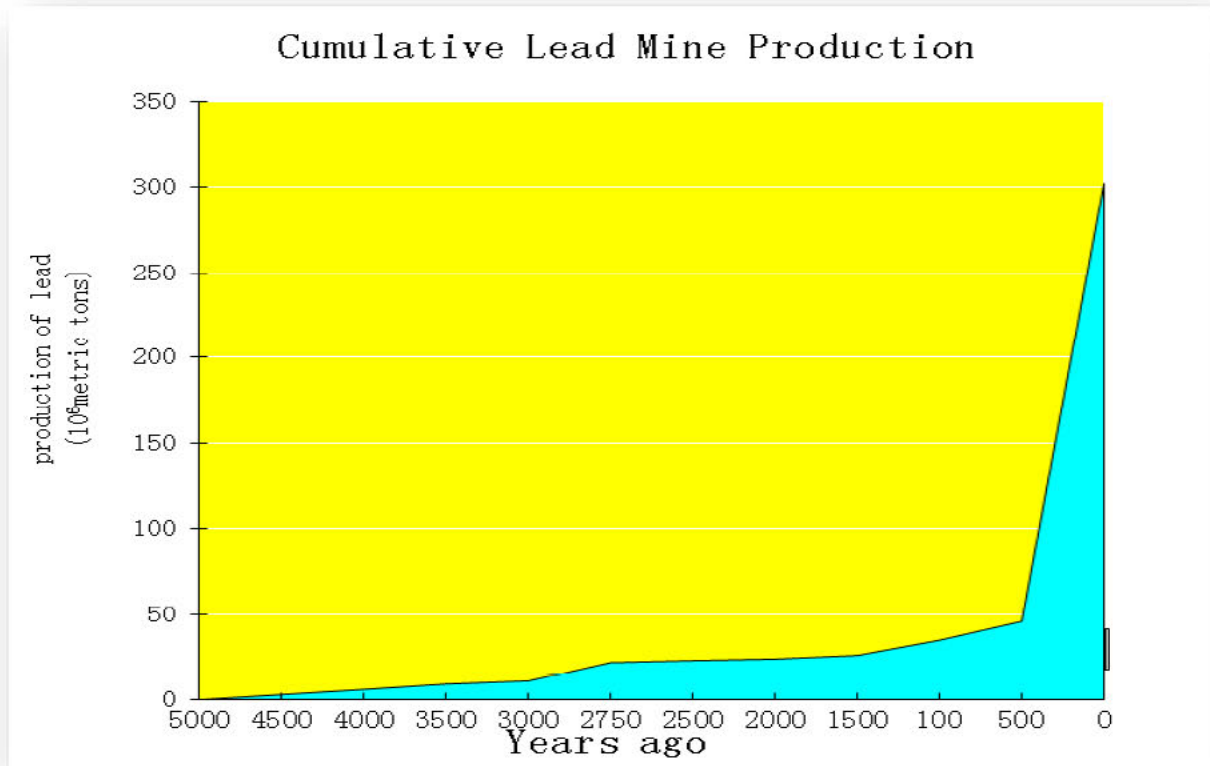


Figure 5. Cumulative production of lead over historic time. Reprinted from Flegal & Smith. (NRC 1993 Figure 1-5 page 21). Figure reprinted with permission from *Measuring Lead Exposure in Infants, Children, and Other Sensitive Populations*, 1993, by the National Academy of Sciences, Courtesy of the National Academies Press, Washington, D.C.

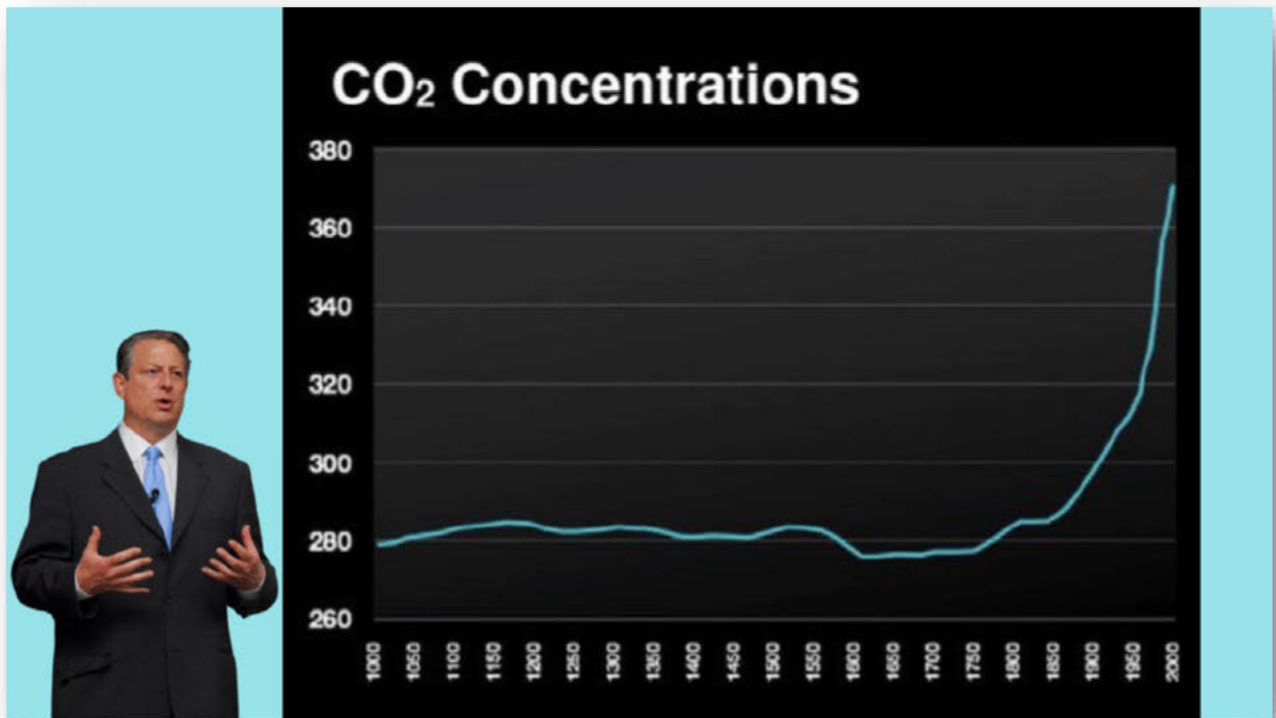


Figure 6. Al Gore's "1000 years of carbon dioxide", slide from *An Inconvenient Truth* (Gore 2006).

I'm proud that:

Every child born after leaded petrol was banned in their country, for Australia that was 2002, has a greater chance of reaching their IQ and longevity potentials and thus a greater chance of coming up with solutions to avert climate crisis.

I'm not proud that:

Every person in the world, to a greater or lesser extent carries lead from the leaded petrol era in their body. Guess where most of the lead added to petrol came from?
Answer: Australia.

Metalliferous mining requires more water than a climate changed continent can spare. Acid mine drainage and open pit mines left open at the end of mining are not compatible with environmental protection.

For those who insist that we must continue to open new lead mines the proponents should be required by government to factor the following into their plans/proposals:

They must list the percentages of all metals (including toxic metals) found in their ore plus any toxic metals that will be used to process the ore on site, and make this information publicly available

They must fund independent research into potential health impacts on any agricultural or tourist industry that is already established within a 100 km radius of the mine site.

They must fund mandatory baseline studies of lead and the other listed (as above) toxic metals in blood, beeswax, eggs, first flush and flushed tap water and the sediment from rainwater tanks, dust wipes, soil, vacuum dust, ceiling void dust and any other environmental samples (which they may later rely on to explain lead exposure) such as degraded paint, Ayurvedic medicines, dark chocolate, etc, to determine local lead sources/pathways in any community prior to a mine opening, plus follow-up testing at any point when requested by local residents.

They must be restricted to only exporting lead ore to countries with adequate OHS and environmental and community health protection (both in terms of legislation and enforcement) for smelting/refining and answer the Q: if it is not profitable to concentrate and smelt and refine and manufacture and recycle Australian lead in Australia, then how can you justify exporting anything other than actual lead products that will be returned to Australia for recycling ad infinitum under the mining company's stewardship program thus creating a circular economy?

This submission proposes a new paradigm: Australian state/territory/federal governments decide to help the world transition away from lead to cleaner alternatives, including paying for isotopic finger printing studies to help determine the real costs to human health, wildlife biodiversity, the environment of NSW-mine-sourced lead:

But the current reality is far different from that vision.

News just in from the Philippines for example, is as follows.

BAN Toxics joins the International Lead Poisoning Prevention Week of Action to End Childhood Lead Poisoning in PH

23.10.23 - Manila, Philippines - BAN Toxics, at <https://www.pressenza.com/2023/10/ban-toxics-joins-the-international-lead-poisoning-prevention-week-of-action-to-end-childhood-lead-poisoning-in-ph/>

“Approximately half of the Philippines’ 40 million children in 2021 have blood lead levels exceeding the 5 micrograms per deciliter ($\mu\text{g}/\text{dL}$) standard set by the World Health Organization, according to estimates by the Institute of Health Metrics and



Evaluation, a US-based independent health research center. This figure is

alarming and demands decisive action, given that there is no safe level of lead exposure, which poses significant health risks, especially to children,” said Thony Dizon, Toxics Campaigner of BAN Toxics....

“Exposure to lead occurs in non-industrial settings, as lead paint can be found in homes, schools, hospitals, and playgrounds. Other sources of childhood lead exposure include school supplies, toys, and childcare articles, packaging for food and drink, cosmetics, and other consumer products. Children living in communities and schools located near informal waste recycling activities are constantly exposed to toxic fumes and airborne emissions resulting from unsafe recycling of lead-acid batteries,” Dizon added.

If no freshly-mined lead was used to make new lead acid batteries, and all the lead ever spread about the planet was collected and recycled, there would be more than enough lead, without mining more, to fulfil the small role for lead acid batteries as illustrated in the following graphs from Climate Council of Australia’s *Powerful Potential: Battery Storage for Renewable Energy & Electric Cars* (2015), <https://www.climatecouncil.org.au/uploads/b5719aa238223c1b2acb126f734fc1fe.pdf>

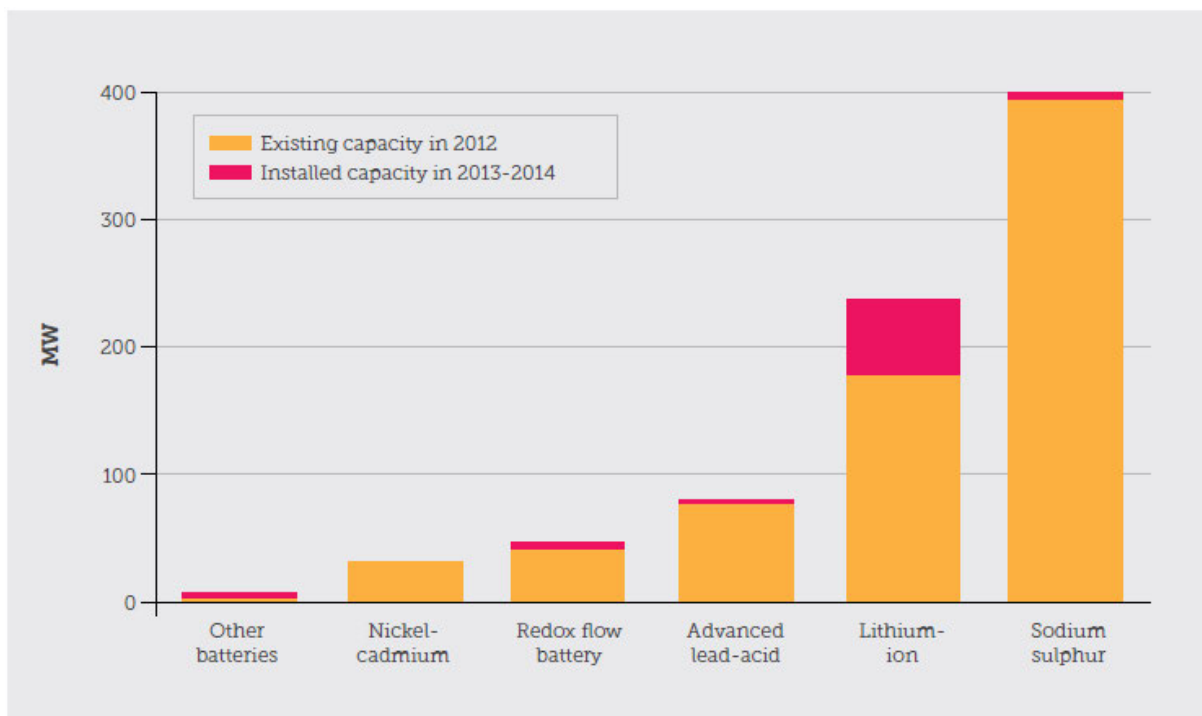


Figure 2: Estimated installed global battery capacity by type for the electricity sector. Source: Navigant Research 2014; IRENA 2015.

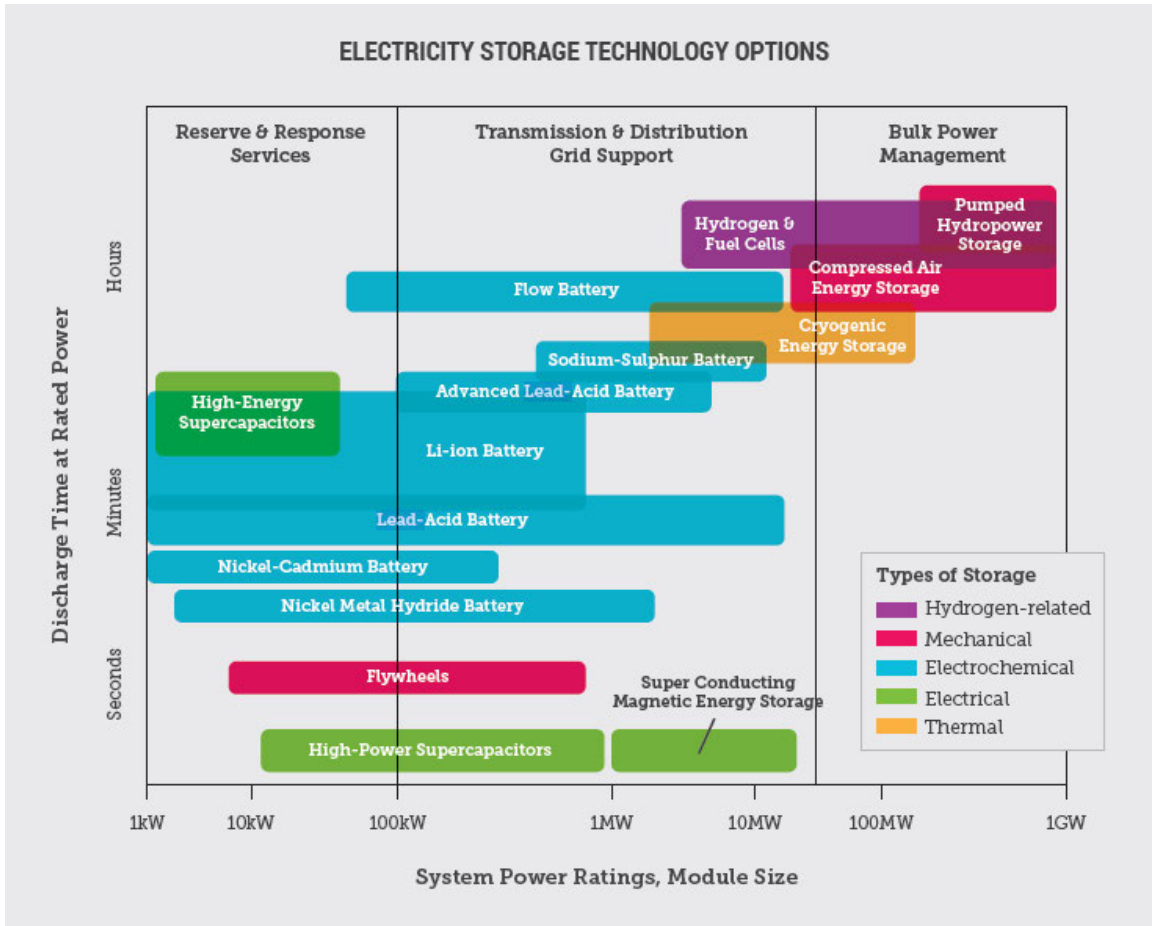


Figure 9: Characteristics of different energy storage technologies. Source: Centre for Low Carbon Futures 2012.

<END>