LEAD Action NEWS

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The newsletter of The LEAD Group Inc charity. Make tax-deductible donations at LSW Contribute page
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Australian Lead and Duty of Care

Since The LEAD Group was founded in 1991, Australia has ranked the number one exporter of lead. Once Australian lead is exported, it is then practically completely uncontrollable as to the emissions from its smelting, refining, manufacturing, recycling, being traded as leaded waste (despite the Basel Convention) or its dumping. Decisions on what it is made in to, whether it is recycled or dumped, where it goes next, and whether it is cleaned up from where it sits in every environmental medium, are random and virtually always based on short-term profit motives. Most Australians wouldn't have a clue that Australian lead has caused untold multiples worth of economic damage to the world – 7% of global GDP - and costs the world vastly more than any royalties or taxes retained in Australia for the benefit of Australians.

Duty of Care is a concept I was first taught in Teachers College but when I discovered in 1991 that my children were lead poisoned, I developed a very strong sense of not only a duty to my own children, but to all children - to protect them from lead. This global Duty of Care about the impacts of Australian lead in particular, has resulted in The LEAD Group playing a role in, among other things: the world-first phasing out of lead compounds being added to nearly all types of paint in Australia in 2021 and the slated phaseout from all types of paint in Australia by 2029; the phase-out of lead being added to petrol for motor vehicles in Australia in 2002 and globally in 2021; the annual marking, since 2013, of International Lead Poisoning Prevention Week of Action (ILPPWA) by the WHO and UN; and the "Model National Lead Safety Policy Proposal by The LEAD Group" being added to UNICEF's Partnership for a Lead Free Future (PLF) Knowledge Library.

Welcome to LEAD Action News vol 24 no 3! So much to talk about….

Volcano Art Prize 2026 Winners Announcement!

The Volcano Art Prize (VAP) 2026 Judges have chosen two Joint First Prize winners of $200 each, and 30 prize winners of a mug or bag from our wonderful sponsor Pictureproducts and you helped pick the 2026 People's Choice prizewinner. See all the prizewinners among all the entries at https://volcanoartprize.com/wp-content/uploads/2026/10/VAP-2026-Cash-Pictureproducts-Prize-Winners-Judge-Commended-among-All-Entries.pdf [LID 30028] and the penultimate article in this newsletter (so the list is on all three of our websites). **It's easy to create a VAP entry!! See Join us on our Global Lead Awareness – its easy to make a Volcano Art Prize entry! VAP 2027 entry deadline is 26th July 2027.**

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NSW Government and Duty of Care

By Elizabeth O'Brien, aka Grandma Lead, The LEAD Group Inc – some thoughts to get you alert to the multiple times Duty of Care appears in this issue of LEAD Action News, along with ways you can take belated action for International Lead Poisoning Prevention Week of Action (ILLPWA) 2026!

During my witness statement on 15th October 2026 to the NSW Independent Planning Commission's (IPCs) Panel who are deciding whether to approve a new lead mine proposal, the final question I put to the Panel arose completely spontaneously. Q: "Wouldn't you have a duty of care to refuse this mine, because of the predictable liability for the NSW Government in perpetuity?"

Here's a March 1998 Q&A from The LEAD Group's enquiries database to demonstrate a rather lax NSW governmental concept of Duty of Care.



Q: What does the NSW Mining Act say about lead? A: The Act basically says the answer to elevated blood lead levels in miners is hygiene. Managers have a duty of care but no blood lead testing is required.

Wow! Way to go to ensure lead poisoning of miners is either never confirmed or is blamed on the individual worker!!

The NSW Government has the perfect opportunity for turning over a new leaf with regards to lead duty of care when the NSW IPC Panel will decide on 9th December 2026 about the Bowdens Silver lead mine. When the proposal is rejected – send a letter of congratulations and gratitude to the 2026 IPC Panel that decided. The LEAD Group's four Submissions to the Panel have all been summarized (and illustrated) in this issue of LEAD Action News.

Sign to support the National Healthy Air Strategy for Australia

Consensus Statement and Prebudget Submission

Use the link below to add your voice to the call for a National Healthy Air Strategy.

Please click the links to access the Pre-Budget Submission and the Consensus Statement.



Thank you for adding your voice to the call for a National Healthy Air Strategy. Please share this campaign with your networks: https://safeair.org.au/national-healthy-air-strategy/

Destination Countries for Australian Lead Exports

Drafted by Google AI Assistant, orchestrated by Elizabeth O'Brien, corrected and finalized by Claude AI, orchestrated by Ian Smith, checked and edited by Elizabeth O'Brien, The LEAD Group Inc, November 7th, 2026

Australia has been one of the world's great suppliers of lead since Broken Hill lead mining began over 140 years ago. In 2024, Australia exported US$1.29 billion worth of elemental lead: US$614 million as raw ores and concentrates and a further US$678 million as unwrought lead metal (United Nations Statistics Division 2026). Where that lead goes depends entirely on which form it leaves in, and one destination, the United Kingdom, is invisible in most summary statistics despite being the largest single buyer of Australian lead metal.

Terminology explained

Lead ores and concentrates (Harmonized System code HS 2607): raw mineral concentrates from the mines, requiring smelting overseas before use.

Refined lead (HS 780110): lead smelted and refined to high purity in Australia, shipped as ingots ready for manufacturing.

Other unwrought lead, or lead bullion (HS 780199): lead that has been smelted but not refined to final purity. Nearly all of Australia's exports under this code are lead bullion sent abroad for final refining.

Combined total: ores and concentrates plus all unwrought lead (HS 2607 + HS 7801), the fullest picture of elemental lead leaving Australia.

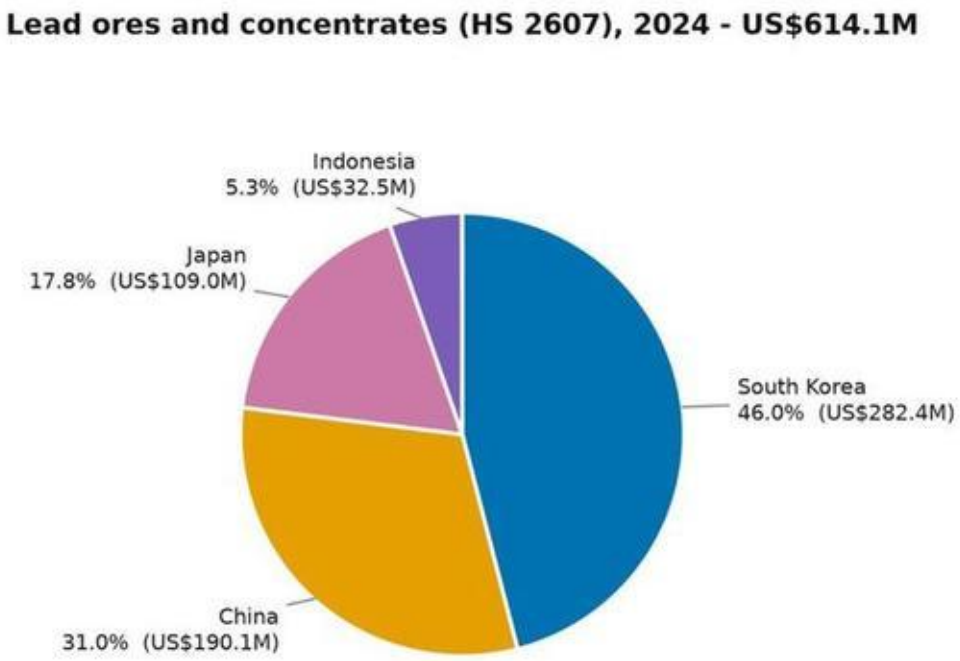


Figure 1. Australian exports of lead ores and concentrates (HS 2607) by destination, 2024. India (US$0.13M, under 0.1%) not labelled. Data: UN Comtrade, Australia-reported

Where Australian lead goes

Raw ore goes almost entirely to three East Asian smelting nations: South Korea (46.0%), China (31.0%) and Japan (17.7%), with Indonesia taking most of the remainder (United Nations Statistics Division 2026).

Lead metal tells a different story. Of the US$677.6 million in unwrought lead exported in 2024, almost half (49.0%, US$331.9 million) went to one country: the United Kingdom. Every dollar of the UK trade is lead bullion (HS 780199) shipped for final refining, while the refined ingots (HS 780110) spread across the United States, Vietnam, South Korea, the Philippines and some seventeen other markets (United Nations Statistics Division 2026).

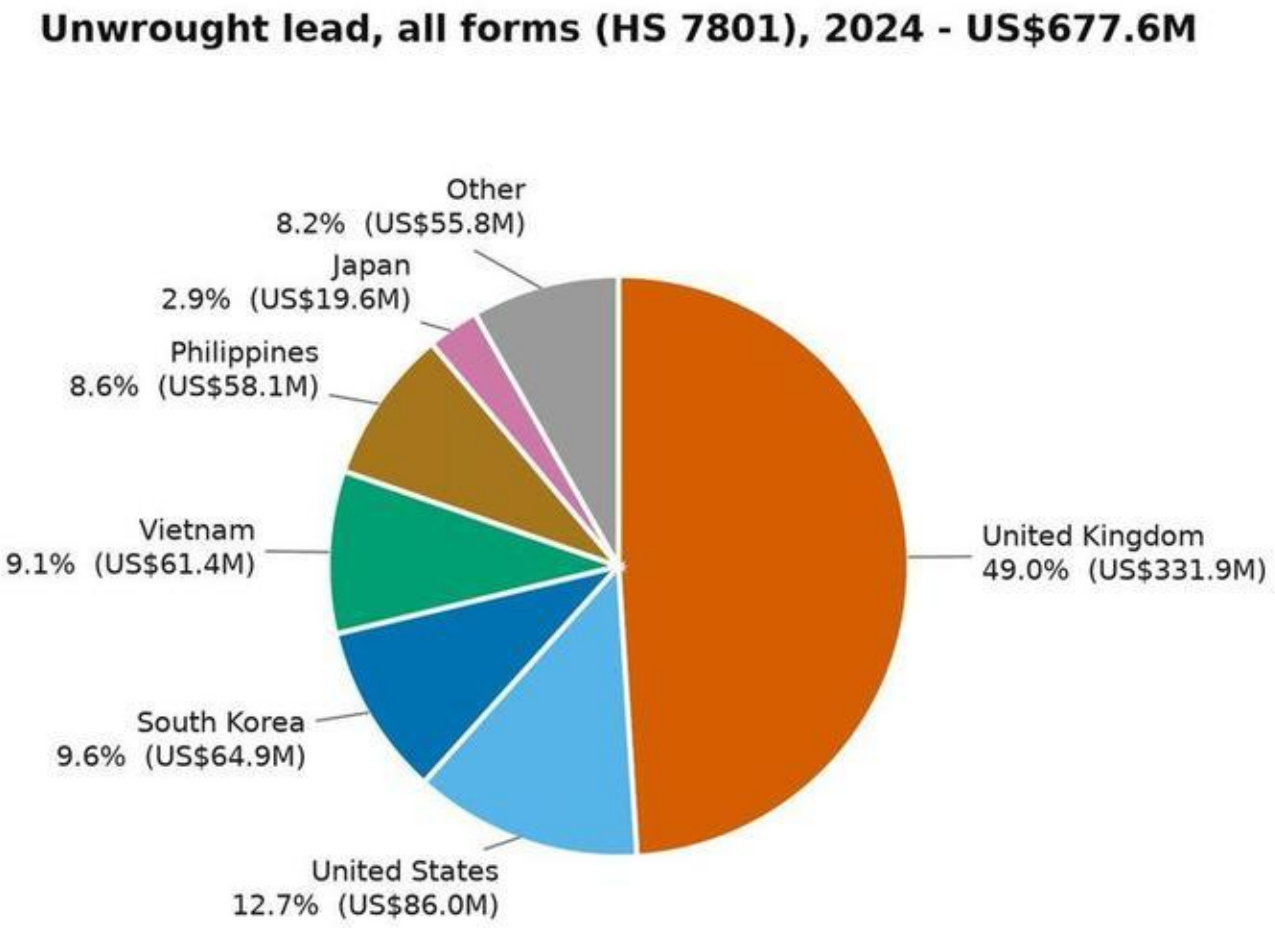


Figure 2. Australian exports of unwrought lead, all forms (HS 7801) by destination, 2024. Data: UN Comtrade, Australia-reported

Combining both categories, South Korea and the United Kingdom sit almost level as Australia's top two lead destinations, together taking more than half of everything Australia ships.

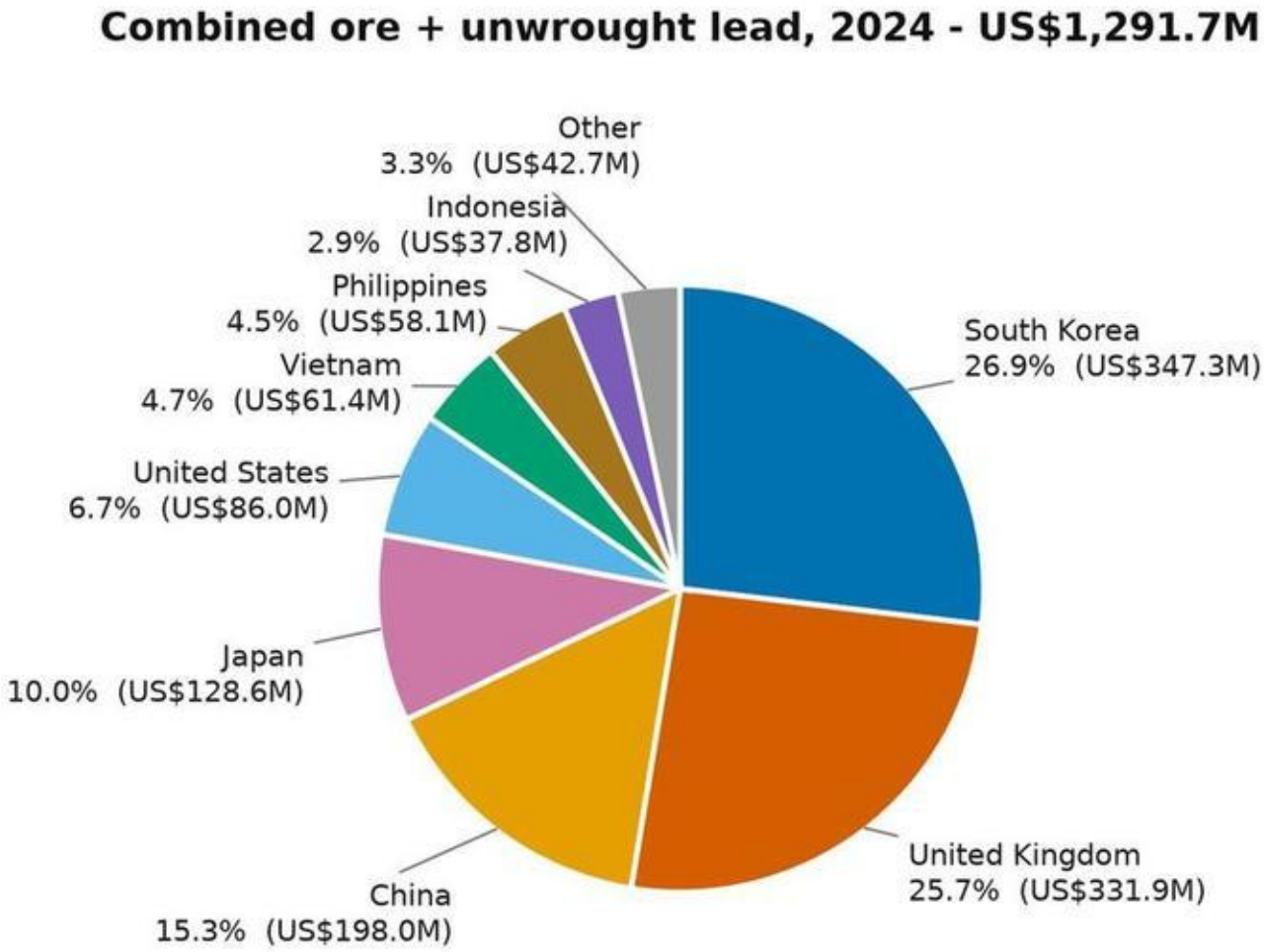


Figure 3. Combined Australian lead exports (HS 2607 plus HS 7801) by destination, 2024. Data: UN Comtrade, Australia-reported

The full 2024 figures, every destination

All values are US$ million, Australia-reported, calendar year 2024 (United Nations Statistics Division 2026). A zero means no recorded trade.

Destination	Ores & concentrates US$M	%	Unwrought lead US$M	%	Combined US$M	%
South Korea	282.35	46.0	64.94	9.6	347.30	26.9
United	0	0.0	331.93	49.0	331.93	25.7

Destination	Ores & concentrates US$M	%	Unwrought lead US$M	%	Combined US$M	%
Kingdom						
China	190.11	31.0	7.86	1.2	197.97	15.3
Japan	109.00	17.8	19.61	2.9	128.62	10.0
United States	0	0.0	85.98	12.7	85.98	6.7
Vietnam	0	0.0	61.35	9.1	61.35	4.7
Philippines	0	0.0	58.07	8.6	58.07	4.5
Indonesia	32.45	5.3	5.35	0.8	37.80	2.9
Singapore	0	0.0	17.24	2.5	17.24	1.3
Pakistan	0	0.0	8.15	1.2	8.15	0.6
Thailand	0	0.0	6.94	1.0	6.94	0.5
Taiwan	0	0.0	4.76	0.7	4.76	0.4
Mexico	0	0.0	2.63	0.4	2.63	0.2
New Zealand	0	0.0	1.52	0.2	1.52	0.1
India	0.13	0.0	0.12	0.0	0.25	0.0
Greece	0	0.0	0.44	0.1	0.44	0.0
Brazil	0	0.0	0.32	0.0	0.32	0.0
Malaysia	0	0.0	0.25	0.0	0.25	0.0
Fiji	0	0.0	0.14	0.0	0.14	0.0
Hong Kong	0	0.0	0.01	0.0	0.01	0.0
Egypt	0	0.0	0.01	0.0	0.01	0.0
Cocos (Keeling) Islands	0	0.0	0.01	0.0	0.01	0.0
World total	**614.05**	**100**	**677.63**	**100**	**1,291.69**	**100**

The United Kingdom: the destination the summary data hides

Between 2019 and 2024 Australia shipped between US$262 million and US$454 million of unwrought lead to the United Kingdom every year (111,657 tonnes in 2024), making the UK Australia's single largest unwrought-lead destination in both 2023 and 2024 (United Nations Statistics Division 2026). Yet the UK does not appear at all in the widely-quoted "refined lead" statistics, because those cover only HS 780110 and the UK trade is classified as HS 780199 lead bullion. A reader relying on the refined-lead figures alone would wrongly conclude that the United States is the top destination for Australian lead metal.

The UK connection matters for aviation. Innospec Inc., a United States company listed on NASDAQ (IOSP), states in its 2025 annual report that it believes it remains "the world's only producer of tetra ethyl lead for use in aviation gasoline", and its accounts tie tetraethyl lead (TEL) production to its site at Ellesmere Port in the UK (Innospec Inc. 2026). TEL is the additive that still makes leaded aviation gasoline (AvGas 100LL) leaded, the fuel the United States Federal Aviation Administration's Eliminate Aviation Gasoline Lead Emissions (EAGLE) programme aims to phase out by the end of 2030 (Federal Aviation Administration 2026). Trade data cannot show whether any particular tonne of Australian bullion ends up in Innospec's TEL plant; what it does show is that Australia is pouring over 100,000 tonnes of lead a year into the UK, the home of the world's last AvGas TEL factory.

The trade data does not name the consignee, but Glencore does. Britannia Refined Metals (BRM), on the Thames at Northfleet in Kent, is a wholly owned Glencore subsidiary and the largest primary lead refinery in Europe, and Glencore's own corporate pages state that its Mount Isa Mines operation in Queensland "also produces lead/silver bullion refined at Britannia Refined Metals in the UK" (Glencore n.d.). In sworn evidence to a UK planning inquiry in April 2025, BRM's own engineer spelled the chain out: the mines and smelter are at Mount Isa, the refinery at Northfleet; the crude lead is dispatched from Australia in 50,000-60,000 tonne vessels, about six deliveries a year; BRM receives 140,000 to 160,000 tonnes of crude lead per annum; and the refinery was established in 1930 for precisely this purpose, when Mount Isa's lead was first shipped to the UK for refining (Odendaal 2025). Glencore's 2025 closure of the Mount Isa copper operations did not touch the lead smelter, which continues to cast 99.6% pure lead bullion for export (Glencore Australia n.d.).

The LEAD Group documented the final link fifteen years ago. In June 2011, LEAD Action News traced the supply chain for the lead in leaded petrol, from Mount Isa, to BRM, and on: "Britannia Refined Metals Ltd supplies the lead to Innospec in the United Kingdom", then the world's only manufacturer of TEL today (Roberts and O'Brien 2011a), as Innospec still believes itself to be for AvGas. The companion editorial named, person by person, the leaders who could break that chain, from the Xstrata chief executive whose Mount Isa mine supplied the lead, to the prime ministers and presidents who could have stopped the flow of Australian lead into the lead additive for leaded petrol and of leaded petrol into the last remaining countries still selling leaded petrol (Roberts and O'Brien 2011b). None of them did. Since 1994 when the last TEL-maker in North America closed down, the UK TEL-maker has, by their own claim, made all the TEL for both leaded petrol and leaded AvGas. In 2021, the UN Partnership for Clean Fuels and Vehicles, of which The LEAD Group was a partner, finally announced the elimination of leaded petrol globally for road vehicles. But the TEL kept being made for AvGas. Now in 2026, the bullion still sails from Townsville to the Thames, the refinery that was built for it still refines the lead, and the TEL factory at Ellesmere Port still has no rival. Put plainly: it is very likely Australian lead in all the leaded AvGas in all the world, just as it was when The LEAD Group first said so about leaded MoGas (gasoline/petrol for motor vehicles) in 2011.

Claude AI's note on sources used by some AI generated overviews

The figures in this article are Australia-reported data from the United Nations Comtrade database for calendar year 2024, in which every partner country is listed and the partner values sum exactly to the world totals. Summary statistics circulating online (including AI-generated overviews citing the Observatory of Economic Complexity) draw on the OEC's BACI dataset, which reconciles exporter- and importer-reported flows and, crucially, is often quoted for refined lead (HS 780110) only, which omits the UK bullion trade entirely (The Observatory of Economic Complexity 2026).

References

Federal Aviation Administration (2026), Building an Unleaded Future by 2030: the Eliminate Aviation Gasoline Lead Emissions (EAGLE) initiative, US Department of Transportation, https://www.faa.gov/unleaded (accessed 7 November 2026)

Glencore (n.d.), Zinc and Lead, Glencore plc, https://www.glencore.com/what-we-do/metals-and-minerals/zinc-and-lead (accessed 7 November 2026)

Glencore Australia (n.d.), Our process, Mount Isa Mines, https://www.glencore.com.au/operations-and-projects/metals/mount-isa-mines/who-we-are/our-process (accessed 7 November 2026)

Innospec Inc. (2026), Form 10-K, Annual Report for the fiscal year ended 31 December 2025, US Securities and Exchange Commission, filed 18 February 2026, https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&CIK=0001054905&type=10-K

Odendaal, P (2025), Proof of Evidence on behalf of Britannia Refined Metals Limited, Northfleet Harbourside Development public inquiry, Planning Inspectorate reference APP/K2230/V/25/3360355, 22 April 2025, https://gat04-live-1517c8a4486c41609369c68f30c8-aa81074.divio-media.org/filer_public/f2/c4/f2c440e9-fe1e-4b26-982a-a57f983bab01/6_proof_of_evidence_of_paul_odendaal_-_brm_company_witness_-_22_april_2025.pdf

The Observatory of Economic Complexity (2026), BACI bilateral trade data: Australia, refined lead (HS 780110), 2024, Datawheel, https://oec.world (accessed 7 November 2026)

Roberts, A and O'Brien, E (2011a), Supply Chain for the Lead in Leaded Petrol, LEAD Action News, vol 11 no 4, June 2011, The LEAD Group Inc, https://lead.org.au/lanv11n4/lanv11n4-2.html [LID 26961]

Roberts, A and O'Brien, E (2011b), Editorial: Who will be the champion of a world free from leaded petrol?, LEAD Action News, vol 11 no 4, June 2011, The LEAD Group Inc, https://lead.org.au/lanv11n4/lanv11n4-1.html [LID 26960]

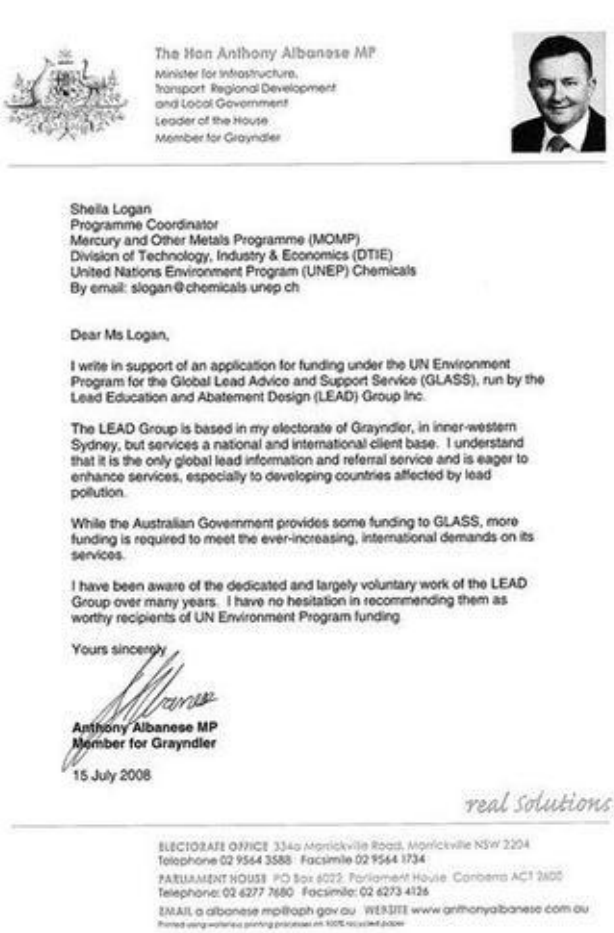
United Nations Statistics Division (2026), UN Comtrade Database: Australia annual exports of HS 2607, 7801, 780110, 780191 and 780199, 2019-2024, United Nations, https://comtradeplus.un.org (accessed 7 November 2026)

Australian Government to Prioritise Lead Safety

By Elizabeth O'Brien, Lead Scientist and Lead Advisor, orchestrated by Ian Smith, Systems Analyst, using OpenClaw on top of Claude AI and Ollama local AI models where possible, on solar-powered infrastructure. © The LEAD Group Inc. November 2026

In July 2008, a Sydney Member of Parliament (MP) wrote to the United Nations Environment Program (UNEP) in support of a small Australian charity. The Lead Education and Abatement Design (LEAD) Group Inc (now called The LEAD Group Inc) was applying for United Nations Environment Programme (UNEP) funding for its Global Lead Advice and Support Service (GLASS), and the Member for Grayndler wanted the program coordinator in Geneva to know what he thought of his constituents. "I have been aware of the dedicated and largely voluntary work of the LEAD Group over many years," he wrote. "I have no hesitation in recommending them as worthy recipients of UN Environment Program funding."

The MP was Anthony Albanese. He is now the Prime Minister of Australia. That letter, reproduced in this issue, is the starting point of a story that runs through eighteen years of correspondence and arrives, in this article, at a public commitment.



The Hon Anthony Albanese MP
Minister for Infrastructure, Transport, Regional Development and Local Government
Leader of the House
Member for Grayndler

Sheila Logan
Programme Coordinator
Mercury and Other Metals Programme (MOMP)
Division of Technology, Industry & Economics (DTIE)
United Nations Environment Program (UNEP) Chemicals
By email: slogan@chemicals.unep.ch

Dear Ms Logan,

I write in support of an application for funding under the UN Environment Program for the Global Lead Advice and Support Service (GLASS), run by the Lead Education and Abatement Design (LEAD) Group Inc.

The LEAD Group is based in my electorate of Grayndler, in inner-western Sydney, but services a national and international client base. I understand that it is the only global lead information and referral service and is eager to enhance services, especially to developing countries affected by lead pollution.

While the Australian Government provides some funding to GLASS, more funding is required to meet the ever-increasing, international demands on its services.

I have been aware of the dedicated and largely voluntary work of the LEAD Group over many years. I have no hesitation in recommending them as worthy recipients of UN Environment Program funding.

Yours sincerely

Anthony Albanese MP
Member for Grayndler

15 July 2008

real solutions

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Then Member for Grayndler Anthony Albanese's 15 July 2008 letter recommending The LEAD Group for United Nations Environment Program funding.

Asking the question

Since 1990, The LEAD Group has assisted over 40,000 people directly, built the world's largest publicly-accessible lead library, assembled an expert Technical Advisory Board (TAB), and successfully advocated for local, state and federal education, standards and legislation to protect Australians from lead. The Federal Government, meanwhile, earned a billion dollars from the two-cent price differential (suggested by The LEAD Group, No-Lead and Greenpeace) that moved drivers from leaded to unleaded petrol, and has collected lead mining royalties and taxes throughout. Australia remains the world's largest lead exporter. Yet there has been no significant federal action on lead since the 1990s, and minimal federal funding for the charity still doing the work.

So in April 2023, The LEAD Group's co-founder Elizabeth O'Brien wrote to her local federal member, now Prime Minister, asking him to help create a lead-safe Australia by 2031. The request was modest and specific:

- a grant of $100,000 to develop a national lead-safety policy in collaboration with governments and academics; and
- a purchase order of $150,000 for LEAD Group do-it-yourself (DIY) sampling lead testing Kits for young children in public housing, in lead mining and smelting towns, and in lead-acid battery manufacturing and recycling suburbs.

An automated acknowledgement arrived. Nothing else did. The letter was resent in January 2024, then updated and sent again on 12 February 2024, this time attaching the list of The LEAD Group's fabulous Technical Advisory Board (TAB) members – every lead expert willing to volunteer their expertise from Australia, New Zealand and beyond; and citing the Model National Lead Safety Policy that the TAB had helped create in 2023. The Model Policy identifies thirty-four federal ministries with a role to play in lead safety, and is freely available as a 3-page summary at https://leadsafeworld.com/natpol-SUMMARY and in full at https://leadsafeworld.com/natpol-FULL and as from February 2026, also at https://www.leadfreefuture.org/events-and-resources/knowledge-library/lead-safe-world-model-national-lead-safety-policy - the Knowledge Library of the UNICEF Partnership for a Lead Free Future of which The LEAD Group is a partner.

The answers

What came back, over the months following The LEAD Group's third and fourth requests to Mr Albanese, was a lesson in how a question can be "answered" without saying anything that actually "answers" a charity's concerns or promotes lead-safety either in Australia or globally, as is The LEAD Group's aim.

A LEAD Group client, Rosemary, sent the February 2024 LEAD Group letter to her own MP, the Independent Member for Indi, Dr Helen Haines, along with a personal letter of her own (extracts of Rosemary's redacted letter are reproduced below). The response from the Minister for Health and Aged Care, the Hon Mark Butler MP (redacted and reproduced below Rosemary's letter), enclosed the Health Department's 2019 reply to an earlier letter from Rosemary and confirmed that the advice of 2019 was "still applicable": all Commonwealth grants are offered as a result of identified need across government priorities through an open competitive process, and The LEAD Group should register on the GrantConnect website to be notified of new grant opportunities despite the promotion of lead-safety either in Australia or in Australian lead-importing countries or those countries that later receive Australian lead in various leaded waste streams like lead batteries and e-waste not having been identified as a priority of the Australian government.

Rosemary Hon Helen Haines letter 20240219 extracts re The LEAD Group Inc



Dr Helen Haines, MP helen.haines.mp@aph.gov.au

…

On 18 April 2008, acting upon that advice, I contacted The LEAD Group Inc. charity and spoke to a wonderful woman called Elizabeth O'Brien in Sydney. Ms O'Brien was the only person who could identify with my immediate concerns and offered the most appropriate professional advice when I was unable to get any other assistance/information regarding identifying the source of our son's lead toxicity from any government agency or other source at this point.

Ms O'Brien was able to quickly email me a list of contact details for NATA (National Association of Testing Authorities) accredited lead assessors in Victoria and also advised that The LEAD Group sells Kits for DIY sampling for home and school lead assessments if I was unable to get professional support.

You may be aware that the Department of Climate Change, Energy, the Environment and Water (DCCEEW) website has a booklet: *Lead Alert – The six step guide to painting your home -5th Edition* (2014). Whilst it is pleasing that this booklet that The LEAD Group helped to write and update four times is readily available online for other Federal and State government departments, it is in grave need of updating.

I read this very informative booklet online in 2008 during our investigations for the lead source for our son. At the time, the Fourth Edition of this excellent booklet unfortunately did not contain any information for NATA registered Analytical Laboratories for Lead Paint Testing in the state of Victoria, whereas the fifth edition mentions LEAD Group Kits multiple times. These Kits involve the collection of samples which are tested at a NATA-accredited lab.

Given our experience, I can seriously vouch for this Sydney-based information and referral service of The LEAD Group regarding lead exposure and contamination prevention and management. It is certainly better to talk to a highly professional and extremely knowledgeable person than frantically 'Googling' or thumbing through the 'Yellow Pages' when your child is clinically lead poisoned and his Paediatrician is urgently advising that time is essential for finding the lead source/s.

The LEAD Group and associated volunteers have a long-standing history of applying for federal funding and occasionally receiving it since beginning as the Community Lead Information Centre (CLIC) in Sydney, opened by the then NSW Health Minister Dr Andrew Refshauge in 1992 and receiving federal funding for LeadLine in 1995. In fact, then PM Malcolm Turnbull approved the most recent round of federal-based funding in FYs 2007-2013. Sadly, I never received an answer to my 18th October 2018 letter to the then Federal Health Minister Greg Hunt seeking Federal funding for The LEAD Group, so they've been unfunded for a decade.

The LEAD Group's commitment to providing appropriate advice and evidence-based information is easily available to anyone who may be affected by environmental lead, whether they are local or global, individuals/families, or community organisations (including NGOs and government). Due to volunteers, such as Ms O'Brien and countless others, The LEAD Group has achieved remarkable progress in Australian and global lead-safety via collaboration and consultation with Australian agencies and internationally recognised global health and environmental organisations such as WHO, United Nations, and NGOs such as UK-based LEAPP Alliance, Lead Aware NZ, US-based Unleaded Kids, Leadnet and global IPEN.

Despite the Poisons Information and other national call centres, such as Dulux Paints, and state and local agencies such as NSW EPA and councils, have for over 30 years referred every enquirer on lead issues to The LEAD Group, from what I understand, The LEAD Group will run out of funds by the end of March 2024.

I'm concerned that without funding, Ms O'Brien, who is the Lead Scientist and co-Founder of The LEAD Group, will be unable "to work to make the world lead-safe" due to burnout due to a lack of funding - which would provide her with much needed support staff. I am worried that we will lose this precious expertise and guidance, and families like my own will experience lead poisoning without any sound advice on testing and how to reduce lead exposure and blood lead levels.

Recently, I became aware that this organisation's application for ongoing funding to PM Anthony Albanese (see The LEAD Group letters dated 11th April 2023 and 12th February 2024 attached) have not received any response.

This is the reason for my letter to you. I am seeking your support to advocate for the $250,000 funding that The LEAD Group has requested, especially since there is a lack of support and formal structures in place in Australia to deal with the issue of lead management, by developing a National Lead Safety Policy and immediately putting LEAD Group Kits into the hands of local professionals who can help the 500 most needy Australians, especially Indigenous families to locate lead sources in their homes, childcare centres, playgrounds, schools, etc, plus receive Ms O'Brien's invaluable advice and referrals on how to totally prevent lead exposure or reduce blood lead levels in themselves and their children.

I would ask you to consider asking questions in Parliament and/or putting out a media release on The LEAD Group's need for urgent and ongoing funding.

I trust that my experience has provided you with additional insight into the valuable work, advice and information The LEAD Group provides in personal, local and global ways. I have provided contact details of The LEAD Group at the end of this letter.

…

I look forward to your reply regarding the urgent need for immediate and continuing funding for The LEAD Group and for a National Lead Safety Policy and in the meantime, I am very happy to discuss any of these other more personal matters with you anytime.

Yours sincerely
Rosemary

CC: Elizabeth O'Brien, The LEAD Group Inc

19th February 2024

_____[end of redacted letter from Rosemary]





The Hon Mark Butler MP
Minister for Health and Aged Care

Ref No: MC24-003139

Dr Helen Haines MP
Member for Indi
17 Murphy Street
WANGARATTA VIC 3677
helen.haines.mp@aph.gov.au

Dear Dr ~~Haines~~ Helen

Thank you for your correspondence of 27 February 2024 on behalf of Ms Rosemary *[surname redacted]*, regarding lead toxicity and the LEAD Group Inc.

I can appreciate Ms *[surname redacted]*'s concerns about the potential effects of lead on a person's health. I have enclosed a previous response from the Department of Health and Aged Care to Ms *[surname redacted]* in 2019.

I recognise the importance of preventing and, where required, managing exposure to hazardous substances to protect human health. All levels of government play a role in managing lead contamination to minimise the impact on the environment and people.

You may be aware the National Health and Medical Research Council (NHMRC) reviewed the evidence on the health effects and management of lead exposure in humans. The review outlined a national recommendation for all Australians to have a blood lead level below 10 micrograms per decilitre.

In addition, the NHMRC is reviewing the lead fact sheet in the Australian Drinking Water Guidelines to determine if the current health-based guideline value for lead in drinking water remains protective of health. The review considers recent guidance from other agencies, as well as recent peer-reviewed publications, on health effects from exposure to lead in drinking water. This work is being overseen by experts on the Water Quality Advisory Committee.

The Department of Climate Change, Energy, the Environment and Water is the relevant department which conducts a range of activities to assess the environmental impacts of chemicals, develops guidance on managing chemicals of concern, and works with businesses to improve the way chemicals are managed. The Minister for the Environment and Water, the Hon Tanya Plibersek MP, would be the right point of contact to raise any concerns specific to the Australian Government's management of the environment and water.

On funding, I can confirm the advice Ms *[surname redacted]* was provided in 2019 is still applicable. All funding for Commonwealth grants is offered because of an identified need through an open competitive process. I would encourage the LEAD Group Inc. to register on the whole-of-government website GrantConnect (www.grants.gov.au) to be notified of new grant opportunities as they become available.

Thank you for writing on this matter.

Yours sincerely



Mark Butler

19 / 03 / 2024

Encl (1)

cc: The Hon Anthony Albanese MP, Prime Minister
The Hon Tanya Plibersek MP, Minister for the Environment and Water
The Hon Ged Kearney MP, Assistant Minister for Health and Aged Care

_____[end of redacted letter from Mark Butler]

The Prime Minister's office referred The LEAD Group's February 2024 letter to the Department of Health and Aged Care, whose Assistant Secretary, Stephen Bouwhuis from the newly created Australian Centre for Disease Control (Australian CDC - not ACDC which is a rock band!) replied on 2nd April 2024 in almost identical terms. Register on GrantConnect. Wait for a grant to appear. The catch, as O'Brien pointed out in her next letter to the Prime Minister on 8 April 2024, is a perfect circle: unless lead safety becomes a government priority, no grant for lead safety will ever be offered, and registering on GrantConnect simply means being notified of grants for other things, forever.

The Treasury's 12 July 2024 reply pointing The LEAD Group to the Pre-Budget Submission process.



Australian Government
The Treasury

Ref: MC24-006845

Dr Elizabeth O'Brien
Lead Scientist and Lead Advisor
The LEAD Group

info@lead.org.au

Dear Dr O'Brien

Thank you for your correspondence of 12 February 2024 and 8 April 2024, originally directed to the Prime Minister, concerning funding for lead safety initiatives. Your correspondence has been referred to the Treasury. I apologise for the delay in responding.

Lead safety falls within the portfolio responsibilities of the Minister for Health and Aged Care, the Hon Mark Butler MP. I understand your letter of 12 February 2024 was referred to the Department of Health and Aged Care, and Mr Stephen Bouwhuis responded with advice regarding Commonwealth grants processes and existing work within the Department of Health and Aged Care relating to lead safety.

The Treasury supports Mr Bouwhuis' advice and is not able to provide any further information on these matters. I encourage you to engage with Minister Butler and the Department of Health and Aged Care on lead safety issues.

Other avenues for funding from Government include funding from the Budget process. The Government's Pre-Budget submission process is the official avenue for individuals, businesses and community groups to contribute ideas for priorities for the Commonwealth Budget. Submissions provided to the Government are considered as part of the development of the Budget and are important inputs into this process.

You may want to consider providing a Pre-Budget submission for the 2025-26 Budget. Details on how to make a submission will be provided on the Treasury website closer to the Budget process.

Once again, thank you for taking the time to write.

Yours sincerely

Mark Burton
Director
Budget Policy Division

CC: Office of the Hon Anthony Albanese MP, Prime Minister and Member for Grayndler

treasury.gov.au

Langton Crescent
Parkes ACT 2600
Australia

P: +61 2 6263 2111

The door left open

The LEAD Group's April 2024 letter was referred to the Treasurer, and on 12 July 2024 the Treasury's Budget Policy Division replied. Most of the letter restated what had already been said. But its fourth paragraph said something new, and it is worth quoting in full: "The Government's Pre-Budget submission process is the official avenue for individuals, businesses and community groups to contribute ideas for priorities for the Commonwealth Budget. Submissions provided to the

Government are considered as part of the development of the Budget and are important inputs into this process."

Read one way, this is another polite redirection. Read the other way, it is the Treasury telling The LEAD Group, in writing, exactly which door to walk through. Grants follow priorities. Priorities are set in the Budget. The official avenue for proposing a Budget priority is a Pre-Budget Submission. The full correspondence trail, from 2008 to 2024, is reproduced in this issue so readers can judge for themselves. Do you think an Australian government will develop the sense of a duty of care to its own citizens for relentlessly allowing lead exposure to continue from lead mining and smelting operations and from the historical lead contamination to be found in paint on industrial infrastructure and all homes built prior to 1997, and more especially, a duty of care towards the recipients of Australian lead which includes every country in the world where leaded AvGas is still used, ie every country with a general aircraft airport.

The commitment

So here is the plan, in print, where it cannot be quietly dropped.

The LEAD Group will lodge its first ever Pre-Budget Submission, for the 2027-28 federal Budget. In recent years the submission process has opened around 21 November and closed at the end of January, which means the writing starts now. The submission will ask the Government to fund what the correspondence has been asking for since 2023:

- a multi-agency lead-safety task force to turn the Model National Lead Safety Policy into national policy; and
- 
  a purchase order for LEAD Group Kits so that the families who most need lead testing, including Indigenous families in whom lead-safety has enormous potential to help Close the Gap, can get it free.

2025 Volcano Art Prize (VAP) Entry. Artist: Grandma Lead. Title: Closing the Gap. Lead-Safety Message: "The LEAD Group seeks to Close the Gap (in health, education and justice between First Nations and more recently arrived Australians) by offering a free 8-Sample LEAD Group Kit to anyone wishing to collect samples which could lead to the reduction of lead exposure in Indigenous Australians. To take up our offer, please fill in the form at https://leadsafeworld.com/free-lead-group-kits-for-indigenous-australians or phone freecall 1800 626 086." Description of Work: Message from www.leadsafeworld.com/shop/ and iPhone 13 photos of grasstree flower spikes growing closer together as they get higher off the ground, collaged in Powerpoint and Word. https://volcanoartprize.com/portfolio-item/closing-the-gap/ [LID 28941]

The economic case writes itself. In 2022, the Group of Seven (G7) nations recognised an estimate of the global cost of the health effects of lead exposure at 4.6 per cent of global gross domestic product (GDP), which for Australia implies a cost in the order of $100 billion every year. The World Health Organization reported in 2010 that every dollar spent preventing lead exposure returns between $17 and $220 in benefits. The LEAD Group's request amounts to $250,000. Few line items in any Budget would carry a benefit-cost ratio like this one.

And the 2008 letter will be quoted in the submission. The Prime Minister once had no hesitation in recommending The LEAD Group as worthy of United Nations funding. The submission will respectfully ask his Government to show the same confidence.

What you can do

Budget priorities respond to public voices. If lead has touched your family, or if you are simply astounded that no one warned you about lead paint in pre-1997 homes or lead-contaminated ceiling dust in buildings from before leaded petrol was eliminated in 2002, write a personal letter to the Prime Minister and/or your local federal MP and/or submit your own Pre-Budget Submission. Tell them how you found out about lead, why you needed to know earlier, how you came across The LEAD Group and what information or referrals you received from us that you had found nowhere else, and that you want lead safety funded in the 2027-28 Budget.

The LEAD Group's and Rosemary's letters show the way; yours could tip the balance.



2025 Volcano Art Prize (VAP) Entry. Artist: Benji Muthukrishna, Age 8, School: Creative Einstein. Title: Palm Islands Sunrise. Lead-Safety Message: "Indigenous Australians such as those living on Palm Island, are more likely to have higher blood lead levels than non-Indigenous Australians. Governments should make efforts to test blood lead levels in order to Close the Gap for a brighter tomorrow." https://volcanoartprize.com/portfolio-item/palm-islands-sunrise/ [LID 28881]

References

Albanese, A (2008) Letter to Sheila Logan, UNEP Chemicals, recommending the LEAD Group for UN Environment Program funding under GLASS, 15 July 2008, reproduced above in this issue of LEAD Action News vol 24 no 3 [LID 9598]

Bouwhuis, Stephen (2024) Reply to The LEAD Group's 12 Feb 2024 letter to Australian Prime Minister Albanese from Assistant Secretary, Australian Centre for Disease Control (CDC), Department

of Health and Aged Care, 2nd April 2024, not web-published [LID 30072]

Burton, M (2024) Letter from the Treasury Budget Policy Division to Dr Elizabeth O'Brien re consideration of a Pre-Budget submission, 12 July 2024, reproduced above in this issue of LEAD Action News vol 24 no 3 [LID 30071]

Butler, M (2024) Letter to Dr Helen Haines MP re lead toxicity and the LEAD Group Inc, 18 March 2024, redacted version reproduced above in this issue of LEAD Action News vol 24 no 3 [LID 30074]

G7 (2022) G7 Climate, Energy and Environment Ministers' Communiqué, Berlin, 27 May 2022, https://www.bundesregierung.de/resource/blob/974430/2044350/84e380088170c69e6b6ad45dbd133ef8/2022-05-27-1-climate-ministers-communique-data.pdf?download=1 [LID 27364]

Rosemary letter to Hon Helen Haines redacted extracts re The LEAD Group Inc, 19th Feb 2024, reproduced above in this issue of LEAD Action News vol 24 no 3 [LID 30058]

The LEAD Group (2023) Model National Lead Safety Policy, 3-page summary: https://leadsafeworld.com/natpol-SUMMARY and full document: https://leadsafeworld.com/natpol-FULL ; https://www.leadfreefuture.org/events-and-resources/knowledge-library/lead-safe-world-model-national-lead-safety-policy [LID 27279]

World Health Organization (2010) Childhood Lead Poisoning, WHO Press, Geneva, https://iris.who.int/server/api/core/bitstreams/7f0dabbc-d72f-4848-87bf-38f9221f956d/content [LID 13725]

LEAPP Alliance 2026 ILPPWA Report

Report to The LEAD Group Inc Annual General Meeting (AGM) held during International Lead Poisoning Prevention Week of Action (ILPPWA) 2026, slides and report by Tim Pye (TP), LEAPP Alliance, United Kingdom, with narrative from the AGM Minutes, taken by Eric Ritter (LEAD Group Secretary and Founder of DetectLead Kits, Fluoro-Spec), Oct 29th 2026.



Supporters: LEAPP now has 143 supporters. Close to half are householders (parents of lead-poisoned children and others worried about lead in their homes), with the rest including researchers, advocates, service providers, health care professionals, journalists and politicians. Most endorse the work rather than taking an active part.

Role	Count
Advocate	22
Health Care Professional	4
Householder	64
Journalist	3
Politician	2
Researcher	30
Service provider	18
Grand Total	**143**



Funding and staff: £70,000 from Coefficient Giving this year pays for a Policy and Advocacy Manager, a post held by Niamh O'Regan (pictured at right) from June to August and by Dr Monisha Gupta (pictured at left) for the rest of the year. Administration is outsourced: Social Change Nest provides fiscal hosting and Social Change Hive takes on the employer responsibilities, which also takes some liability off the committee.





This week LEAPP held a briefing in Parliament for MPs and peers. Everyone who attended went home with a "party bag" containing a free Fluoro-Spec DetectLead lead test kit, and Tim Pye thanked Eric Ritter for supplying the kits. LEAPP now has the attendees' contact details. It was a morning drop-in briefing open to anyone. About 10 people were expected and 16 came, including six MPs, a baroness and a number of staffers - the staffers are the people to reach. Security is very tight, and the DetectLead kits had to go through an off-site screening centre rather than the front door.

LEAPP had a good meeting with the Northern Ireland Department of Health, which was interested but has limited resources.

The ECLIPS pilot of at-home finger-prick blood sampling has finished. The results are being written up and are likely to be reported early next year.

The UK National Screening Committee decided against screening children for lead in 2018. This year LEAPP submitted a proposal for targeted screening of the children most at risk, using markers such as old housing and deprivation.

Dr Simon Reddy's local work on lead-safe drinking water in schools led the National Education Union to produce guidance on lead in school water pipes.

Tim attended the second annual research conference on global lead exposure in London and a workshop on lead and health with Professor Seif Shaheen of Queen Mary University. He described research using the Bradford cohort showing effects of maternal lead on children, including cognition, below 1 microgram per decilitre.

New UK services include the Fellowship of Lead Paint Assessors and the Lead Aware dust and paint analysis service. LEAPP is in talks with the campaigning law firm Leigh Day about a specialist practice for lead exposure cases. Parents Against Lead (PALs) is a private Facebook group where parents can talk confidentially.

LEAPP persuaded the Royal Institution of Chartered Surveyors (RICS) to include lead hazards in its standard home survey when a house is sold, although only about 20% of surveys are done to that standard.



Government: most replies to LEAPP's open letter to the health ministers of the devolved nations pointed to the National Screening Committee. Sharon Hodgson MP, (pictured at left). Parliamentary Under-Secretary of State for Public Health and Prevention, made the statement that it is "unacceptable that, in this day and age, anyone falls ill due to lead poisoning", and a Ellie Reeves MP (pictured at right) made comments recognising the importance of LEAPP's awareness work. DEFRA plans new guidance on decorating safely and has published a report on the risks from abandoned metal mines and smelters. The Department of Health and Social Care gave a figure of 6% of UK children above the intervention level, which LEAPP does not accept, but acknowledged possible harm below it. The UK intervention level is 5 micrograms per decilitre. The Welsh Affairs Committee wrote to the Secretary of State for Wales.



The Health and Safety Executive has proposed lowering the blood lead levels allowed for workers, especially women of reproductive age, and some industries are pushing back. Legislation to ban some lead ammunition has come into force, and evidence that lead shot is found in the natural environment fed into the consultation.

Who¤	How·Many¤
Laura·Hughes¤	8¤
Other·news·outlets¤	9¤
Researchers¤	3¤
Politicians¤	1¤
Our·associate¤	4¤

News media: there were 26 UK articles on lead exposure and poisoning this year, the largest share by Laura Hughes, the campaigning Financial Times journalist, who also made the three-part podcast "Toxic Legacy".

Ruth Jones MP had an article on lead screening published on LabourList. All are listed at https://leappalliance.org.uk/news/.

Objectives: targeted screening of children; lead in home risk assessments, including extending the Energy Performance Certificate into a wider home hazard assessment covering lead, asbestos, damp and electrical problems; more public information campaigns, especially leaflets in paint and DIY stores; and "William's Law", campaigned for by Sophie Bradley (see https://www.instagram.com/p/DeeQ7V5OpeT/) and named after her son, so that no child with pica lives in a home with lead hazards.

Tactics: news media, two documentary makers, more social media, MPs tabling parliamentary questions, forming an All-Party Parliamentary Group (APPG) on lead, writing to ministers, and a possible Westminster Hall debate.

This photo (at right) is from Tuesday's briefing with Sophie Bradley, Ruth Jones MP (who chairs the Welsh Affairs Committee) holding a LEAPP Alliance leaflet and Tim Pye of LEAPP Alliance. The UK Health Security Agency has prioritised a project looking into lead exposure and poisoning in the UK.



Tim Pye summed up the year as a lot of movement forward, but nothing "in the back of the net" yet. Elizabeth O'Brien said LEAPP is doing fantastically well!

Q&A Best bone samples for post mortem lead test

Question: What is the best site to take bones for lead analysis post-mortem? Standard procedure?



From: Dr Ananda [surname withheld], Ministry of Health, Colombo, Sri Lanka

Sent: Monday, January 30, 2017

Comments: Your web site www.lead.org.au is a very useful source of information. My question is what is the best site to take bones for lead from post mortem samples? Is there a standard procedure?

Thank you

Ananda

[Editor's note: as I did not know the answer to this Sri Lankan doctor's question, and I was not in 2017 aware of the Specht et al research since 2014 using portable XRF (pXRF) analysers to test bone lead (see LEAD Action News vol 22 no 4, Article 13, December 2025 [LID 28278]), I added the following when forwarding the questions to Professor David Chettle:

Please answer in relation to both bone X-Ray Fluorescence (bone XRF) lead testing (presumably the Dr would need to send – if permitted by customs - the bone/s to you), and bone ash lead testing. And presumably any lead results data that you can provide on bone ash lead testing would be vital too, as I know of no guidance or interpretation service on bone ash lead.

Kind regards, Elizabeth O'Brien, Lead Advisor, The LEAD Group Inc, Australia]

Answer:

I'm not entirely sure that I understand the question correctly. I am taking it as "From what site in the body should a bone sample be taken at autopsy in order to measure lead (Pb) in a way that would be most informative?"

Firstly, I don't think there is a standard procedure. If only one sample is to be taken, I would suggest a sample of cortical bone, perhaps mid shaft of tibia. If more than one sample can be taken, one might add a sample of trabecular bone, perhaps from the hip (or patella, or calcaneus).

I'm not quite sure if this was asked, but one might go on to ask what analytical method should be used and what laboratory might be recommended. For an autopsy sample I would NOT recommend x-ray fluorescence, certainly not in the form we use it for living human subjects.

The two methods which seem to be used most widely are electrothermal atomic absorption spectrometry (ETAAS) and inductively coupled mass spectrometry (ICPMS). I have heard that particular care must be taken in analysing a sample from a calcified matrix (bone) when one is using ICPMS. The doctor should contact an expert if he decides to use either of these techniques.

When we have needed to do these ex vivo analyses we have had the opportunity of collaborating with the New York State Department of Health Wadsworth Laboratory, in Albany, headed by Patrick Parsons. Patrick is an outstanding analyst. However, I'm sure there are excellent analytical laboratories a lot closer to Sri Lanka than upper New York State.

There is an issue as to how results are then reported. They can be microgram of Pb per gram of wet bone, per gram of dry bone, per gram of bone ash (almost equivalent to per gram of bone mineral), or per gram of calcium.

The units in which the result is reported usually comes from the way the sample is prepared for analysis. One of the reporting units will most naturally reflect the analytical procedure used.

If possible, I like to request results in microgram of Pb per gram of calcium (unless per gram of bone ash or per gram of bone mineral is available, because those most closely relate to our in vivo measurements). It is usually possible to trace some moderately reliable relationship between per gram calcium and per gram wet bone or the others.

Regards,
David.

Professor David Chettle, Department of Physics and Astronomy, McMaster University, Hamilton, Ontario, Canada

Measuring Body Lead Burden by pXRF

From Needleman's Tooth-Lead Baseline to Aaron Specht et al's Portable Bone-Lead Analysers

By Elizabeth O'Brien, Lead Scientist and Lead Advisor, orchestrated by Ian Smith, Systems Analyst, using OpenClaw on top of Claude AI and Ollama local AI models where possible, on solar-powered infrastructure. *© The LEAD Group Inc. November 2026*

Lead does not stay in the blood. Most of the lead in a body is locked away in the hard tissues, the bones and the teeth, where a blood test cannot see it. This bibliography follows one of the most useful ideas in lead science, that if the damage is written into hard tissue, you can read the record directly, from the earliest use of children's baby teeth through to today's hand-held bone-lead X-ray fluorescence scanners. It follows on from The Tooth Fairy Project of Professor Herbert Needleman (LEAD Action News v23n3, article 3) [LID 29231].

Herbert Needleman is article one in this research. He worked with children's shed teeth because teeth fall out on their own, and because a child is happy to hand a tooth to the tooth fairy for testing, and he used them to show that lead lowers children's IQ. That is the seed of everything that follows: lead leaves a permanent record in mineralised tissue, so the goal becomes reading that record, first in teeth, then in bone, first with cumbersome technology, then with portable field devices.

Bone lead was hard to reach. For a long time it could only be measured after death, on cremated bone ash. (See for instance the previous article in this issue of *LEAD Action News*, vol 24 no 3.) When X-ray fluorescence (XRF) first made living bone-lead measurement possible, the XRF analysers were large enough to walk into, and there were so few of them in the world that The LEAD Group had to tell Australian and New Zealand clients to fly to North America each time they wanted a bone-lead measurement. Portable, hand-held XRF analysers changed that: now the analyser can be taken to the people who need measuring, living or dead, though even now they are used for bone lead almost only for research in North America.

The irony is that XRF analysers are everywhere. Mining exploration companies, who have all the money they need, have bought them by the thousand since the 1950s – even field-portable ones called pXRF analysers - to measure metals in ore bodies. Those same companies never seem to have "enough money", so they say, to buy an XRF analyser dedicated to measuring bone lead in their own workers or in the communities near their metalliferous or coal mines. Yet bone-lead XRF is the best available way to know an organism's true body lead burden, and repeat testing is the best way to know whether exposure is still rising, or whether lead-detox is bringing the lead body burden down.

Needleman HL, Gatsonis CA. Low-level lead exposure and the IQ of children: a meta-analysis of modern studies. JAMA. 1990;263(5):673-678.

https://doi.org/10.1001/jama.1990.03440050067035 [LID 6925]

The baseline of the series. Pooling twelve rigorous childhood studies, seven using blood lead and five using tooth lead, it clinched the case that even low-dose lead lowers children's IQ, and did so partly by

reading lead out of shed baby teeth. That use of a hard, lead-storing tissue as a permanent exposure record is the conceptual seed of everything that follows: if lead's harm is written into teeth and bone, then measuring that tissue directly becomes the prize.



2013 Volcano Art Prize (VAP) Entry. Artist: Tony Lennon. Title: Lead in bones in lead. Lead-Safety Message: As the lead stored in your bones leaches into your blood as you age, so you get closer to the grave. URL: https://volcanoartprize.com/portfolio-item/lead-in-bones-in-lead/ [LID 17464]

Chettle, DR; Scott, MC; & Somervaille, LJ, Lead in bone: sampling and quantitation using K X-rays excited by 109Cd, Environ Health Perspect. 1991 Feb;91:49-55. https://pmc.ncbi.nlm.nih.gov/articles/PMC1519364/pdf/envhper00387-0052.pdf [LID 20070]

At around the same time as The LEAD Group was forming (at least in the mind of this Co-Founder), from researchers at the School of Physics and Space Research, University of Birmingham, England, UK, this February 1991 paper was the first to use X-ray fluorescence to measure lead in human bone in vivo. Chettle et al noted that this could be done from a mobile facility, although the devices themselves (pictured) were not hand-held, therefore not regarded as portable.

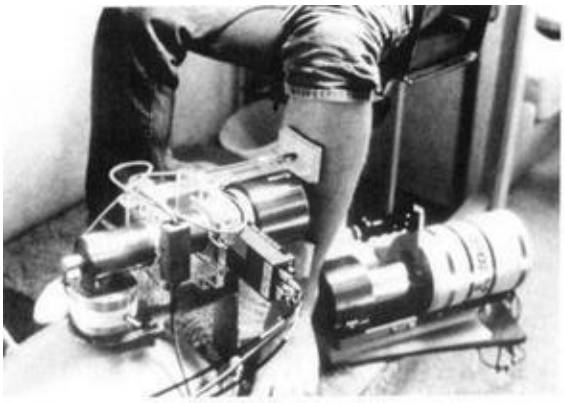


FIGURE 7. Simultaneous *in vivo* bone lead measurements of tibia and calcaneus.

Specht AJ, Weisskopf M, Nie LH. Portable XRF technology to quantify Pb in bone in vivo. Journal of Biomarkers. 2014;2014:398032. https://doi.org/10.1155/2014/398032 [LID 28082]

Although portable XRF or pXRF for paint lead analysis – to investigate cases of childhood lead poisoning - had also been becoming more common since the 1950s, especially in the USA, this Specht et al 2014 paper appears to be the proof-of-concept research for the entire bone lead portable XRF or bone lead pXRF era. Where the standard bone-lead method (K-shell XRF, written as KXRF) needed a large, fixed, hard-to-site apparatus, Specht's team developed a portable system for L-shell XRF, written as LXRF, built around a customised commercial analyser (Thermo Fisher's Niton XL3t), that quantifies lead in living bone in about three minutes, with a detection limit of 2.9 parts per million (2.9 ppm) through 2 millimeters (2 mm) of soft tissue and results that track KXRF closely. The primary difference between K-shell and L-shell XRF comes down to X-ray energy levels: portable XRF (pXRF) devices typically operate at lower voltages (around 50 kV) and must rely on lower-energy L-shell emissions for heavy elements like lead, whereas traditional non-portable KXRF systems use high-energy radioisotopes or high-voltage lab tubes to excite the deeper, higher-energy K-shell electrons. Specht et al 2014 is the paper that declared the technology ready to leave the laboratory for large human population studies.

Specht AJ, Lin Y, Weisskopf M, Yan C, Hu H, Xu J, Nie LH. XRF-measured bone lead (Pb) as a biomarker for Pb exposure and toxicity among children diagnosed with Pb poisoning. Biomarkers. 2016;21(4):347-352. https://doi.org/10.3109/1354750x.2016.1139183 [LID 28083]

The first real-world clinical test in children. In 115 children (average age 5.7 years) at Xinhua Hospital in Shanghai, portable LXRF was compared to KXRF bone lead as a biomarker and blood lead in elevated blood lead level (EBLL) children in China, confirming bone lead measurements from pXRF analysers as a useful lead biomarker in the young. Along the way it measured the blood-lead half-life in these young children at about ten days (9.96 days plus or minus 3.92 days), a number that matters for anyone trying to interpret a single blood result or a series of blood lead results in a young child.

Specht AJ, Mostafaei F, Lin Y, Xu J, Nie LH. Measurements of strontium levels in human bone in vivo using portable X-ray fluorescence (XRF). Applied Spectroscopy. 2017;71(8):1962-1968. https://doi.org/10.1177/0003702817694383 [LID 28101]

This paper used the same portable tool but it was pointed at a different element. It shows portable XRF can measure bone strontium, not just lead, in living people, validated in 238 children, replacing the older bulky radioisotope method. Its importance to this collection is that it proves the hardware is a general in-vivo bone-metal reader; and because measurement of bone strontium (Sr) is vital to determining the effectiveness of Sr supplementation. Which is commonly used for the treatment of osteoporosis, this Specht et al 2017 paper may be the key to convincing researchers, pathology labs, specialist bone health clinics, lead-exposure mining and smelting companies and workers unions outside of North America to import pXRF analysers, which can then also be used for bone lead biomonitoring. There is every good reason for everyone who is lead exposed to be bio-monitored for lead with a bone pXRF analyser and also assessed for early signs of osteoporosis because
Specht AJ, Parish CN, Wallens EK, Watson RT, Nie LH, Weisskopf MG. Feasibility of a portable X-ray fluorescence device for bone lead measurements of condor bones. Science of the Total Environment. 2018;615:398-403.
https://doi.org/10.1016/j.scitotenv.2017.09.123 [LID 28106]

The first step off the human body and into wildlife for Specht et al. On excised California condor bones, portable-XRF bone lead agreed closely with gold-standard ICP-MS (r≈0.92), even through simulated soft tissue. Condors die of lead poisoning from spent ammunition, so this showed a hand-held device could read a scavenger's cumulative lead burden, and, by extension, flag the same ammunition risk to people.



2022 Volcano Art Prize (VAP) Entry. Artist: Lucinda Curran. Title: How much lead is in your bone broth. Lead-Safety Message: According to research, sequestered lead in bones can be mobilised and result in markedly higher lead concentrations when compared to tap water (Monro, Leon & Puri, 2012). Given the ever-increasing use of bone broth for a variety of health conditions, great caution needs to be taken when considering bone broth diets. Description of Work: digital art. Image of soup bowl: jenvit keiwalinsarid from Pexels. URL:
https://volcanoartprize.com/portfolio-item/how-much-lead-is-in-your-bone-broth/ [LID 26404]

Specht AJ, Weisskopf M, Nie LH. Childhood lead biokinetics and associations with age among a group of lead-poisoned children in China. Journal of Exposure Science and Environmental Epidemiology. 2019;29(3):416-423 (online 2018). https://doi.org/10.1038/s41370-018-0036-y [LID 28148]

Using repeat visits in 250 children, it shows the blood-to-bone lead relationship strengthens over time and, strikingly, that lead's blood half-life depends on age, about 7 days in one-to-three-year-olds versus about 19 days in older children. The lesson, that children clear lead from blood faster than adults, means a single childhood blood test is an even briefer snapshot than assumed, and strengthens the case for bone as the durable more telling record.

Specht AJ, Kponee K, Nkpaa KW, Balcom PH, Weuve J, Nie LH, Weisskopf MG. Validation of X-ray fluorescence measurements of metals in toenail clippings against ICP-MS in a Nigerian population. Physiological Measurement. 2018;39(8):085007. https://doi.org/10.1088/1361-6579/aad947 [LID 28107]

Extends XRF to a sample you can post in an envelope, toenail clippings, which capture a longer exposure window than blood and store at room temperature. Against ICP-MS in 20 Nigerian adults, XRF toenail manganese correlated strongly (R=0.91), while lead was weaker (R=0.32). The genuinely new part is a calibration that corrects for each clipping's weight and thickness, making toenail XRF workable for large, low-cost field studies.



2024 Volcano Art Prize (VAP) Entry. Artist: Jennifer Chuah. Title: Three Skull Kings. Lead-Safety Message: Lead stored in your bones can actually kill you so contribute to or join The LEAD Group's project to have bone lead testing available in Australia by portable X-Ray Fluorescence (pXRF) by October 2025. Description of Work: Coloured pencil drawing collaged in Powerpoint. URL: https://volcanoartprize.com/portfolio-item/three-skull-kings/ [LID 28175]

Specht AJ, Dickerson AS, Weisskopf MG. Comparison of bone lead measured via portable X-ray fluorescence across and within bones. Environmental Research. 2019;172:273-278. https://doi.org/10.1016/j.envres.2019.02.031 [LID 28081]

Answers a practical worry: does it matter which bone you measure? Across 31 cadavers and multiple cortical and trabecular sites, portable-XRF bone lead was consistent between bones within a person, and more internally consistent (rho≈0.4) than older KXRF over the same range (rho≈0.2). Because the low-energy portable device reads the cortical shell every bone shares, you can measure almost anywhere and get a comparable answer, a large practical simplification.

Specht AJ, Zhang X, Goodman BD, Maher E, Weisskopf MG, Nie LH. A dosimetry study of portable X-ray fluorescence in vivo metal measurements. Health Physics. 2019;116(5):590-598. https://doi.org/10.1097/hp.0000000000000971 [LID 28080]

The safety paper. Using three independent methods, physical dosimeters and Monte Carlo simulation, it pins down exactly how small the radiation dose is: a standard bone measurement delivers a whole-body effective dose of about 3.4 microsieverts (toenail about 2.0), a trivial fraction of everyday background radiation. This is the evidence a hospital or ethics committee needs before approving routine, repeated testing.

Bhatia M, Specht AJ, Ramya V, Sulaiman D, Konda M, Balcom P, Sunderland EM, Qureshi A. Portable X-ray fluorescence as a rapid determination tool to detect parts-per-million levels of Ni, Zn, As, Se and Pb in human toenails: a South India case study. Environmental Science & Technology. 2021;55(19):13113-13121.
https://doi.org/10.1021/acs.est.1c00937 [LID 28104]

Pushes toenail XRF to a multi-metal, population-scale screen. In 97 people near Chennai, India, portable XRF matched ICP-MS well for nickel, zinc and lead (no proportional bias) but poorly for arsenic and low-level selenium, mapping precisely where the cheap, non-destructive method can and cannot replace the expensive one for high-throughput monitoring.

Zhang X, Wells EM, Specht AJ, Weisskopf MG, Weuve J, Nie LH. In vivo quantification of strontium in bone among adults using portable X-ray fluorescence. Journal of Trace Elements in Medicine and Biology. 2022;74:127077.
https://doi.org/10.1016/j.jtemb.2022.127077 [LID 28087]

The adult companion to the 2017 strontium study, extending in-vivo bone strontium to 76 US and 29 Chinese adults aged 38 to 95, and quantifying how measurement uncertainty rises with soft-tissue thickness (from 1.0 to 2.4 ppm at 2 to 7 mm). It confirms portable XRF as a bone-health tool across the adult age range, and exposes the same soft-tissue limit that governs bone-lead precision.

Specht AJ, Steadman DW, Davis M, Bartell SM, Weisskopf MG. Bone lead variability in bone repository skeletal samples measured with portable X-ray fluorescence. Science of the Total Environment. 2023;880:163197. https://doi.org/10.1016/j.scitotenv.2023.163197 [LID 28088]

The definitive "which bone, how much does it vary" study for lead. Across five skeletal sites (mid, proximal and distal tibia, ilium and cranium) in a bone repository, portable-XRF lead did not differ significantly between sites, yet the paper still recommends the tibia as the standard site so studies and individuals can be compared like for like. Detection limit about 2.1 ppm. This is the methods anchor for standardising field work.



2025 Volcano Art Prize (VAP) Entry. Artist: Grandma Lead. Title: Test Shooters for Lead. Lead-Safety Message: A possibly lead poisoned shooter confessed on September 11, 2025 to assassinating Charlie Kirk. As a 3rd year electrical apprentice, the 22 year old shooter would have been protected from occupational lead exposure but there need to be regulations to protect child shooters from lead exposure that can cause frontal lobe damage, homicidal violent crime and brainrot incoherence. US criminologists and lead poisoning prevention advocates need to write to their congressional representatives demanding that he and all indicted shooters be bone lead and blood lead tested ASAP after being taken in to custody. Description of Work: Collage of photos from YouTube video by The Rational National, Meme'd To Death: The Brainrot Incoherence Of Charlie Kirk's Alleged Killer Lead-Safety Message by Elizabeth O'Brien, AKA Grandma Lead. URL: https://volcanoartprize.com/portfolio-item/test-shooters-for-lead/ [LID 28919]

Hampton JO, Lohr MT, Specht AJ, et al. Lead exposure of mainland Australia's top

avian predator. Environmental Pollution. 2023;332:122004. https://doi.org/10.1016/j.envpol.2023.122004 [LID 28147]

Brings the method home to Australia. Using portable XRF on bone from 62 wedge-tailed eagles (Aquila audax) collected between 1996 and 2022, it detected lead in 84 per cent of them, the first serious look at ammunition-derived lead in Australia's largest raptor. It shows the hand-held device working on an opportunistic carcass collection and puts an Australian, wildlife face on the global lead-ammunition problem.

Gomes RAMP, Santos AL, Catarino L. Elemental analysis using portable X-ray fluorescence: guidelines for the study of dry human bone. International Journal of Paleopathology. 2024;44:85-89. https://doi.org/10.1016/j.ijpp.2023.12.004 [LID 28105]

The "how to do it properly" note (not a Specht paper, included as the standards counterpart). Aimed at archaeology and palaeopathology, it standardises portable-XRF procedure on dry bone, sample choice and preparation, calibration, run time, accuracy checks and data validation, so that results from different laboratories can actually be pooled and compared. It is the missing rulebook that lets a whole field's numbers add up.

Specht AJ, Adesina KE, Read DE, Weisskopf MG. Benchtop X-ray fluorescence to quantify elemental content in nails non-destructively. Science of the Total Environment. 2024;918:170601. https://doi.org/10.1016/j.scitotenv.2024.170601 [LID 28146]

Swaps the hand-held for a benchtop XRF to fix toenail XRF's weak spot, its detection limit. It brings non-destructive nail measurement close to ICP-MS (lead R^2=0.92, copper 0.95), with median detection limits around 0.2 micrograms per gram across 23 elements. The trade-off, laboratory-bound but far more sensitive, complements the portable devices used in the field.



2024 Volcano Art Prize (VAP) Entry. Artist: Elizabeth O'Brien. Title: Avoid strokes as you age. Lead-Safety Message: My motivation for asking people to join me in self-experimenting with lead detox methods and now pushing for bone lead testing by pXRF in Australia, is my mother. She had notifiable (5-7 µg/dL) blood lead levels between 5 strokes in her final 21 years, the first stroke when she was just three years older than I am now. Description of Work: iPhone 8 photos collaged in Paint and Powerpoint. URL: https://volcanoartprize.com/portfolio-item/avoid-strokes-as-you-age/ [LID 28190]

Farmer JG, Specht A, Punshon T, et al. Lead exposure across the life course and age at death. Science of the Total Environment. 2024;927:171975. https://doi.org/10.1016/j.scitotenv.2024.171975 [LID 28086]

Reads three tissues to time-stamp a lifetime of lead. In 208 skeleton donors (born 1910 to 1960) it uses tooth enamel (childhood), tooth cementum (adulthood) and bone (later life) to place lead exposure at different ages and relate it to age at death, finding that adult-life cementum lead tracked age-at-death more closely than bone lead. It closes the loop back to Needleman's teeth: the same idea, now used to reconstruct a whole life's exposure.



2024 Volcano Art Prize (VAP) Entry. Artist: Elizabeth O'Brien. Title: pXRF Bone Lead Testing. Lead-Safety Message: #Grandma Lead says: In our lead safe future, everyone will have access to bone lead testing by portable X-Ray Fluorescence (pXRF) using a Niton XL3t GOLDD+ (made by Thermo-Fisher Scientific, USA). And all earthlings should have less lead in our bones if Australian registered voters sign the Circular Economy for Lead Petition EN6714. Description of Work: iPhone 13 photo and text added in Powerpoint. URL: https://volcanoartprize.com/portfolio-item/pxrf-bone-lead-testing/ [LID 28164]

Specht AJ, Hoover C, Grier T. Portable X-ray fluorescence for bone lead measurement: current approaches and future directions. Current Environmental Health Reports. 2024;11(3):443-451. https://doi.org/10.1007/s40572-024-00450-x [LID 28085]

The field's stock-take, written by its main driver. This review traces XRF bone-lead measurement from KXRF to portable XRF, weighs their accuracy and limits (portable XRF reads cortical bone only, but faster and with comparable results), and argues that "legacy" lead exposure demands a revival of bone-lead surveillance because blood alone misses the cumulative burden. It is the single best entry point to the whole story.

Specht AJ, Sayam ASM, Parish CN, Hauck TJ, Watson RT, McClure CJW, Weisskopf MG. Bone lead measurements of live condors in field to assess cumulative lead exposure. Environmental Science and Pollution Research. 2024;31(44):56308-56313. https://doi.org/10.1007/s11356-024-34950-y [LID 28084]

The payoff of the condor thread, now on live birds in the wild. Portable XRF measured bone lead in vivo in the tibiotarsus of 64 free-living California condors, and that bone lead correlated with each bird's summed lifetime of blood-lead tests, exactly the chronic, cumulative signal that a blood lead series of tests misses. It points to bone lead guiding treatment for an endangered species, and models how the same in-field, in-vivo cumulative reading could one day serve people.

Q&A Grandma Lead Wisdom on Lead Issues in Oz



Initial Q: (Wednesday, September 2, 2026) I'm seeking justice for childhood lead poisoning at an old house in an inner-city suburb next door to a dust bowl that had been a petrol station. I'm doing full time research to heal and want to write my story and be part of advocacy around this issue. What information would you like to know about my lead toxicity story? And why? The 'why' may help me give you more targeted information.

Before I learnt about your amazing group I had been trying to learn about the political history of lead exposure in urban home settings in Australia. I struggled to find good content online on the topic. I had started drafting my story, with an emphasis on the failings of the medical system. When I got up to researching the modern history of lead, the more I read about it, the more shocked I got regarding the scale of the issue.

However, your newsletter archive looks massive! I've only opened a couple of them so far. To give you a sense of the questions I had been seeking answers to...

- The political history of Australian regulatory and medical inaction on lead exposure in urban home settings. For example, if the U.S. EPAs Renovation, Repair and Painting (RRP) laws existed in Australia, my parents would have known about the risks and I would have never been lead poisoned. Why wasn't the RRP introduced here?

- Why does the Australian National Health and Medical Research Council (NHMRC) prefer to see the public poisoned rather than sounding the alarm?

- Why doesn't the medical system check for lead/heavy metal toxicity in their patients with chronic illness?

- Estimates of the extent that lead is contributing to the rise of chronic and degenerative illness.

- Are there articles estimating the extent and impact of lead poisoning today? The number of kids growing up in old homes being renovated etc?

I'm guessing answers to some of these will be in your archive.

Answer emailed by Elizabeth O'Brien, aka Grandma Lead, The LEAD Group Inc, Australia, on Wednesday, September 2, 2026

It was fascinating to talk to you and yes, I am generally available between 10am and 4pm Mon-Fri during which times calling our office numbers means your call comes thru to my mobile.

Yes, even the most recent issues of LEAD Action News at our newest website www.leadsafeworld.com/media are a massive archive but you've probably also seen the full list of 94 LEAD Action News (LAN) issues over 34 years at our original website www.lead.org.au/nl.html – which is truly overwhelming. I navigate myself, every day,

through the information we've gathered together on those two websites and our images with lead-safety messages website www.volcanoartprize.com by using the Search/Find functions on each site looking for keywords or phrases in inverted commas.

But here I go creating a bit of a brief overview for you, with my opinions (sometimes unavoidably cynical) in answer to your questions:



Q – What should go in my case history article for LEAD Action News (LAN)?

A – Anything to do with lead or other heavy metals that you can back up with data or references or family memories or even images, and that helps you to feel heard and that might just help another reader or another million readers to avoid the same pitfalls. I find that images tell so much more than just words so much so that I founded our photo competition Volcano Art Prize (VAP) which requires a landscape-orientation 1-3MB image and very short title and 1-2 sentence Lead-Safety Message. VAP just closed last week but is already open for 2027 so it would be great if could upload at https://volcanoartprize.com/submitentry/ or email me an entry or two or three in the next two days maximum so you too can be part of VAP. The way I decide what would make a great VAP entry is to start composing a fact sheet or a LAN article or a report and figure out what would illustrate it perfectly.

Q - The political history of Australian regulatory and medical inaction on lead exposure in urban home settings. For example, if the U.S. EPAs RRP laws existed in Australia, my parents would have known about the risks and I would have never been poisoned. Why wasn't the RRP introduced here?

A – unlike Australia where people don't sue for fear of losing their home, the US is a litigious society where millions of dollars have been awarded to thousands of individual lead poisoned people since the 1960s at least, plus their constitution gives powers to the national government, such that the US federal government has stepped in to legislate, for instance the Clean Air Act (which initiated the introduction of unleaded auto-fuel and the phase-out of leaded auto-fuel), occupational lead exposure, Title X (residential tenancy and home-buyer notification of home lead hazards), RRP (to ensure lead abatement contractors and assessors are licensed), Consumer product safety regulations (which mandate lead testing of imported goods and other goods for sale) and a myriad of other legislation.

Additionally, states such as California can create their own more stringent regulations on all these matters, for instance Proposition 65 has ensured that dozens of leaded products first stopped being sold in California, then in the rest of the US. The Australian constitution ensures that our federal government is spineless and simply can't make such national regulations (they make standards instead or "guidance") and doesn't even feel they have a major role in setting standards except with the agreement of the states and territories, such that every so-called nationalized act or regulation, such as WHS or Tenancy acts/regulations, has to be adopted/called up in state and territory legislation before it is law, and basically satisfies only the lowest common denominator, such as, what South Australia wants as a blood lead action level so that it doesn't have to spend too much on dealing with lead

poisoning cases (the lower the blood lead action level the more lead poisoning cases need follow-up) and can spend its revenue from lead smelting on other priorities.



Q – Australian States and Territories do have the power to regulate for example on Asbestos, so why haven't we got good lead regulations like California does for instance, or even New York City lead regulations?

A – There's a "she'll be right" Oz attitude and almost complete dearth of blood lead testing, very rare state blood lead surveillance analysis and zero national CDC blood lead surveillance or interest. When I looked on the website of the fairly newly created Australian Centre for Disease Control (CDC) I found zero about lead. In any Centre for Disease Control worth the name, all blood lead results (from non-detectable up to more than the notifiable blood lead "action level" would be collected and collated and analysed, with standard information like gender, age, location, year of construction of residence, lead-related occupational or hobby or other potential lead-exposure sources (like smoking, vaping, drinking more alcohol than average, etc), and the analysis would be frequently and widely distributed to every doctor and relevant specialist in the country, as well as being written up for lead poisoning prevention awareness campaigns.

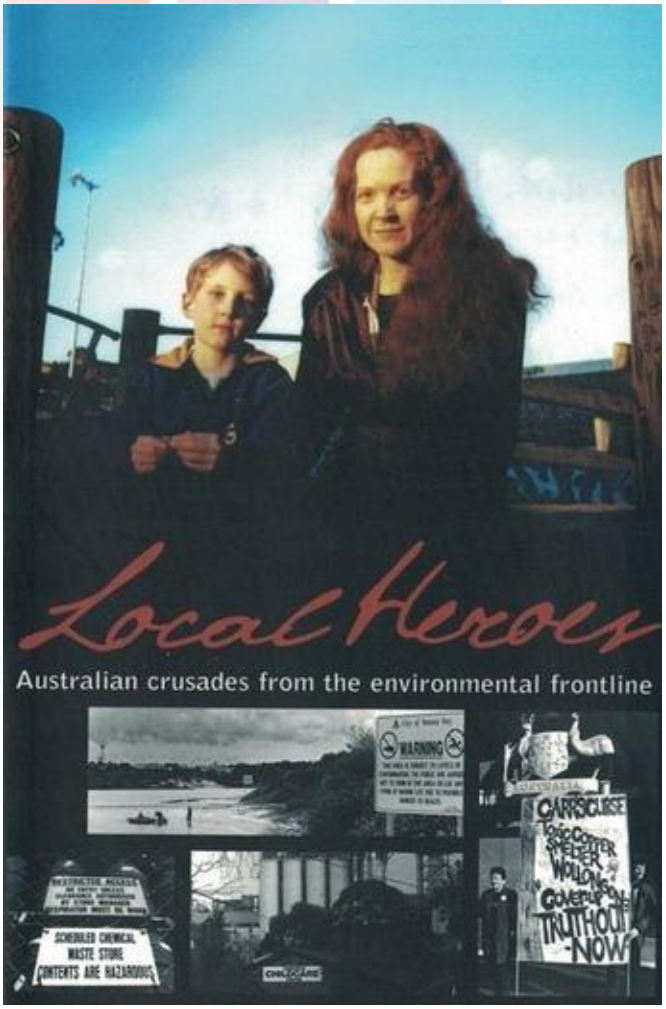
Q - Why does the NHMRC prefer to see the public poisoned rather than sounding the alarm?

A - That's because the NHMRC, being an apparently powerless federal government agency, has been overly influenced by the imperative of state but especially South Australian Health department officials who want to keep their jobs in SA Health (or who literally work for NHMRC which carried some influence over even WHO's lead policy for many years while Dr Keith Bentley was in charge of the lead strategy at the NHMRC) so that they can protect state lead mining royalties and protect SA's lead concentrate export income and employee and corporate taxes flowing from the world's most productive lead mining town of Broken Hill in NSW (which sends all its ore to Port Pirie), the world's largest lead smelter town of Port Pirie, SA and generally all the lead mines in Australia which allows Australia to be the world's largest lead exporter.

Q - Why doesn't the medical system check for lead/heavy metal toxicity for chronic illness?

A – Unlike in the US, no Medicaid program mandates blood lead testing by doctors and instead, our doctors generally believe that lead poisoning is a thing of the past and lead exposure at lower blood lead levels than whatever the level of concern is at the time, is "normal". Doctor education about lead in Australia, I'm told by doctors, amounts to perhaps one hour's tuition (along with one hour spent on nutrition) in a 6 year medical degree. One of The LEAD Group's early advocacy successes was that two members of our Technical Advisory

Board were given the opportunity to write a booklet on lead for doctor continuing education, which was published by the NHMRC and a physical copy was posted to every working General Practitioner in 1994. Since then, our guy, Prof Garth Alperstein (who was the Central Sydney Area Health Service paediatrician who investigated why my home had caused my youngest son to have a blood lead level of 31ug/dL aged one in 1991) has made valiant efforts at educating medical students and doctors-in-practice but there is no general requirement that students are taught about lead or that practicing doctors ever learn or update their learning on lead. You can read about my family's lead journey and the first 10 years of The LEAD Group's work in *Chapter 1 - The LEAD Group: Responding to the problem of lead contamination* from the book: Local Heroes: Australian Crusades from the Environmental Frontline (Pluto Press, 2002) [LID 387] at https://lead.org.au/lanv14n2/lanv14n2-11.html and at the same link you can listen to *Local Heroes Chapter 1* read by Voice Actor Alex Jewson [LID 29852].



The LEAD Group was invited in 2010 to answer students' questions and hand out fact sheets specifically written for medical students at University of NSW Medical School, which we did each time the community health event was held up until this year when clearly, someone there decided that the students of today don't need to know about lead. I'm going to protest our sudden exclusion from this doctor education opportunity so your case could make a good example as to why it is so important that they invite The LEAD Group back.

Q - Estimates of the extent that lead is contributing to the rise of chronic and degenerative illness.

A – There's so much out there on this but a good place to start is:

"Lead poisoning impairs more children globally than any other single hazard" by Abdullah A. Fadil, Director, Partnership for a Lead-Free Future (PLF) [of which The LEAD Group is a partner], at https://leadsafeworld.com/wp-content/uploads/2026/03/LANv23n2-03.pdf [LID 29140 (where LID means Library Identifier from The LEAD Group's Library, half of which – the online half - is now fully searchable at https://www.lead.org.au/library/ ; ACCESSIBLE VIA https://lead.org.au/fs-index.html];

"Three more US studies show lead linked to higher dementia risk", at https://leadsafeworld.com/wp-content/uploads/2026/04/LANv23n3-11.pdf [LID 29261]

"Lead is an issue beyond childhood: A fact sheet by LEAD Group volunteer Emily Choong, using extracts of media articles about the landmark Lancet lead article by Lanphear et al, March 2018", at https://leadsafeworld.com/wp-content/uploads/2020/10/LANv21n1-11.pdf [LID 19130]

Q - Are there articles estimating the extent and impact of lead poisoning today? The number of kids growing up in old homes being renovated etc?

A - Pure Earth is a relative late-comer to the field of global lead-safety advocacy but they do seem to have a knack for obtaining massive amounts of funding and putting together wonderfully on-the-money lead health data. For example, less than a month ago they emailed about their CEO Drew McCartor giving a TED Talk:

The response has been overwhelming. Since its release, Drew 's TED Talk has been watched 187,000 times, with messages of support pouring in from partners, donors, and new viewers encountering Pure Earth's work for the first time.

In the TED Talk Drew reveals how lead poisoning is permanently damaging the developing brains of more than a billion children and lays out a plan to cut that exposure for 500 million children using tools we already have.

If you haven't watched it yet, now's the time, and if you have, please consider sharing it. Every view helps carry this message further

Watch The Talk



Q - Have people tried to get accountability for childhood lead exposure in Australia?

A - One police family living in police housing got a settlement but had to sign an NDA so no one can use that information and motivate other police officers to make claims. One carpenter or electrician in Queensland had some mates he knew through his renovation work come and strip paint from his home and despite his two daughters being hospitalised with lead poisoning, he said he couldn't sue for fear of not only losing his house to cover the lawyer's costs but also for fear of being blacklisted in the building trades. Even the paint contractor who was also hospitalised with lead poisoning wouldn't sue his boss for fear of losing his means of making a living.

Elizabeth aka Grandma Lead

Faith and the Belonging Effect in Blue Zones

The Belonging Effect: What Faith Communities Can Teach Us About Longevity

By Nonjabulo Mlangeni BLUE ZONES LLC, ©2026 Blue Zones. All rights reserved ™

[Editor's note: See the full article at URL: https://www.bluezones.com/2026/08/the-belonging-effect-what-faith-communities-can-teach-us-about-longevity/ - this is a retitled and cut-down version of "The Belonging Effect: What Faith Communities Can Teach Us About Longevity", emphasizing (with the graphic and bolding added by me) those health benefits of belonging to a faith community which are also associated negatively with lead exposure, and those behaviours which increase lead exposure/absorption such as smoking and drinking alcohol or which mitigate lead absorption such as healthy eating habits. Illustrated by a Volcano Art Prize (VAP) entry where LID means Library Identifier in The LEAD Group's Library.]





2026 Volcano Art Prize Entry: Click the left image or here for bells video and then the right image or here for animals video. Artist: Alyson Kakakios. Title: Ikaria Mornings. Lead-Safety Message: Both low lead living and living in Ikaria in Greece have been associated with healthy longevity or longer healthspan. The slow rhythm of the life here in the Greek "Blue Zones" longevity hotspot with its emphasis on fresh foods, a plant-based diet, walking (although that is gradually changing in modern times) and social connectivity (including the "Grandmother Effect"), have all contributed to the longevity of the Ikarians. Description of Work: Two very short films: one (25 seconds) with bells calling the faithful Ikarians to church; and the other (1 minute) with animals greeting the dawn. https://volcanoartprize.com/portfolio-item/ikaria-mornings/ [LID 29950]

In studying the blue zones, where the world's longest-lived people are found, Dan Buettner and his team of researchers famously observed that they led similar lifestyles. This discovery became known as the Power 9®: a list of evidence-backed habits that support health and longevity. Often, discussions highlight items like natural movement and plant-forward eating, while belonging to a faith community goes overlooked.

Of the many factors feeding the U.S. loneliness epidemic, one may be the crumbling pillar of faith. For generations, religious structures provided not just spiritual fulfilment, but social and emotional support. Moreover, research shows that active members of congregations tend to be happier, live longer, and get more involved in community.

Yet traditional religious engagement has declined. Today, 58% of baby boomers attend weekly faith services, compared to 32% of millennials and 18% of Gen Z. As religious

participation dwindles, finding structures that can offer the same sense of belonging as faith communities remains important.

What's belonging, anyway?

The Power 9 pillar of Belong is often confused for the pillar of Connect, since both involve community. The most famous example of Connect is that of the Okinawans and their use of moais. These are friend groups that provide lifelong companionship and demonstrate how supportive social networks can positively impact health.

On the other hand, Belong refers to communities of belief. Of the 263 centenarians interviewed by Buettner, all but five belonged to a religious group. This aligns with other **longevity** research findings. A 1999 study found that attending religious services four times a month can increase life expectancy by 4-14 years. A 2016 Harvard-led study found that **mortalities of all causes** were 33% lower among women who attended services more than once a week.

How does it work?

Many faith spaces routinely engage with weighty subjects like death, loss, and the meaning of life. This can make space to unpack topics that aren't prioritized in other relationships or environments.

It can also be comforting and validating to partner with people who process the world through a shared framework. But beyond allowing people to feel seen, active faith can support physical health by setting behavioral standards. It's not uncommon for faiths to discourage **smoking** and excessive **alcohol consumption**, both of which are known health hazards.

Some groups promote specific dietary frameworks, be it vegetarianism or eating decadent foods in moderation. In the blue zones region of Ikaria—where many people are Greek Orthodox—fasting is a normal part of religious life. Though it's done for spiritual reasons, it has physical benefits. Research shows that fasting can slow the aging process for mammals in general and, more recently, for humans specifically.

There is also evidence that belief has mental health benefits, which may explain why the faithful report greater well-being. A literature review of eight studies involving over 3,000 adults found that religious people are more likely to believe that their lives have meaning and add unique value to the world.

This perspective differs from narcissism because it isn't coupled with a sense of superiority. Instead of "I'm better than others," the core belief is "I'm in this world for a reason," or "my life has a greater purpose." Significantly, multiple scholars have found that a high sense of purpose can add years to our lives. Most blue zones cultures center purpose. From Okinawa to Ikaria, elders can often articulate what drives them to keep going.

In his travels, Buettner spent time with a 100-year-old woman who was purpose personified. She rose at dawn to read her Bible, then hopped on her stationary bike and spent her days driving to various volunteer engagements.

Volunteering can stave off loneliness by expanding social networks. It's also linked to a range of positive health outcomes, including longer **life span**, lower **hypertension** risk, and higher **psychological well-being**.

In the words of Dan Buettner, "healthy centenarians everywhere have faith." Beyond the orthodoxy of the Ikarians, the Sardinians and Nicoyans are mostly Catholic, and Okinawans believe their ancestors live on. Undoubtedly, these people face some of the same challenges that others do outside the blue zones regions. But they differ in the fundamental belief that those burdens don't rest solely on their shoulders.

This is not the same thing as thinking one's fate is completely determined by outside forces, which psychologists would describe as an external locus of control. Instead, it's a belief in a higher power who can do the things that are beyond your own limitations. This can mitigate a range of challenges, including **depressive symptoms** and **anxiety**.

Ultimately, a wealth of research evidence connects belonging to a faith community to various benefits that meaningfully improve both length and quality of life.

How to apply this research to your life

In our work with cities, communities, and campuses, we help people apply the Blue Zones Power 9 principle of Belong to their lives. Because individual experiences with religious communities vary widely, and some may carry pain or exclusion, we encourage people to explore spirituality in their own way.

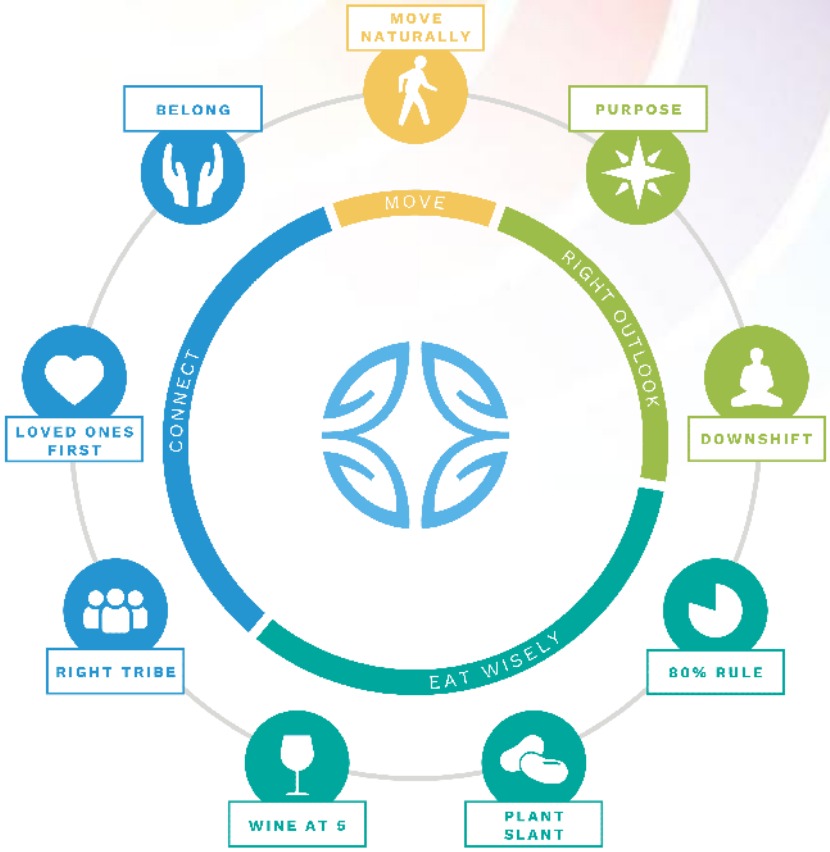
- **• Try a meditation circle or breathwork class**
- **• Explore a new faith or interfaith community**
- **• Sign up for a neighborhood volunteer activity (service as a form of spiritual practice)**
- **• Participate in nature-based gatherings (forest bathing, sunrise or sunset hikes)**
- **• Join a creative collective (art, music, or writing workshops offer opportunities for reflection and expression)**
- **• Take a Purpose Workshop (guided reflections and activities for exploring one's life purpose)**

The goal is to explore a new spiritual practice that speaks to you - ideally one that nurtures reflection, gratitude, and belonging - and then find and participate in a wider community.

Nonjabulo Mlangeni is a writer, researcher, and editor based in California. She focuses on health, equity, and creative nonfiction.

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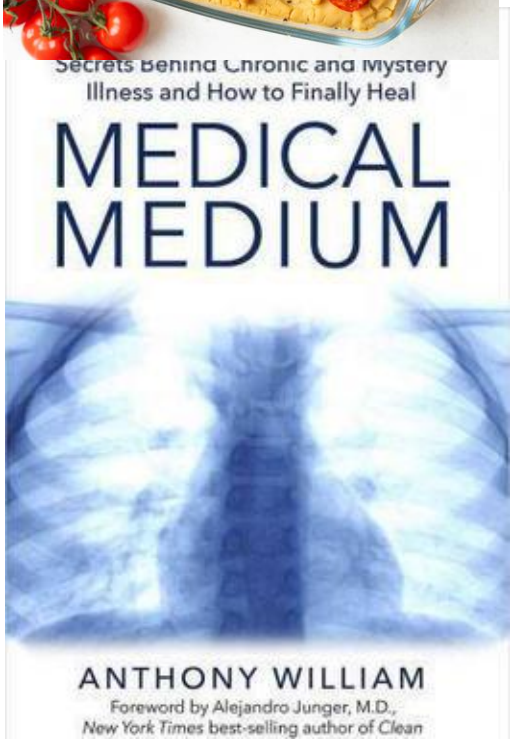
Immerse Yourself in the Blue Zones Lifestyle - Explore Retreats

Medical Medium Healthy Healing Cookbook Baked Hummus

This article is based on Medical Medium Anthony William's 30th October 2026 email about his latest video titled: "Earth Axis Danger, Garlic Properly, Teeth Enamel, Colostrum Sickness, Germ Fears And Alien Portals 🤌" which shows Anthony answering followers questions while making the Baked Hummus recipe from his latest book which is now available to pre-order.

Notes and screenshots from the video compiled with graphics and excerpts from the email, by Elizabeth O'Brien, The LEAD Group Inc.





MEDICAL MEDIUM

ANTHONY WILLIAM

Medical Medium Anthony William went live today to answer your questions and made Baked Hummus, one of the 175+ recipes inside the new Medical Medium Healthy Healing Cookbook. Watch the replay: https://www.youtube.com/watch?v=mWmyPXuqeO8 [LID 30035]

Medical Medium Anthony William:

- Teeth enamel grows back once heavy metals are removed

When you remove heavy metals with fresh parsley shots, spinach soup, celery smoothies etc recipes from my books [including the 28 day heavy metal cleanse in "Medical Medium Secrets Behind Chronic and Mystery Illness and How to Finally Heal" - https://www.medicalmedium.com/book [LID 18710] - (2015)], you can grow your teeth enamel back!

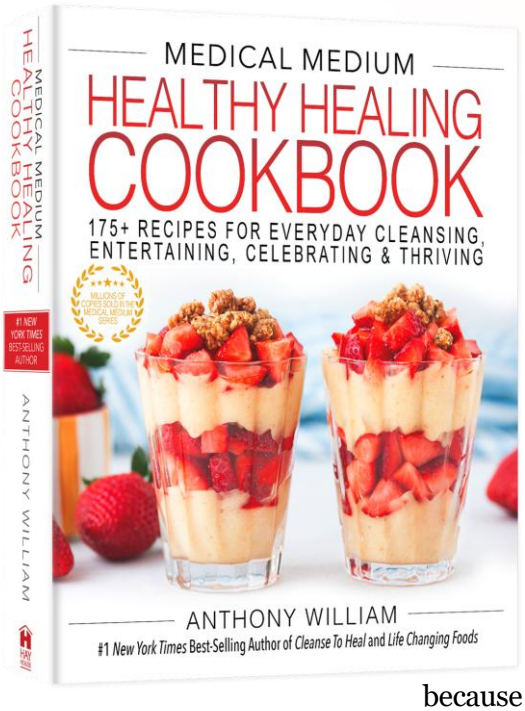
- People crave ice cream and chew ice because the cold feels like an internal ice pack on inflamed nerves, but they are unaware of this reason

People use cold food as an anti-inflammatory to cool down their inflamed vagus nerve all around the stomach, cranial nerves, sinuses and other inflamed parts of the body - they're treating inflammation - putting internal ice packs on - even if they don't know they have inflammation. Ayurveda, nutritionists, longevity experts and everyone who says "don't have cold food" are wrong. If you like to eat cold food, go ahead and do it. If you don't like to eat cold food, don't eat it. Dairy ice cream will feed all your viruses and cause more inflammation so vegan ice cream is the option.

- Crack open garlic safely by keeping the knife blade pointed away from you so you don't get cut and you can reduce the fat in tahini by pouring excess oil out of the jar

Make hummus with 6 cups of cooked chick peas, fresh garlic (if you love garlic like I do), juice of two lemons (to taste), tahini with its oil on top or some oil removed (to taste), salt and pepper (if desired), in a food processor while slowly adding water (not too much); pour it in to a baking dish, layer cut-in-half olives on top, then cut-in-half fresh tiny tomatoes (Greek tomatoes) with the cut half upwards to cover the olives, then bake at 425 degrees Fahrenheit for 15-20 minutes. In the meantime, wash wax off organically-grown vegetable skin like cucumber skin, under hot running water. Chop fresh organic capsicum and washed cucumber with its skin on into large pieces. Break up lettuce leaves into nature's wraps pieces. Finely chop up fresh parsley and put it aside. I like to finely chop the parsley stems too because I use the parsley medicinally, not just the rough-cut leaves as a garnish. Chop up some pine nuts and put them on top of the baked hummus and put it back in the oven for 3 minutes to mildly toast the pine nuts. Serve the hummus with the fresh chopped parsley on top, using the capsicum and cucumber to scoop it out or put some baked hummus on a lettuce leaf and wow! I hope you get this book: Medical Medium Healthy Healing Cookbook has 175 recipes and you can pre-order it now - these books save lives. [URL: Medical Medium Healthy Healing Cookbook: 175+ Recipes for Everyday Cleansing, Entertaining, Celebrating & Thriving : William, Anthony: Amazon.com.au: Books - https://www.amazon.com.au/dp/1401954367]











When you're struggling and suffering to beat a diagnosis or beat symptoms, I know that you're a good person and it's not your fault that you are sick. You can heal. You've found this information, you've found the books. I may not be the best representative of Spirit of Compassion, I just care that you get the information that you need to get your life back.

- Salt in water damages the liver and kidneys, while salt on food is cut by the food so it poses far less of a risk



Don't add pink salt to water and drink it - it goes straight to your liver and kidney and does damage. Its ok to add a little bit of salt to your food like this baked hummus. It might take 30 or 50 years but Medical Medium information is eventually going to be proved right. Ripe tomatoes have anthocyanins and Vitamin C and can detox you and do not cause arthritis. I'm doing a podcast on the Copper trend in a couple of weeks.

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2019 Volcano Art Prize (VAP) Entry. Title: **Lead detox food and drink to go**. Lead-Safety Message: Medical Medium Anthony William recommends this Heavy Metal Detox Smoothie, Juice and Tea, plus leafy green Salads, Celery Sticks and Dates. Food-preparer and Photographer: Elizabeth O'Brien. https://volcanoartprize.com/portfolio-item/lead-detox-food-and-drink-to-go/ [LID 26252]



2018 Volcano Art Prize (VAP) Entry. Title: **Figs fight lead symptoms.** Lead-Safety Message: Medical Medium Anthony William says in his 50 Life Changing Foods book that figs help detox heavy metals. Figs fight ADHD, Alzheimers disease, dementia and stroke. Photographer: Elizabeth O'Brien. https://volcanoartprize.com/portfolio-item/figs-fight-lead-symptoms/ [LID 19316]



2023 Volcano Art Prize (VAP) Entry. Title: **Wild Blueberries.** Lead-Safety Message: Medical Medium Anthony William calls Wild Blueberries both a heavy metal detox food and one of his top 10 Super Healing Foods. Excellent in smoothies! Artist: Jennifer Chuah, School Name: Creative Einstein, Age: 12 https://volcanoartprize.com/portfolio-item/wild-blueberries/ [LID 27652]

The Wisdom of Fishermen

The Work of Paying Attention

By Professor Bruce Lanphear, Plagues, Pollution & Poverty Substack, 5 July 2026, reprinted from https://blanphear.substack.com/p/the-wisdom-of-fishermen where anyone can subscribe to receive weekly free emails from the world's most well-respected lead pediatrician researcher [LID 29858]



Three days of salmon fishing in the Alberni Inlet left me with an unexpected lesson: good fishermen don't simply catch fish, they learn to read the sea.

Brent O'Malley's newly christened boat, *Forager*, lived up to its name. We spent three days foraging for salmon. The water was unusually warm. Sockeye were arriving in waves rather than a steady stream. Purse seiners, large boats that catch salmon in nets, had just swept entire schools from the inlet before we reached them. Every fisherman had another theory. Black hooks. Underwood Cove. China Creek. Fish at fifty feet. Fish at eighty. Get out before sunrise. Wait for the next wave.

I learned to watch the sonar, troll at different depths, experiment with flashers and hoochies, and pay close attention to tides and water temperature.

We didn't catch any sockeye salmon.

Oddly enough, it didn't feel like failure.

Instead, I came away with a deeper appreciation for the quiet knowledge experienced fishermen accumulate over a lifetime. Their wisdom isn't a collection of tricks. It's an understanding of tides, currents, weather, water temperature, and fish behavior, subtle patterns that most of us never notice.



That realization brought me back to my grandfather, Harold Lanphear.

Growing up, he thought of himself as a failed businessman. He had inherited the family chauffeur service in 1929, just as the Great Depression began and automobiles were becoming affordable enough that fewer people needed chauffeurs. The business slowly disappeared.

But that wasn't the whole story.

For forty years Harold earned his living on the waters off Watch Hill and Avondale, hauling lobster pots and fishing from a modest wooden boat named the *Ella L.* There was no GPS, sonar, chart plotter, hydraulic hauler, survival suit, or emergency beacon. Much of what kept him alive, and made him successful, existed only in his memory, experience, and judgment.

Years later, my father captured those skills beautifully in two stories.

In one, he described watching Harold pull lobster pots "like a dancer on a rocking stage," every movement perfectly timed to the rise and fall of the sea.

In another, he recalled a trip to Raggy Ledge, a reef between Atlantic Beach and Weekapaug. Harold found it not with electronics but by lining up a flagpole with a single distant tree, landmarks invisible to anyone else but permanently etched into his memory. Once anchored, the fishing was extraordinary. Blackfish, cod, and even an occasional blowfish filled two fifty-gallon barrels in only a couple of hours.

Those stories read differently after spending time on the Alberni Inlet.

What once sounded like ordinary fishing tales now strike me as accounts of extraordinary skill.

The best fishermen don't conquer nature. They pay attention to it.

They notice what others overlook. They form hypotheses, test them, discard the ones that fail, and quietly build on those that do. They understand that yesterday's answer may not work tomorrow because the sea is always changing.

But fishermen also inherit lore: black hooks, a certain tide, a favored cove, the lucky lure. Some of these traditions capture genuine patterns born of long experience; others survive simply because they have been repeated for generations. Good fishermen learn to distinguish between the two.

Scientists like to imagine we are different. In reality, we have our own versions of fishing lore. We become attached to favored hypotheses, familiar methods, and the latest technology. We measure what our instruments can detect, sometimes forgetting to ask whether we're measuring the most important thing. Expertise can sharpen our vision, but it can also narrow it, making it easier to mistake convention for truth.

Curiosity, patience, humility, and a willingness to learn from failure are what separate the best fishermen from the rest. They are also what separate the best scientists.

In that sense, *Forager* is more than a boat's name. It's a way of approaching the world.

Good fishermen are, above all, foragers. They search. They observe. They adapt. Every trip, whether successful or not, leaves them a little wiser than the one before.

We returned with only a few dozen spot prawns and a couple of spectacularly slimy hagfish.

A week earlier, I would have called that a failure. Now it feels different.

My father once wrote that some of my grandfather's lobster pots came up empty while others held three or four lobsters. "It wasn't lucrative," he said, "but it was a living. More than that, it was where Dad truly belonged, on the water."

I don't know that my grandfather ever considered himself successful. He measured himself by the chauffeur business he lost. I think he underestimated what he had gained instead: a lifetime of learning how to observe, adapt, and live with uncertainty.

The older I get, the more I realize that the wisest fishermen and the best scientists have something in common. Neither tries to master nature. Both spend a lifetime learning how to pay attention.

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The Role of Lead in the Neanderthal Demise

A new suspect joins a 40,000-year-old cold case, and the lesson still lands on a child's blood test today

By Elizabeth O'Brien, Lead Scientist and Lead Advisor, orchestrated by Ian Smith, Systems Analyst, using OpenClaw on top of Claude AI and Ollama local AI models where possible, on solar-powered infrastructure. © The LEAD Group Inc. November 2026

Neanderthals were not the shambling losers of the old cartoon. They were a hardy kind of human who ranged across Ice-Age Europe and western Asia for hundreds of thousands of years, knapped fine tools, buried their dead, and carried brains every bit as large as ours. Then, roughly 40,000 years ago, they were gone (National Geographic 2023). Why is one of the most worried-over questions in human origins, and the suspect list is long.

The catalogue of theories reads like the index to a murder mystery:

- violence;
- disease carried by incoming modern humans;
- competitive replacement;
- interbreeding;
- natural catastrophe;
- climate change; and
- inbreeding in an already small population (Wikipedia n.d.).

The honest answer is that it was probably several of these at once, and two of the better-evidenced culprits have firmed up lately. Working from stalagmites in two Romanian caves, one team matched a run of extreme cold, dry spells between 44,000 and 40,000 years ago to gaps in the Neanderthal tool record, arguing that the cold itself thinned their numbers (Northumbria University 2018). A separate mathematical model shows you may not need a catastrophe at all: steady, small waves of modern humans breeding into a smaller Neanderthal population could dilute them out of existence over 10,000 to 30,000 years, absorbing them rather than killing them, which is why a little Neanderthal deoxyribonucleic acid (DNA) still rides in most people of Eurasian descent today (Amadei et al 2025). That is the premise of the documentary "The Neanderthal in Us": they did not entirely vanish, some of them became us (Spark 2024).

In October 2025 a new name was added to the charge sheet, and it is one The LEAD Group has spent decades on: lead (Science 2025). An international study led by Professor Renaud Joannes-Boyau of Southern Cross University, with colleagues at Mount Sinai, the University of California San Diego (UC San Diego) and Arizona State, did something clever with old teeth (Arizona State University 2025).

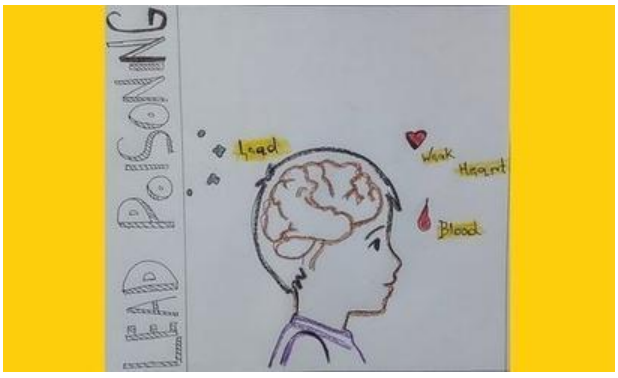
Teeth keep a diary. Enamel and dentine are laid down in fine layers through childhood, and whatever is circulating in the body at the time is written into the layer. Reading 51 teeth from fossil apes, early hominins such as Australopithecus and Paranthropus, early Homo, Neanderthals and Homo sapiens with high-precision laser geochemistry, the team found

sharp “lead bands”, pulses of exposure, stretching back almost two million years. Lead, in other words, is not an invention of Roman plumbing or leaded petrol. Our ancestors met it in contaminated water, soil and volcanic dust, and released their own stored dose from bone during illness and stress, long before anyone smelted a thing.



2024 Volcano Art Prize (VAP) Entry. Artist: Jennifer Chuah. Title: Three Skull Kings. Lead-Safety Message: Lead stored in your bones can actually kill you so contribute to or join The LEAD Group’s project to have bone lead testing available in Australia by portable X-Ray Fluorescence (pXRF). Description of Work: Coloured pencil drawing collaged in Powerpoint. URL: https://volcanoartprize.com/portfolio-item/three-skull-kings/ [LID 28175]

That would be a good story on its own. The twist is what the team did next. They grew “brain organoids”, pea-sized clusters of lab-grown neural tissue, and pitted two versions of a single gene against the same dose of lead. The gene is neuro-oncological ventral antigen 1 (NOVA1), a master regulator that, among other jobs, choreographs how developing neurons respond to lead. Modern humans carry a version of NOVA1 that differs by a single change from the one Neanderthals and other extinct hominids had, and until now nobody knew why ours evolved. When organoids built with the archaic Neanderthal NOVA1 met lead, they showed marked disruption in neurons expressing the forkhead box P2 (FOXP2) gene in the cortex and thalamus, the circuitry that builds speech and language; the modern-human organoids were largely spared. “Our NOVA1 variant may have offered protection against the harmful neurological effects of lead,” says Alysson Muotri of UC San Diego, one of the authors, “an example of how an environmental pressure could have driven genetic changes that improved survival.” Same poison, two lineages, and the damage landing on the machinery of language.



2026 Volcano Art Prize (VAP) Entry. Artist: Paula Jacobe. Title: How Lead Harms. Lead-Safety Message: Lead replaces iron in the blood causing anaemia, reduces IQ making it harder to learn, and increases the risk of early death from stroke and heart attack. Protect their future: keep kids safe from lead poisoning. Description of Work: Pen and colouring pencils on paper. URL: https://volcanoartprize.com/portfolio-item/how-lead-harms/ [LID 29411]

You can see where this points. If the developing Neanderthal brain was more sensitive to a toxin both species were unavoidably exposed to, then across thousands of generations that is a quiet, permanent tax on the very organ that runs planning, language and learning. It need not kill anyone outright. A small, steady handicap in brain development, compounded over a population already squeezed by cold and outnumbered by incomers, is exactly the sort of thumb on the scale that decides a slow contest. Lead does not evict the climate and competition theories. It joins them, and it may help explain why the competition went the way it did. None of this is proven. It is a

single new study, and its authors are careful to cast lead as a contributing pressure rather than the executioner, which is why Science's own write-up kept a question mark in its headline. But the part that should matter most to us does not depend on winning the Neanderthal argument.



2026 Volcano Art Prize (VAP) Entry. Artist: Grandma Lead. Title: Unleaded Children. Lead-Safety Message: Unleaded children and deleaded children and adults are our hope for a Lead-Safe and Climate-Safe future. Warmer seas must be cooled so jellyfish overpopulation is averted. Smarter adults of the future will have to solve many such problems. Description of Work: iPhone 13 photos. URL: https://volcanoartprize.com/portfolio-item/unleaded-children/ [LID 29992]

For a lead-safety audience the deep-time detail is fascinating, but the part that should stop you is the genetics. This is direct evidence that susceptibility to lead is written partly in the genes, that the same exposure can injure one developing brain more than another. It is the oldest imaginable argument for the thing The LEAD Group keeps saying: there is no safe level of lead, and the dose one resilient brain seems to shrug off can still be quietly harming a vulnerable one. Forty thousand years on, we are, apparently, the lineage that drew the more protective card. And we are still lacing our children's water, soil, paint and air with the same metal that may have helped finish our cousins. The Neanderthals paid that bill in full. We have no such excuse.

References

Amadei, A, Lin, G and Fattorini, S (2025) A simple analytical model for Neanderthal disappearance due to genetic dilution by recurrent small-scale immigrations of modern humans, Scientific Reports 15:38593, https://www.nature.com/articles/s41598-025-22376-6 [LID 29464]

Arizona State University (2025) Study finds ancient lead exposure shaped evolution of human brain, ASU News, 15 October 2025, https://news.asu.edu/20251015-health-and-medicine-study-finds-ancient-lead-exposure-shaped-evolution-human-brain [LID 29460]

National Geographic (2023) What is a Neanderthal, and why did they go extinct?, 6 March 2023, https://www.nationalgeographic.com/history/article/who-were-the-neanderthals [LID 29462]

Northumbria University (2018) Cold climates contributed to the extinction of the Neanderthals, 29 August 2018, https://newsroom.northumbria.ac.uk/pressreleases/cold-climates-contributed-to-the-extinction-of-the-neanderthals-2654839 [LID 29463]

Science (2025) ScienceAdviser: Did lead poisoning doom Neanderthals?, Science.org, 17 October 2025, https://www.science.org/content/article/scienceadviser-did-lead-poisoning-doom-neanderthals [LID 29459]

Spark (2024) What Caused The Extinction Of The Neanderthals? | The Neanderthal in Us [video], YouTube, 9 June 2024, https://www.youtube.com/watch?v=K-qUKsr_3bg [LID 29461]

Wikipedia (n.d.) Neanderthal extinction, accessed 7 September 2026, https://en.wikipedia.org/wiki/Neanderthal_extinction [LID 29465]

About Pure Earth 2026 Impact Report

By Drew McCartor, LinkedIn, 23 October 2026, reprinted from https://www.linkedin.com/feed/update/urn:li:activity:7519073251583557633/ [LID 30011]



How does a government build a lasting response to lead poisoning? It takes several gears working in sync.

Pure Earth's new 2026 Impact Report tracks five signals of systemic change for addressing lead exposure. Check out some highlights from the report, showing how each signal connects to our lead prevention work around the world:

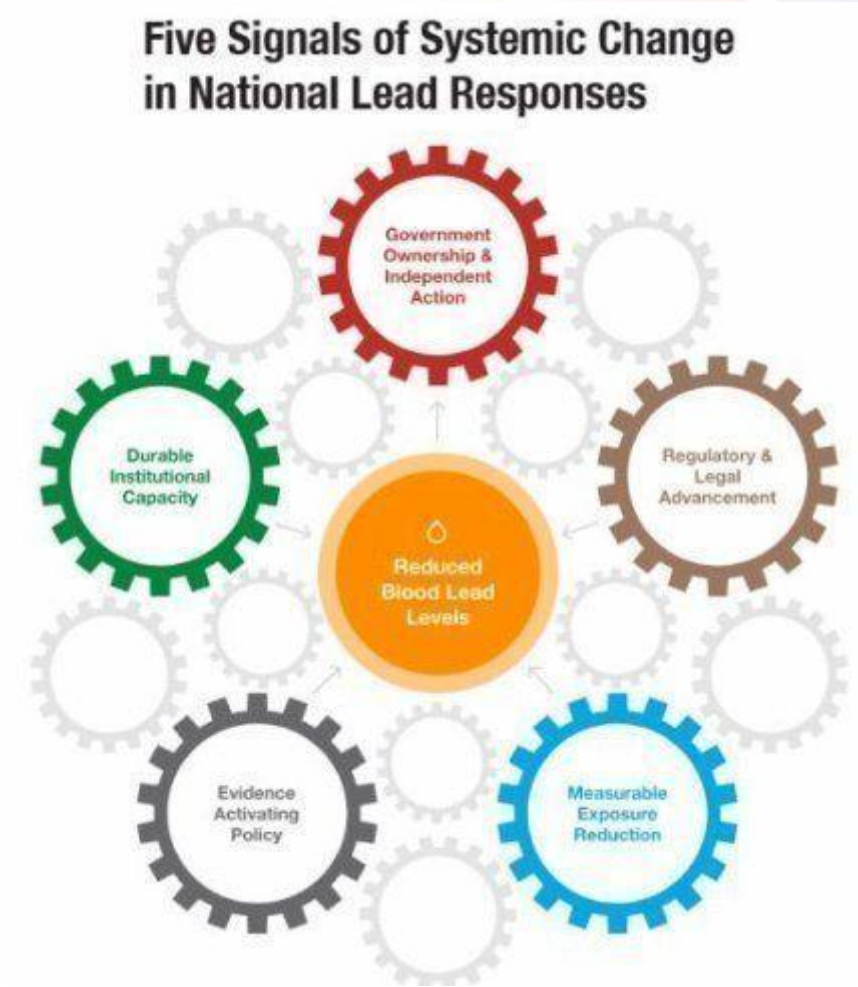
1.) Government ownership: Bangladesh's Department of Environment has taken enforcement action at 57 informal used lead-acid battery recycling facilities.
2.) Regulatory advancement: Ghana has set its first legal limit on lead in cookware.
3.) Measurable exposure reduction: In Labanchora, Bangladesh, a cleanup reduced soil lead by more than 99%, and 700 people no longer live and study on contaminated ground.
4.) Evidence activating policy: In Indonesia, blood lead data from more than 1,600 children unlocked Ministry of Health budget commitments.
5.) Durable institutional capacity: Kyrgyzstan now has its first national heavy metals reference laboratory thanks to Pure Earth' support.

Read the full report to learn more: **pureearth.org/2026-impact/**

#LeadPoisoningPrevention #GlobalHealth #ChildHealth #EnvironmentalHealth #ILPPW

With Australia being the world's largest lead exporter and the Minerals Council of Australia (MCA) having saturation media advertising of the job and lifestyle benefits of mining, and a Voluntary Stewardship policy for exploration and mining member companies, our Australian governments have to prioritise global lead-safety, a lead circular economy and intergenerational equity (let future children grow up unleaded and therefore smart enough to solve the climate and AI existential crises) in order to, for instance, prevent or quash all new lead mine approvals by short-term thinking state governments here. Thank you to everyone who helped The LEAD Group charity help the Mudgee community and NSW Nature Conservation Council by submitting an Objection to Bowdens Silver Project lead mine being approved, to help stop an extra 95,000 tonnes of lead being unleashed on the world which

clearly can't manage all the lead that's been mined already in the last 6,000 years. Submissions to the Independent Planning Commission of NSW closed at 11:59pm Sydney-time on 11th November 2026 and the decision is pending. Follow the case at https://www.ipcn.nsw.gov.au/cases/2022/12/bowdens-silver



Pure Earth Bangladesh research informs global ULAB rules

Video transcribed and this newsletter article created with video screenshots taken by Elizabeth O'Brien, The LEAD Group Inc, Australia. Watch the 1:24 minute video "From Dhaka to Geneva: Bangladesh's evidence on lead-acid batteries informs global guidelines on waste batteries" at https://lnkd.in/p/gDCePF4Z ; Read at https://www.linkedin.com/posts/henrique-pacini-3baa0a6_baselconvention-wastebatteries-leadpoisoning-ugcPost-7523741636346982401-IOxe/ [LID 30096] and reposted at: https://www.linkedin.com/feed/update/urn:li:activity:7523741978501660672/

Pure Earth Bangladesh and Elizabeth O'Brien of The LEAD Group reposted this

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*4th November 2026 LinkedIn post by **Henrique Pacini***

Programme Lead & Board Member, UK-UNCTAD SMEP Programme | Economist, UN Trade and Development (UNCTAD) | Circular Economy · Trade · Pollution | PhD (KTH) · Harvard Fellow | 60+ publications

From Dhaka to Geneva: how field evidence from Bangladesh is feeding into global rules on waste batteries.

This week the Basel Convention's small intersessional working group is in Geneva (3 to 6 November) updating the technical guidelines on the environmentally sound management of waste lead-acid batteries/ [used lead-acid batteries (ULABs)], and of other waste batteries. These guidelines are the reference countries use to align how batteries are collected, transported, stored, recycled and disposed of.

Why does a project in Bangladesh matter here? Around 3 million electric three-wheelers in the country run on lead-acid batteries: affordable e-mobility for millions, but with a toxic afterlife. Roughly 80% of used batteries are recycled informally, and nearly half of Bangladesh's children under the age of 5 have elevated lead levels in blood.

Research supported by **The SMEP Programme**, led by **Pure Earth** with **Georgetown University** and **Stanford University**, showed that trade policy is part of this story: after Bangladesh restricted battery imports in 2015, domestic manufacturing and informal recycling expanded, and terminated pregnancies rose by 4 to 5 percentage points among women living within 5 km of battery recycling sites. The same evidence fed into Bangladesh's national strategy for a lead-free country.

I recorded a short interview with **Mitali Das**, Country Director of **Pure Earth Bangladesh**, on the margins of the meeting. Her message is simple: e-mobility should not come at the cost of health and the environment.

The world took decades to get lead out of petrol. As electrification accelerates, battery and mineral flows need governance that keeps pace, from the three-wheeler garage to the Basel Convention.

#BaselConvention #WasteBatteries #LeadPoisoning #EMobility

#CircularEconomy #Bangladesh #SMEP #TradeAndEnvironment Chantal Line Carpentier Lara Fisher Crampe Angela Bernhardt Amrita Kundu, PhD Erica Plambeck Savanna (Xi) Li Amanda Dinan Staci Warrington The Basel, Rotterdam and Stockholm Conventions UNCTAD Trade Atiq Zaman Jitendra Sharma, PhD Carla Valle-Klann



VIDEO TRANSCRIPT transcribed and screenshots placed by Elizabeth O'Brien

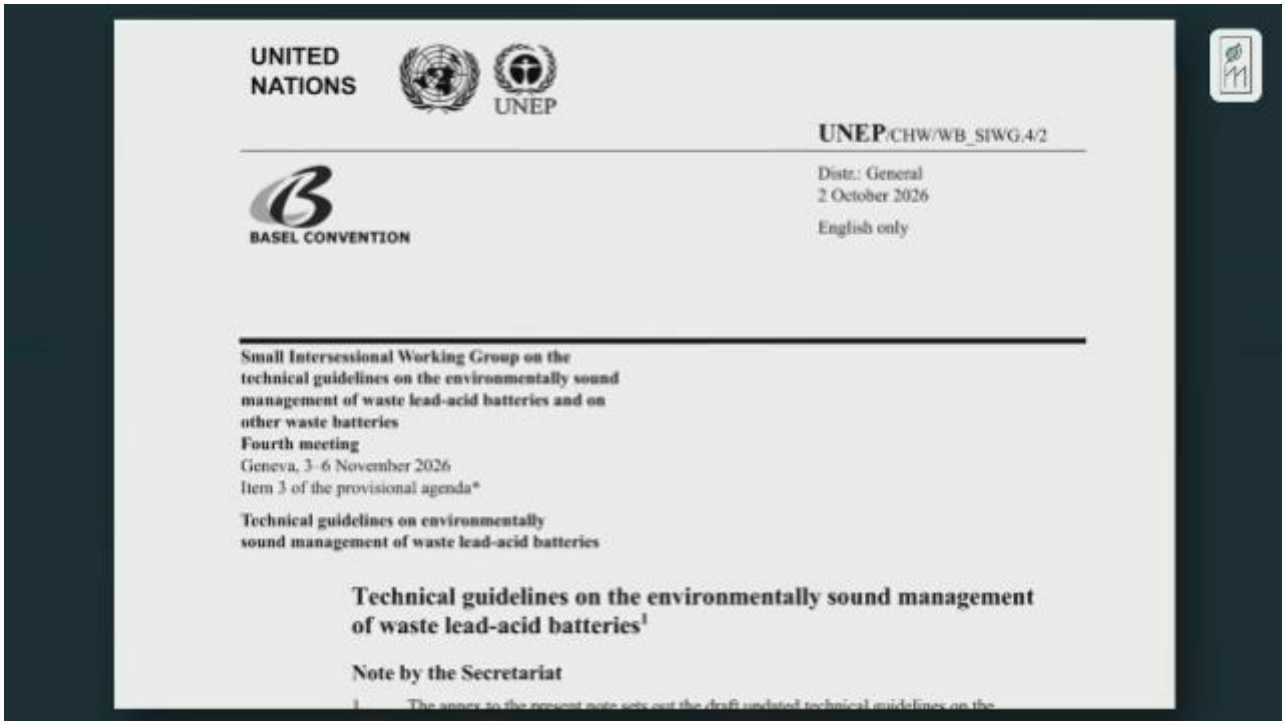


Mitali Das, Country Director, Pure Earth Bangladesh: At the small intersessional working group on the environmental sound management of used lead-acid batteries [ULABs], and of other waste batteries. So, lead pollution is a global issue and Bangladesh also carries the burden of this impact of this pollution… where nearly half of the children have elevated blood lead levels.



One of the major sources is informal recycling of lead acid batteries.




UNITED NATIONS

UNEP

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Distr.: General
2 October 2026

English only

BASEL CONVENTION

Small Intersessional Working Group on the technical guidelines on the environmentally sound management of waste lead-acid batteries and on other waste batteries
Fourth meeting
Geneva, 3–6 November 2026
Item 3 of the provisional agenda*

Technical guidelines on environmentally sound management of waste lead-acid batteries

Technical guidelines on the environmentally sound management of waste lead-acid batteries[1]

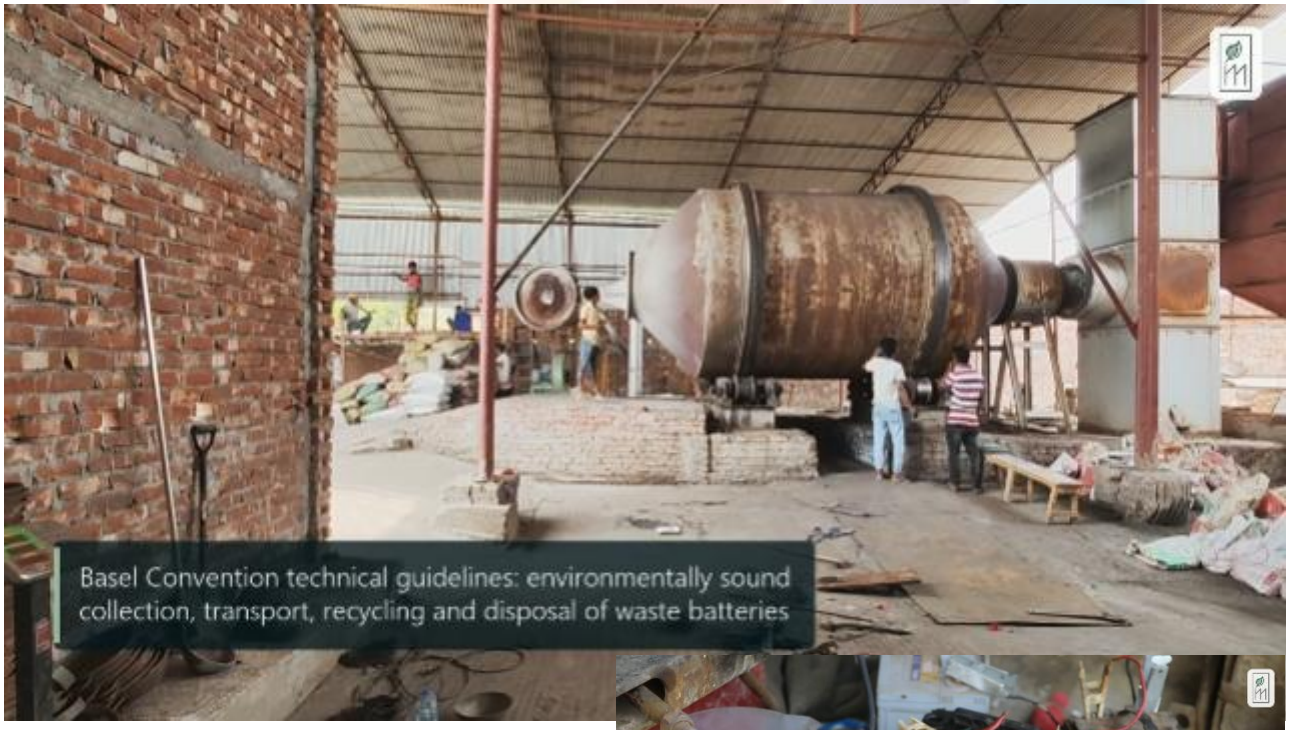
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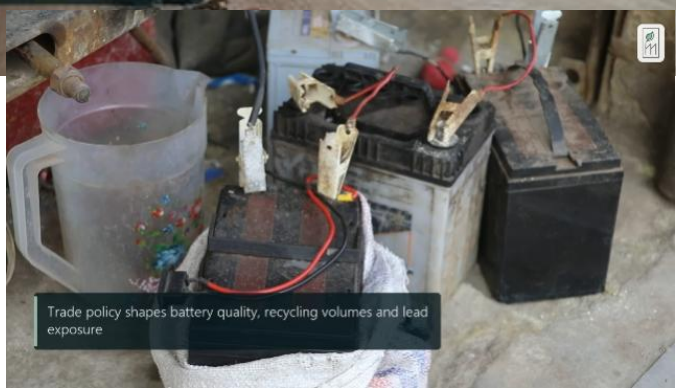
1. The annex to the present note sets out the draft updated technical guidelines on the

It's very important because this gives an international framework to how these batteries can be collected, transported, recycled and also disposed in a more environmental sound manner.

[Basel Convention: Technical guidelines on the environmentally sound management of waste lead-acid batteries, 2nd October 2026 (draft). [Editor's note: The final updated guidelines are slated for consideration

*and adoption at **COP-18** (19 to 30 April 2027 in Panama City, Panama).]*





And it also gives a guideline to a safer transition of the informal lead acid batteries to more formal and safe manner.

Under **The SMEP Programme**, the research suggested there's also a risk of foiling [?inaudible] the informal recycling because of the import barrier of the lead acid battery.


SMEP-SUPPORTED RESEARCH · BANGLADESH
Bangladesh restricted battery imports in 2015. Domestic manufacturing grew, batteries lasted less, and recycling and smelting expanded.
+4 to 5 percentage points
higher likelihood of terminated pregnancy among women living within 5 km of battery manufacturing, recycling or smelting sites
Kundu, Mahzab & Plambeck (2026), Barrier to Import Batteries and Lead Poisoning in Bangladesh · Georgetown University · IFPRI · Stanford GSB

And the widespread electric three-wheelers around our country is one of the sources where



a lot of poor quality batteries are used which are recycled informally... where 80% are done



informally. This gives the message that the **e-mobility should not come at the cost of health and environment.**

Cookware Regulatory Wins in India Ghana and Mexico

Some screenshots and rough notes of an ILPPWA 2026 Pure Earth Webinar, attended after the first half hour (because the PREVENT webinar ran half an hour overtime) by Elizabeth O'Brien, The LEAD Group Inc. Australia. Some of the questions were answered live but I did not manage to record the answers.

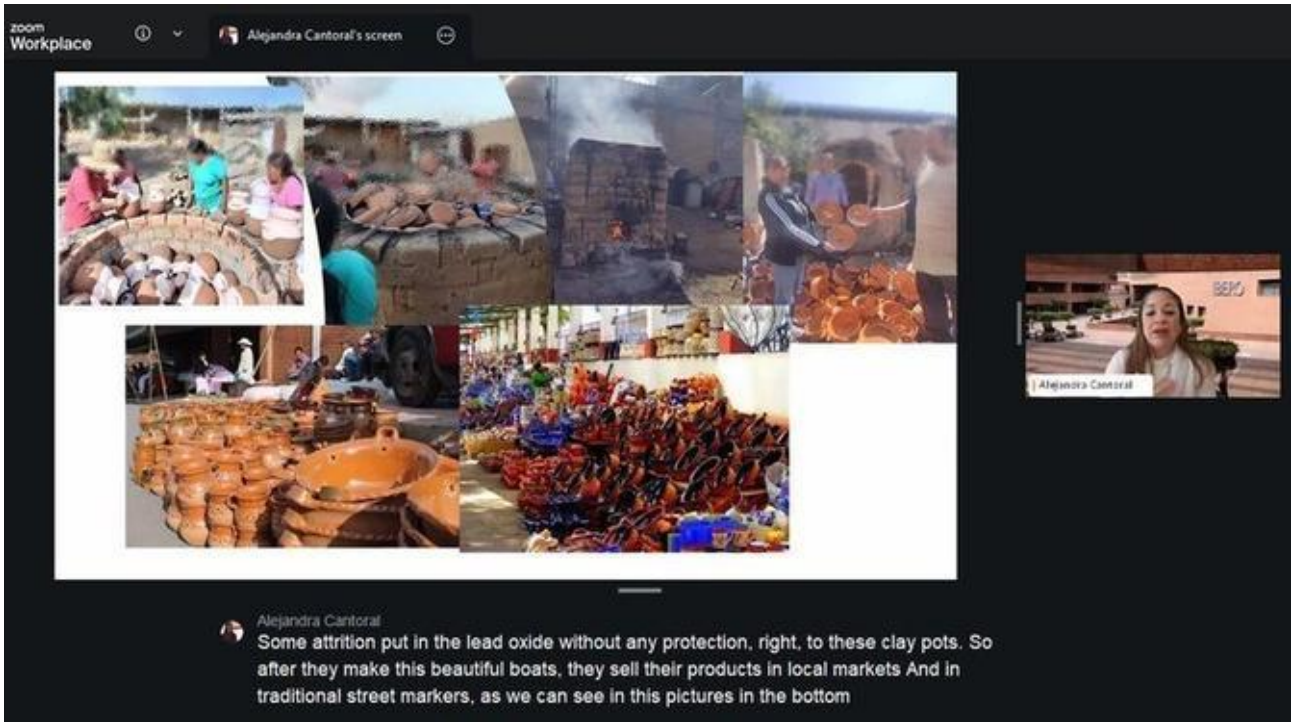
Full title of Pure Earth Webinar:

From Law to Impact: Cookware Regulatory Wins in India, Ghana, and Mexico

Pure Earth Cookware Webinar presenters: Alejandra Cantoral, Mexico; Benjamin Cheabu and Ing Adelaide Teimle Aikins, Ghana; Emershia Sharmine and G Bhavani, India

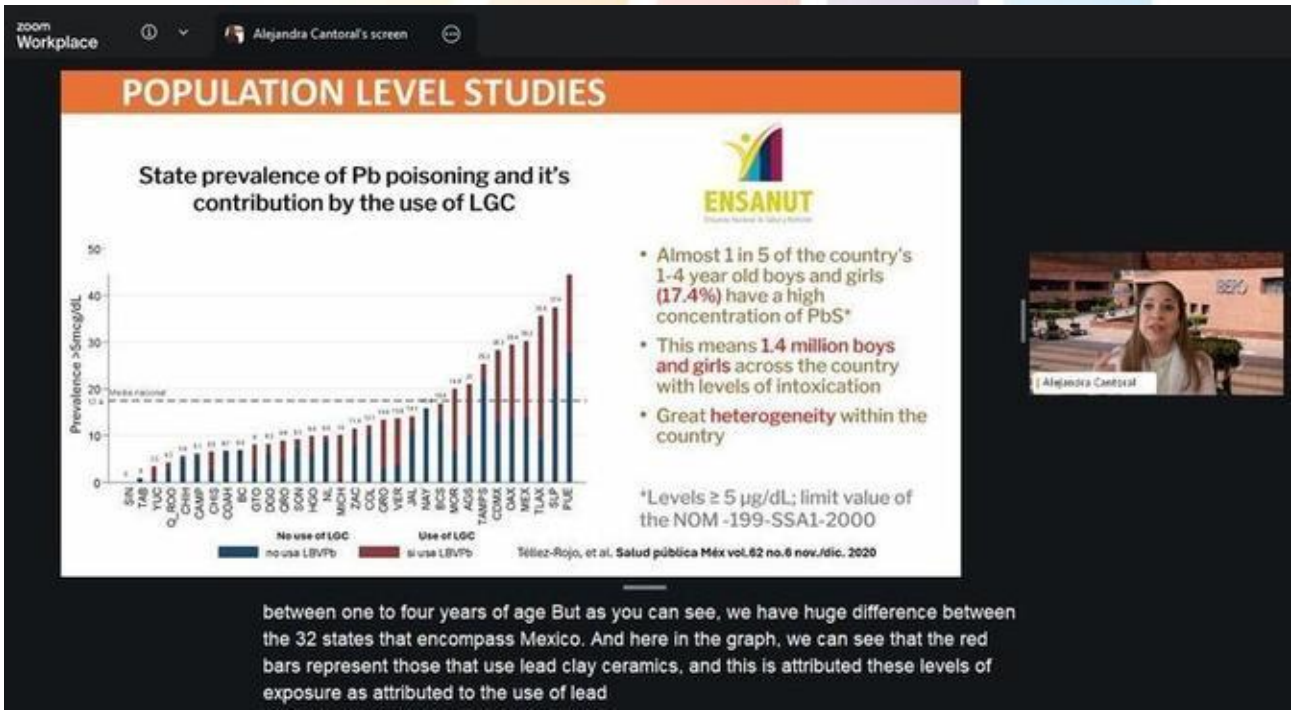
Oct 22, 2026 09:00 AM Eastern Time (US and Canada), Oct 23, 2026 midnight AEST (Australian Eastern Summer Time)

Alejandra Cantoral, Mexico



SLIDES:

Alejandra Cantoral: 10-50,000 Mexican families make pottery to sell for a living



Alejandra Cantoral: 1.4m Mexican children have blood lead levels of more than 5µg/dL



Question (Q) from Akanksha Saletore 12:54 AM

Would conforming to the standards require a large fundamental shift in the manufacturing process or smaller tweaks in source materials, certain steps in the process, etc? And what are the financial implications for manufacturers?

Q&A moderated by Reithinger, Pure Earth

Q from Bereket Tesfaye 12:14 AM

It's great to know that Ghana has established standards for lead and other hazardous metals in domestically manufactured cookware. Does Ghana also have similar standards for imported cookware?

Q from Bereket Tesfaye 12:21 AM

What is the maximum permissible or acceptable limit for lead in metallic cookware? Is there an internationally recognized standard, a WHO, US FDA guideline specifying the allowable lead content or lead migration limit for metallic cookware?

Answer (A) from Benjamin Cheabu 12:38 AM

It is 100 parts per million (100 ppm) lead for now in Ghana.

Q from Akanksha Saletore 12:28 AM

Is a 6-month timeline typical for passing standards of this nature? Was there something that accelerated/ prolonged the process in Ghana?

Q from Mark Engman 12:31 AM

How do governments finance the testing and enforcement mechanisms?

A from Ing Adelaide Teimle Aikins: The government doesn't bear the cost of testing, the

manufacturer does.

A from G. Bhavani: The Bureau of Indian Standards (BIS) runs labs that can do the testing and certification lasts for 5 years. Non-compliance can lead to cancellation of the licence to manufacture. The BIS app can be used on any mobile phone and consumers can verify the ISA licence number and provide the manufacturer and whether the product complies with BIS certification. The app can be used to make complaints by uploading a photo and other details about a product. If women in particular are aware of lead in cookware products, because these products are in every home, we can get the message out.

A from Alejandra Cantoral: in Mexico, if the manufacturer is using lead-free glazes, you can be guaranteed the products will comply with the standard.



Q from Carol Sumkin 12:28 AM

For Dr. Cantoral, what new strategies are being used to help artisans transition to lead-free glaze, given how embedded the use of lead glaze is?

A from Alejandra Cantoral: we train artisans to use lead-free glazes after cleaning lead out of all the kilns and the workshops. Also they support families to sell their products but to export the products they have to obtain certification.

Q from Emmanuel Odjam-Akumatey 12:30 AM

Ing Adelaide, I'm confused about why lead in paint must have a limit of 90 ppm but cookware which has a direct connection with oral ingestion can be 100 ppm lead.

A from Benjamin Cheabu 12:39 AM

The 90 ppm limit for paint and the 100 ppm reference for cookware were developed on different bases. They do not mean that a higher lead exposure is acceptable from cookware.

For cookware, the critical question is how much lead migrates into food under cooking conditions. Total lead content is useful for screening, but it cannot answer that question completely.

So, scientifically, the higher number is not justified simply because the lead is contained in metal. It needs supporting migration evidence and neither threshold should be presented as a guarantee of zero risk.

Q from Autman Tembo 12:34 AM

This question is directed to India. In countries such as Malawi, informal manufacturers of metal cookware are more common than formal ones. These producers range from small family-owned businesses to individual artisans operating within local communities. How can a mandatory standard be effectively enforced for this category of manufacturers?

Q from Akanksha Saletore 12:54 AM

Would conforming to the standards require a large fundamental shift in the manufacturing process or smaller tweaks in source materials, certain steps in the process, etc? And what are

the financial implications for manufacturers?



Q from Anne Riederer 01:01 AM

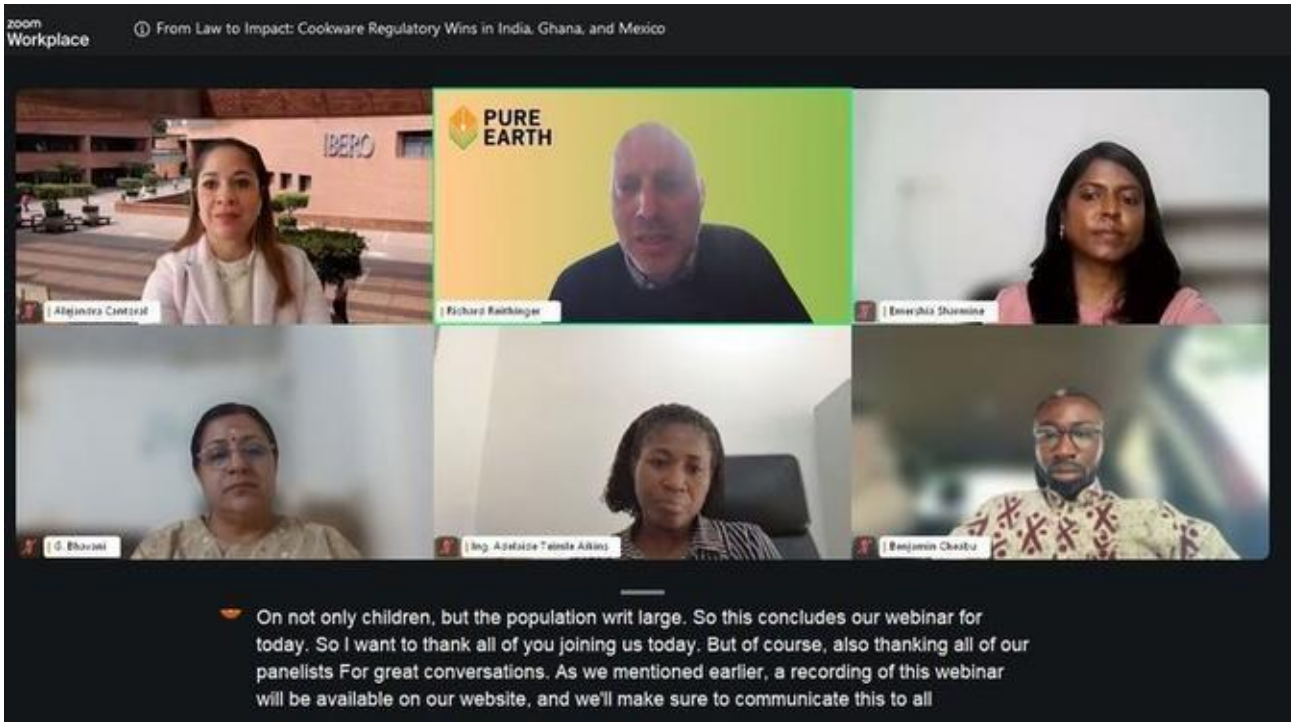
Related to Akanksha's question, what are people doing to help screen scrap metal inputs: do scrap collectors and recyclers also need to be certified, follow test methods, etc.?

A from Emershia Sharmine and G Bhavani: if a manufacturer has 10 sites, testing must be carried out at all 10 sites.

Q: Is XRF used to test lead in cookware?

A from Benjamin Cheabu: in Ghana, XRF is only a screening tool. It will not answer how much lead leaches from the cookware or what blood lead level might be reached in people consuming food cooked in the cookware.

Pure Earth Cookware Webinar Presenters from India, Ghana & Mexico



[Webinar ended 1:28am Australian Eastern Summer Time]

Opinions on lead ban or unleaded or lead free or safe

Leadnet* Emails Re: Pure Earth ILPPWA 2026 News: Mexico plans to ban lead in pottery

**Note about Leadnet:* *Leadnet is a free service about lead poisoning management and prevention, brought to you by the US National Center for Healthy Housing. For more information on NCHH and its programs, visit www.nchh.org*

A blank message to Leadnet-on@mail-list.com from the email address you wish to subscribe from - subscribes you to the list.

Once subscribed, you can post your message to the list by sending it to Leadnet@mail-list.com – c/o mail-list.com 1302 Waugh Dr. #438 Houston, Texas 77019 USA

These five emails were posted to Leadnet on 11th – 13th November 2026. For this compilation, square-bracketed explanatory text was added by Elizabeth O'Brien, The LEAD Group Inc, Australia

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***Email one** from **Phillip Bouton**, Columbus Public Health Program Manager 1, Lead Education and Poisoning Prevention / Healthy Children and Safe Homes by 2040; www.columbus.gov/lead*

Wondering if there is really anything new we can tell families with cultural roots from Mexico that like to use glazed pottery? Is Mexico implementing several new changes or mainly enforcing current standards on the books already?

The PR basically says this ban on lead glazes is being lowered from 600 ppm to 90 ppm but during visits to EBL [elevated blood lead) households we see glazed Mexican pottery in the tens of thousands ppm by XRF, so compliance will depend mainly on the glaze manufacturers transitioning to lead-safe glazes? Are there also small artisanal operations that make their own lead glazes that could continue to be a problem in Mexico?



2013 Volcano Art Prize (VAP) Entry. Artist: Svetlana Dylevskaya. Title: Buy lead free glazed pottery. Lead-Safety Message: "Buy lead-free glazes when making pottery or buy lead-free glazed pottery". Description of Work: Digital photo. https://volcanoartprize.com/portfolio-item/buy-lead-free-glazed-pottery/ [LID 17224]

***Email two** from **Eric Ritter**, DetectLead / Fluoro-Spec; Instagram - Eric Everything Lead*

Hi Phillip,

I went looking for the actual announcement, since the newsletter runs a few things together. During lead poisoning prevention week in October, Mexico's health ministry and COFEPRIS [COFEPRIS stands for Comisión Federal para la Protección contra Riesgos Sanitarios, which translates in English to the Federal Commission for the Protection against Sanitary Risks] (roughly their FDA [Food and Drug Administration]) said they're updating four of their official standards. The 600 to 90 ppm drop belongs to the paint one (NOM-003, [where NOM means Norma Oficial Mexicana] which covers paints, inks, varnishes, lacquers and enamels), and it brings Mexico down to the same 90 ppm the US uses for paint on consumer products. "Esmaltes" sometimes gets translated as glazes, which may be how that number got attached to pottery.

The pottery change is a separate rule (NOM-004) and it's the new part.

It would ban lead compounds as an ingredient in making, importing or selling glazed pottery, glazed ceramics and glassware, decorative and garden pieces included. Mexico's current pottery standard (NOM-231) works like the FDA's, where you soak the piece in a weak acid and measure how much lead comes out, and they plan to tighten those limits as well. That's why your XRF readings don't line up with anything on the books. A glaze reading tens of thousands of ppm can't be held against a ppm number because the current rule only has a leach limit.

A ban on lead in the glaze itself would cover what your XRF is picking up.

On timing, the paint and blood lead updates are furthest along. Drafts of both were published for public comment in January [2026] and comment closed in March. I couldn't find a draft or a date for the pottery [lead] ban or the tighter leach limits, so nothing has changed on the ground there yet.

And yes, small workshops are most of the problem. Casa Cem, a Mexican organization, visited 48 pottery workshops for a 2024 report on where the lead comes from, and only 14% had stopped using lead glaze.

Potters wouldn't say where they bought their lead and it came in unlabeled containers. The top glaze sample was 93% lead by weight, which is about what straight lead oxide is. They also found lead-free glazes for low-fire pottery available at competitive prices, so the technology isn't what's holding things up. COFEPRIS says the rollout won't be punitive. It comes with incentives to switch and a national lead-free seal that's free for producers, tested through the state public health labs, on top of the "Sin Plomo" [“unleaded” or “lead-free” in English] seal the national crafts fund (FONART) already gives workshops. The head of INSP, their national public health institute, estimated that getting lead out of pottery used for food could prevent almost half of child lead poisoning cases in Mexico.

For families in Columbus nothing is different yet, and pieces already in homes or brought back from visits aren't touched by any of it. What might help is the message Mexico's own

health officials used "Barro sí, plomo no" (“yes to clay, no to lead”) as the line for the week.

Hearing that from home-country officials may land better than hearing it from someone who may be viewed as forcing them away from something traditional, and it lets families keep the pottery and just drop the lead glaze.

October announcement (Spanish):

https://codigof.mx/mexico-prepara-nuevas-medidas-para-reducir-la-exposicion-al-plomo-en-la-infancia/

January drafts and comment period:

https://mexicobusiness.news/health/news/cofepris-opens-public-consultation-five-draft-noms

Casa Cem's workshop findings:

https://www.cgdev.org/sites/default/files/Chavez_Arce_presentation.pdf

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***Email three** from **Mike Sharp**, Senior Safety Officer, Janus Corporation - Trusted Leaders in Demolition and Abatement Since 1989; www.januscorp.com*

All this is good info - but does anyone besides me have a problem with calling a reduction in lead a "ban"?

We do the same type of thing in the US - often calling materials "lead free" when they are not actually "free of lead".

This is a false sense of security that can be very harmful.



2026 Volcano Art Prize (VAP) Entry. Artist: Margaret Roberts. Title: Silly Goat. Lead-Safety Message: Don’t be a silly goat, check your house for lead paint. Description of Work: Photo. https://volcanoartprize.com/portfolio-item/silly-goat/ [LID 29933]

Email four *from* ***Elizabeth O'Brien****, The LEAD Group Inc charity, Australia;*
www.lead.org.au; www.leadsafeworld.com; www.volcanoartprize.com
Winner of the United Nations Association of Australia (UNAA) Award for Outstanding Service to the Environment https://lead.org.au/mr/20040605.html
Partner, Partnership for Clean Fuels and Vehicles, of UNEP (United Nations Environment Programme) https://files.mail-list.com/m/leadnet/80424793.html
Ally, "Lead Paint Alliance" - Global Alliance to Eliminate Lead in Paint, of UNEP and WHO (World Health Organisation) https://files.mail-list.com/m/leadnet/23604593.html
Partner, Partnership for a Lead Free Future (PLF), of UNICEF
https://www.leadfreefuture.org/about/partners-0

I totally concur Mike... I also have a major problem with calling a reduction in lead a "ban" and with calling materials "lead free" when they are not actually "free of lead" and I really felt a sense of panic about such nomenclature when UNICEF announced its "Partnership for a Lead Free Future (PLF)". I first wondered was UNICEF's plan to find a planet we could all move to that had no lead in the crust and therefore no lead being emitted by volcanoes or taken up by plants or other things that grow in the soil and therefore being emitted from wildfires. But my Google AI Assistant search result said: "No known planet is completely devoid of lead, as heavy elements like lead are forged in stars and distributed into the cosmic dust clouds that form all planetary systems."

So I investigated what UNICEF meant by "a Lead Free Future" and it's something like:

PLF's intention is to track progress and support coordination across the global effort to eliminate lead exposure that results in a blood lead level greater than 5ug/dL in 95% of LMIC children under the age of 5 by the end of 2040, or put more simply, the PLF's vision is that only 5% of pre-school age children in low and middle income countries as of 2040 will be born into a world where they will have lead exposure above the US CDCs previous reference level or what I like to call "blood lead action level".

I realized I'd have to go with the flow on that one - it being the United Nations and all - and shelve my idea that they might change the name of the partnership to "Partnership for a Lead Safe Future" and aim to keep every human's blood lead level below The LEAD Group charity's "blood lead action level" of greater than 1ug/dL and I'd have to let go of my desire for "lead free" to mean "lead free" so I joined my charity up to the PLF regardless.

But there's one use of the term "lead free" that I still hold out hope of changing, or asking keen Leadnetters to seek to get changed: it is that despite there being no such thing as "lead free brass" (if it doesn't contain lead then it is not brass, [although I've been advised since I wrote that that in fact there is the option that you not add lead to brass and thus you can have "unleaded brass" – still with significant amounts of unintentionally added lead – more research needed to confirm that]), the US plumbing products legislation defines "lead free brass" as brass with less than 0.25% lead in it. That's just all kinds of wrong and sadly, this lie has already spread to Australia (and I imagine every other country into which plumbing products made and labelled for the US market are also sold), such that, as of 1st May 2026,

plumbing products with less than 0.25% lead in them have been permitted to be marketed/labelled as "lead-free plumbing products". With some drinking water supplies in our country being particularly soft, and insufficient attention to the possibilities of new water treatments increasing the plumbo-solvency of drinking water, having brand new "lead free brass" taps installed in some areas is the pathway to drinking lead in your water, at least for a couple of months or years. The other problem that occurs from Australia copying the US definition of "lead free brass" and allowing low lead brass plumbing products to be marketed as "lead free" plumbing products, is that this terminology completely obliterates what should be a huge marketing advantage of stainless steel plumbing products to which no lead is added at all and which could, according to the detection limits available at most labs today, perhaps legitimately be labelled today as "lead free".

2017 Volcano Art Prize (VAP) Entry. Artists: Andriam Bala; Filmed: Elizabeth O'Brien; Film Edited: Malveek Kaur Dhaliwal. Title: New Brass taps often add lead to water. Lead-Safety Message: Test your water before drinking from a brass tap or rainwater system using a LEAD Group Water Kit or Comprehensive Kit. Description of Work: iPhone 4s Video. https://volcanoartprize.com/portfolio-item/new-brass-taps-often-add-lead-to-water/ [LID 18507]



Having this much confusion in English means it is no surprise that issues arise when dealing with another language. I don't speak Spanish but I found online today that "Sin Plomo" means either "unleaded" or "lead-free" in English. At least in English, unleaded is mostly used to mean that you haven't added any lead, whereas, apart from "lead-free brass" I think most people would expect something called "lead free" to actually be free from lead - despite this being a future perhaps impossible dream once you apply lab analysis to the item.

Not adding lead is something you can write in to legislation and enforce so using the term "unleaded" to do that works for me whereas the term "lead free" is virtually indefinable. What can be measured by one lab today as "non-detectable for lead" will assuredly give a detectable level of lead tomorrow in some other lab with more modern equipment.

To me, "unleaded gasoline" is a reasonable term considering that crude oil and thus unleaded gasoline always has some amount of lead in it - because there's naturally occurring lead in soil and therefore in plants and therefore in all fossil fuels. Similarly, "unleaded paint" is a reasonable term because you can legislate and enforce that no lead compounds be added to the paint sold, manufactured or imported in to your country and when you set an upper limit for lead in paint - like 90 ppm - you are basically limiting lead to 90 ppm which is comprised

of the naturally occurring lead in other paint raw ingredients like zinc.

2020 Volcano Art Prize (VAP) Entry. Artist: Elizabeth O'Brien. Title: Is 2020 the End of Leaded Petrol? Lead-Safety Message: The PCFV said in 2019, only Algeria still sells Leaded Petrol. Innospec in Feb 2020 still "believes" they're the only TEL producer and they expect TEL revenues to conclude in early 2020. Description of Work: Collage of PCFV map etc from United Nations website, made using Powerpoint and Paint. https://volcanoartprize.com/portfolio-item/is-2020-the-end-of-leaded-petrol/ [LID 19817]



And yes, like Mike, I have a major problem with people - like in Australian government publications - saying things like "residential lead paint was banned in Australia in 1970" when in truth, in 1970, we set our first limit as 10,000 ppm lead! In 1990, the limit was lowered to 5,000 ppm; in 1992, to 2,500 ppm; in 1997, to 1,000 ppm and due to a 2010 ban on adding any one of 15 lead compounds then used to make residential paint in Australia, the lead limit for residential paint was lowered to 90 ppm as of 1st October 2021!

In truth, each jurisdiction can only ban the addition of lead to something from a given date onwards, (and if you do that in stages it is correctly called a "phase-out" or "phase-down to a final ban"), whereas any consumer product that was made before that date, unless it is actually recalled, is still going to be kicking around in people's homes for as long as they don't know enough about the hazards of lead to dispose of it (or at least stop eating from it and put it on display only).

2023 Volcano Art Prize (VAP) Entry. Artist: Julia Jia, Age 9, School Name: Creative Einstein. Title: Spreadable Lead Sunset Clause. Lead-Safety Message: To protect our air, land, rivers and oceans from spreadable lead, the world needs to ban all leaded products that are easily dispersed. For example lead sinkers, ammunition, weights and old style lead acid batteries that leak. Description of Work: Colouring pencils on paper. https://volcanoartprize.com/portfolio-item/spreadable-lead-sunset-clause/ [LID 27686]



It does seem to me that if Eric Ritter is right in saying NOM-004 would "ban lead compounds as an ingredient in making, importing or selling glazed pottery, glazed ceramics and glassware, decorative and garden pieces included" and if there's going to be a date by which all glazes for these products that are sold, manufactured or imported into Mexico must have no lead compounds added, then, that constitutes a "ban on lead being added to Mexican pottery" so I would find "ban" an acceptable term here. Of course, this ban will not make Mexican pottery on that ban date "lead-free" because small operators may take years to use up the lead glazes they've already purchased, a black market could develop for such lead glazes if their promoters tell the buyers in pottery workshops that lead glazes are somehow better or at least cheaper than non-leaded glazes, most of the pottery made before the ban date will still have lead glazes and people may not necessarily be able to afford to replace it, and finally there can easily be lead found in the clay used to make the pottery. So I'd be happy that a "ban" means no lead added from a date to products made and preferably labelled "unleaded" after that date (so that when they're sold they are distinguishable from old stocks of leaded pottery), but it certainly will not mean leaded pottery won't be being used in Mexico and Mexican leaded pottery won't be being used worldwide from that date.

Thanks Mike for raising this important issue of nomenclature and hopefully we can all get on board with "ban" and "unleaded" and leave "lead free" out of it altogether.

***Email five** from **Mike Sharp**, Senior Safety Officer, Janus Corporation - hazardous material abatement and demolition; www.januscorp.com*

Elizabeth, I appreciate your statements on leadnet concerning Lead Free vs Free of Lead.

The Centers for Disease Control's reference level is called that because they do not want to imply that levels of lead in a child's blood below the reference level is a safe level. This was a problem when they called it a "level of concern." The CDC openly admits their reference level is not a Health Based Level - it is a statistics-based level - the highest 2.5% of blood lead levels in the children in the *NHANES* study tested.

From CDC's website: https://www.cdc.gov/lead-prevention/php/news-features/updates-blood-lead-reference-value.html which includes:

Overview

On October 28, 2021, CDC updated the blood lead reference value (BLRV) from 5.0 µg/dL to 3.5 µg/dL. A BLRV is intended to identify children with higher levels of lead in their blood compared with levels in most children.

The value is based on the 97.5th percentile of the blood lead distribution in U.S. children ages 1–5 years. Updating the BLRV to 3.5 µg/dL allows children within the range of 3.5–5 µg/dL to receive prompt actions. This helps mitigate health effects and remove or control exposure sources.

Updating the reference value encourages CDC, federal agencies, health departments, providers, communities, and other partners to take the following steps:

1. *Focus resources on children with the highest levels of lead in their blood compared with levels in most children in that age range*
2. *Identify and eliminate sources of lead exposure*
3. *Take more prompt actions to reduce the harmful effects of lead*

The BLRV is a population-based measurement. It now indicates that 2.5% of U.S. children aged 1–5 years have BLLs at or above 3.5 µg/dL. It is not a health-based standard or a toxicity threshold. The BLRV should be used to guide: to both determine recommended follow-up and prioritize communities with the need for exposure prevention.

It is good to know there are others in the world that see the difference between those trying to ensure products can be sold to the public (even if they contain lead), and the health of those using the products being sold.

I have a brother that used "Lead Free" solder in his plumbing career for over 20 years, in his 60s now he is paying for the exposures to lead (he thought he was safe from) in the way of just about every long-term lead symptom you can name (the heart related issues have had him in and out of the hospital several times in the past 5 or 6 years).

I use his story in sessions at the Lead and Healthy Housing Conferences (I am the President of LHHC) all the time.

As for my brother's issue - he worked with solder labeled "lead free" for 20 years.

"Lead Free" solder (and other construction products like vinyl) can be labeled "Lead Free" and contain as much as 2000 ppm lead.



2017 Volcano Art Prize (VAP) Entry. Artist: Geoff Walker. Title: Lead Soldered Yorkshire Fittings. Lead-Safety Message: Lemon Tree Passage Plumber Geoff Davey inspecting lead soldered 'Yorkshire' fittings at the local library March 2017. Description of Work: Photograph. https://volcanoartprize.com/portfolio-item/lead-soldered-yorkshire-fittings/ [LID 18389]

In my brother's case - he has had numerous symptoms that could have been caused by lead, but he never had his blood lead level taken until just a couple of years ago. It was at a 1.0 ug/dl - and the doctor told him he was lead-safe (implying that his symptoms could not be from lead exposure because his current blood lead level is only 1.0 ug/dl. Never mind that the lead could be in the organs, fatty tissue, or most likely bones at this time. Even if all the lead he was exposed to has been purged from his body naturally by now, the effects it has had on his body over the years could

still have caused the medical issues he has faced.

Personally, I believe if he were to have his femur x-rayed, it would show a significant amount of lead stored in his long bones - but that is my belief - there is not actual evidence at this point.

Keep up the good fight!

While I agree with both you and Tom Neltner we should be moving as close to zero as we can get - but we should not be claiming to achieve that impossible level.

***Email six** from **Barbara Miller**, Silver Valley Community Resource Center (SVCRC), also known as Silver Valley Action, Kellogg, Idaho, USA; www.silvervalleyaction.org ; https://www.facebook.com/people/Silver-Valley-Action/100068079602332/*

Hi Mike, Elizabeth,

Even with Tom Neltner's careful address regarding lead elimination [www.unleadedkids.org says “Unlead their play! Unlead their smiles! Unlead their minds! Unlead their lives because life is heavy enough without adding lead”], a ban would take decades to even address the lead health risk, exposures, cleanup and total removal!

I'm not sure how it is used with lead, but not to lighten the seriousness of riddance, modern day AI may be used to come up with a new creation?

My opinion! All People Run Better Unleaded

Q&A How to test for lead in home ceramicware

Initial Question from LEAD Group Inquirer in NSW, Australia, 23 Aug 2026

Further Questions and all Answers by Elizabeth O'Brien, aka Grandma Lead, Lead Scientist and Lead Advisor, The LEAD Group Inc (Australian charity aiming to create a lead safe world)

Initial Q: I heard of you through Alexx Stuart's Low Tox Life Facebook group which I follow closely.

I'm wanting to test some local pottery mugs for possible lead and also other mugs I have at home here just to make sure I'm using things that don't leach lead. I was thinking of ordering a kit through you but watched your video and I'm not sure the kits you have are right for me as I don't need to send samples in - rather to test them at home or in shops. Can you please let me know if you have a product available for this sort of thing. I noticed there are some cheap kits on Amazon (NewPos and AA Wipes) that seem quick and simple to do at home but I'm not sure about their reliability and if they are appropriate. Please let me know what you recommend.

Thanks,

[name provided]



2026 Volcano Art Prize (VAP) Entry:
Photographer: LEAD Group Inquirer
Title: **Testing for Lead**
Lead-Safety Message: When I asked how best to test these ceramic items for lead, The LEAD Group's Lead Advisor, Grandma Lead, advised that a DetectLead Kit from Fluoro-Spec Inc in the US would work well or if I drink or eat acidic, hot or alcoholic things from any of them regularly, I could test the liquid for lead with a LEAD Group Posted Kit or I could just ask my GP for a blood lead series to get free testing.
Description of Work: Photos collaged in Powerpoint and Paint.
https://volcanoartprize.com/portfolio-item/testing-for-lead/ [LID 29938]

A: Firstly, thanks so much for letting me know about Alexx Stuart! I searched her up and was blown away with what I found. A woman after my own heart! I've listed the search results at the end of this Q&A in case other readers want to follow Alexx Stuart like you do.

Now to answer your question by asking and answering related questions:

Q: What's the best way to test for lead exposure from any lead source or combination of sources?

A: Up to 95% of an adult's body lead burden is stored in their bones so in-vivo bone lead x-ray fluorescence (XRF) with a portable XRF analyser is the gold standard for finding out, what your current body lead burden is. For example, if you have bone lead XRF testing done

before you start working or hobbying or shooting with lead or before you try any form of lead detox, and then again have bone lead XRF testing done in a month or two after the change, you'll get the best picture of your whole-of-life lead exposure and how much lead is still in your bones. At the moment, no bone lead XRF portable analyser is operational in Australia, although The LEAD Group and our Lead Safe World Partners and Technical Advisory Board experts are working hard to remedy that lack.

Q: What's the best way, in the absence of the bone lead XRF option, to test for lead exposure from any lead source or combination of sources?

A: Even though only around 1% of an adult's total body burden of lead is in the blood at any one time, both the lead that is freshly coming in to your gut and being absorbed is in your bloodstream AND any lead that might be on its way out of your bones (leaching out of the bone stores) before it is either re-circulated to the heart, brain, liver, then back to the bone stores etc OR is on its way out of the body via urine, perspiration, skin sloughing, menses, bleeding, saliva or sperm, etc a series of blood lead levels over time is the available best way to test for lead exposure.

Ask your GP for a pathology referral for a blood lead series with "send result to patient" written on it. This piece of paper gives you 6 free blood lead tests or however many tests up to a maximum of 6 that you get done within 6 months of the first blood collection date. Get the first result in writing from your doctor or the pathology clinic, and email it to me (Grandma Lead) at The LEAD Group, so I can help you figure out what else, if anything, you should be testing for lead in order to eliminate the possibility that you (and possibly other organisms exposed to the same lead source/s) are currently being exposed to lead. The huge benefit of testing your blood lead level first, is that if your result is really really low or actually undetectable at a lab that has a really low limit of detection, and everyone else you live with is the same, then you don't need to test anything else for lead!! That's a big cost saving and a big weight off your mind!

Q: What's the best way to test for lead in any potential lead source or combination of sources?

A: If you have detectable lead in your blood or you went to a pathology clinic with a ridiculously high limit of detection such that you can't know whether your blood lead result is below The LEAD Group's recommended action level of 1 microgram per decilitre, then a LEAD Group Kit from www.leadsafeworld.com/shop is usually the best, most accurate way to test for lead in a myriad of sample types. Best of all, interpretation of the results and recommendations for actions to take in response (if needed), are provided by Grandma Lead as part of the Kit cost. These two components are actually the most valuable parts of the Kit!

With an Emailed LEAD Group Kit (and in some cases, an Add-on), you can get an exact number and unit result for lead (and other metals) - and asbestos detection if needed - in ceiling cavity dust, soil, vacuum dust, paint, commercial chicken feed, backyard eggs, jewellery and ceramicware. With a Posted LEAD Group Kit, additionally to those sample types, you can also test for lead etc in surface dust wipes and water. All samples are sent to a

NATA accredited lab in Sydney.

When deciding whether your yard is safe for children, pets, poultry or vegetable and herb gardening, you cannot do better - in Australia - than to purchase a LEAD Group Kit.

However, if you have ceramic tableware or cookware that may be leaching lead or cadmium in to your food, the use of a LEAD Group Kit to test for lead and cadmium becomes very pricey as the test methodology is actually that used in the Australian Ceramicware Standard and is intended to help potential or actual ceramicists and importers to determine whether something they want to sell in Australia is lead-safe and cadmium-safe, according to the Standard.

So, if you have a measurable or actionable blood lead level you might consider discarding everything you already have and replacing it with non-lead tableware and cookware like some people do, and that would potentially be cheaper than properly testing everything you own, given that accurate laboratory testing is expensive and portable XRF testing for ceramicware in your home is a) quite rare in Australia and very expensive but b) also only tells you the total lead on the surface of the ceramicware which does not correlate at all with the amount of lead that might leach from the ceramicware with use.

To know your worst-case scenario quantified lead exposure from ceramicware, you should consider the following workaround. Let's say, you have a ceramic mug from which you daily drink hot lemon juice or home-made honey mead, or you have a ceramic vessel in which you make highly acidic drinks like kombucha, or if you have a child who insists on eating from your childhood cracked Peter Rabbit bowl, or you make your own broth in a ceramic pot, etc, then the best test is to collect a sample of the liquid normally imbibed/ingested from such a favourite piece of ceramicware and test that for lead (and cadmium if you want to pay for the Extra Metal Add-on) with a Posted LEAD Group Kit. I would then compare the lead result in the liquid to the Australian Drinking Water Guideline for lead, and to The LEAD Group's more stringent guidance on lead in liquids. The best result will be non-detectable lead in the liquid, meaning the ceramic item is lead-safe, no matter what a surface lead test result is.

Q: Should I buy cheap colour-change test kits online to test for lead in my ceramic ware at home or local shops where I might purchase, say, a pottery mug?

A: No! Colour-change lead test kits cannot tell you how much lead will leach from pottery/ceramicware under the worst leaching situations: cracked glazing, poorly-fired lead glazing, heat, acidity or alcohol. The cheapest test for cracked glazing is a visual test. If glazing is cracked, simply don't use the item for food or drink. Colour change metal test kits are prone to false positive and false negative results and even the concentration at which they change colour is not generally available in the marketing information so, what does a change of colour really mean? No one in a shop would be inclined to let you use such a kit because the ceramic item might end up with red on it and they'd potentially have a customer wrongly accusing them of the item not meeting the Australian Ceramicware Standard when it really does!

Q: Is there a cheap lead test kit available online, which I can use at home to give me some idea of whether I am using ceramic items which MAY actually be leaching lead in to my food or drink?

A: Yes! Actually, my colleague in the United States, Eric Ritter, sells a very cheap and useful lead test kit called DetectLead which is a liquid you can spray on any surface, not just ceramic surfaces, then shine a black light torch on the surface to give you some idea of how much lead is on the surface - and therefore might get into you when you use that item, or into a child crawling on that floor, etc. The black light brings out fluorescent green specks with a concentration dependent on the concentration of lead on the surface. You could easily use a DetectLead Kit from Fluorospec Inc (www.detectlead.com) on every item of ceramicware in your house and even at a shop if you take a wet-wipe to wipe off any fluorescent green colour that might appear. Just keep in mind that the item may nevertheless still comply with the Australian Ceramicware Standard although you could validly advise the shop manager that they should ask the manufacturer or importer if it complies or that they could purchase a LEAD Group Kit to determine whether the item complies. See "Test With a Kit Not Your Kid" at https://leadsafeworld.com/wp-content/uploads/2026/06/LANv24n1-02.pdf and https://lead.org.au/lanv24n1/LANv24n1-02.pdf in *LEAD Action News* vol 24 no 1, June 2026.

Google search results on Alexx Stuart, for readers who may like to follow her:

https://www.facebook.com/groups/927418927322367/ - Hints, tips and support for living a Low Tox Life in Perth, Western Australia. And a group especially for WA -based graduates of Alexx Stuart's inspirational ecourse Low Tox Living. Self-promotion of your low tox business is allowed on Wednesdays only. Perth, Western Australia. Private. Only members can see who's in the group and what they post.

https://www.lowtoxlife.com/about-new/ - Alexx Stuart is an educator and change agent who founded Low Tox Life in 2010 after seeing the lack of transparency in our food system, personal care and cleaning products. She's built a movement that's non-judgmental, positive and says low tox peeps are a force to be reckoned with!

https://www.instagram.com/lowtoxlife/ - Healthier people and planet 🎧Top 0.5% Podcast 🌐 480+ eps 📚2 books 🌏 🎟️ Low Tox Club for community support and practitioner access."

https://www.bmcc.nsw.gov.au/media-centre/meet-low-tox-living-advocate-alexx-stuart - Aug 23, 2018 · Alexx – an activist and educator who has featured in TV talk shows, magazines and on ABC Radio National – gently clears a path through the maze of mass-market ingredient cocktails in everyday products and shares the latest science and advice from experts.

https://www.homeopathyhangout.com/e/navigating-a-low-tox-life-with-alex-stewart/ - Oct

9, 2024 · In this episode, Alexx Stuart the founder of Low Tox Life and an Australian mother, shares her journey into low-tox living. She emphasizes the importance of simplifying the process of reducing toxins through small, actionable steps, highlighting how food can serve as a gateway to healthier choices.

https://www.youtube.com/@lowtoxlifepodcast - Welcome to the Low Tox Life Podcast on YouTube. I'm your host, Alexx Stuart, founder of the Low Tox movement. With 9 years, 400+ shows, and 6 million downloads, there's not a lot we haven't talked about on the show regarding food, body, home, and mind topics.

US EPA Shows XRF can Identify Lead in Pipes

Lead in Water: EPA Shows Cobalt XRF can Identify Lead-Lined Pipes

By Tom Neltner, Unleaded Kids, 8 August 2026, reprinted from https://unleadedkids.org/epa-cobalt-xrf/2026/08/08/ [LID 29843]

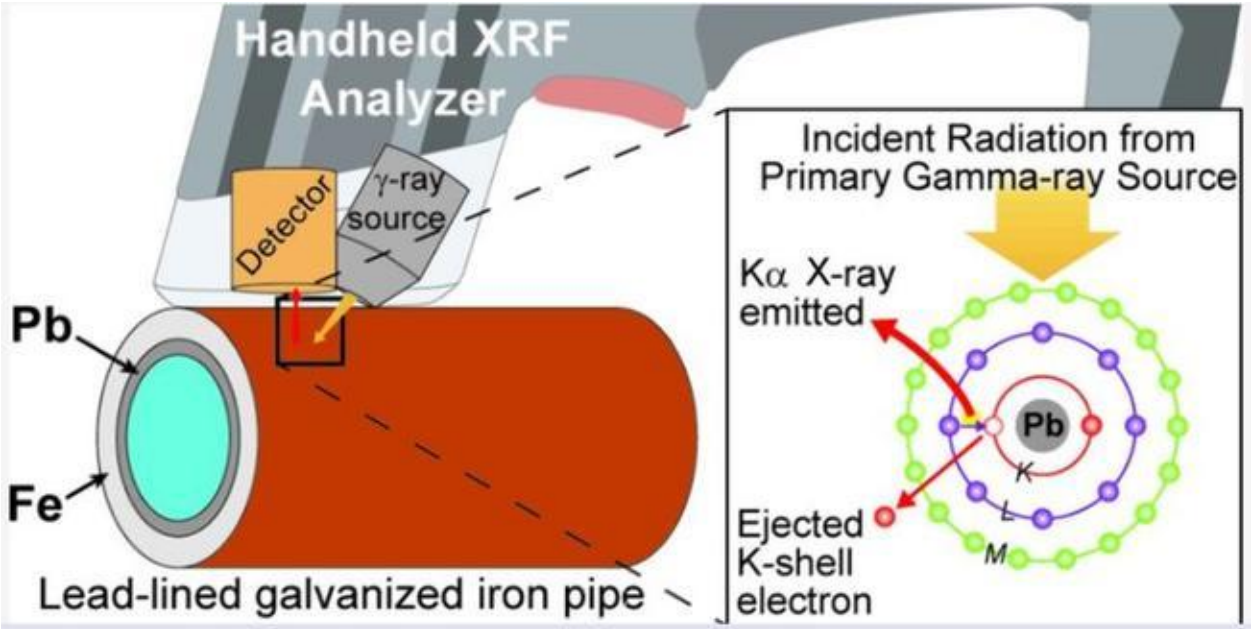


Figure 1: Image from DeSantis, Villalona and Tully (2026), Service Line Characterization via Handheld Lead K-Shell X-ray Fluorescence, Environmental Science and Technology Letters, 9 July 2026.

What Happened

The United States (US) Environmental Protection Agency's (EPA's) scientists published important research finding that handheld, x-ray fluorescent devices (XRFs) that use radioactive **^{57}cobalt** can correctly identify lead-lined galvanized iron pipe (LLGIP) from the outside of the pipe without damaging it. In lab conditions, these handheld XRFs were able "to differentiate with 100% accuracy between LLGIPs and GIPs" without a lead lining.[1]

These handheld ^{57}cobalt XRFs work by generating gamma rays that impact the K-shell of a lead atom. Other radioactive sources such as cadmium would also work.

Handheld XRFs that rely on an x-ray tube do not generate gamma rays and their x-rays are unlikely to penetrate the iron pipe wall and reliably identify the lead lining. For a refresher on XRFs and electron shells, University of Georgia has a **helpful resource**.

Why It Matters

The outside of an LLGIP looks the same as a galvanized iron pipe (GIP) that is not lined with lead.[2] There is no way to visually tell them apart without damaging them.

Without a tool or means to reliably distinguish between LLGIP and GIP without a lead lining, utilities are likely to mistakenly classify the service line as "Non-Lead" even though EPA's Lead and Copper Rule (**LCR**) considers it to be a lead service line (LSL)https://www.ecfr.gov/current/title-40/part-141 - p-141.2(Lead%20service%20line). As an LSL, utilities are expected to replace the LSLs they have access to **by 2037** because it releases high levels of lead into drinking water. They also must notify customers annually that their LSL needs to be replaced.

Note that utilities have **until 2034** to **validate** that any identified service lines they have classified in annual inventories[3] are "Non-Lead." All other types of service lines (LSLs, Galvanized Requiring Replacement (**GRR**), and "**Lead Status Unknown**" to which they have access to are expected to be replaced by 2037.[4]

Now, utilities have a tool (an XRF with ^{57}cobalt) that has been shown to identify LLGIPs from the outside of the pipe without disturbing it.

Since GIPs are galvanized service lines, don't they require replacement?

GIPs that are ***not*** lined with lead must only be replaced by 2037 if it is or ever was downstream of an LSL.[5] These are called GRRs.

If a utility can demonstrate that the unlined galvanized iron pipe was never downstream of a LSL, it is not a GRR and the service line does not have to be replaced.[6]

How common are LLGIPs?

It is unknown. However, they are common enough that their potential presence cannot be ignored because a Massachusetts company made many millions of feet of LLGIP in the late 1800s and early 1900s. The pipe was apparently used in drinking water distribution systems, service lines that connect water mains to homes and buildings, and, possibly, interior plumbing. The lead lining prevented corrosion on the inside of the iron pipe that would choke off the flow of water.

LLGIP may be **commonly found** in the Northeast, Mid-Atlantic, and Midwest. They were also "installed along the **Pacific Coast** throughout the late 1920s and early 1930s as an experimental material along with copper tubing."

Would an X-Ray Tube XRF Suffice?

Of the handheld XRFs in common use, **Viken's Pb200** is the only model we know of that features ^{57}cobalt. Because service lines are buried in the ground, Viken also offers an adapter that allows the XRF to be inserted into an 8 inch diameter hole where it can contact the pipe and be operated remotely to distinguish LLGIP from GIP that is not lead lined.

Most other handheld XRFs that we are aware of, including the popular **SciAps X-series**, use an x-ray tube to generate the x-rays to identify lead. Unfortunately, a typical x-ray tube does not generate x-rays energetic enough energy to penetrate through the GIP to "see" the lead lining on the inside. In the study, EPA estimated that only 1% of the energy would penetrate through a 3 mm GIP wall compared to 54% for a ^{57}cobalt XRF.[7]

Our Take

We applaud EPA for conducting this study and identifying a viable alternative to distinguish between LLGIP and GIP without a lead lining. While EPA's study used pipes taken from decommissioned service lines in the ground, we encourage the agency to work with utilities to evaluate how well the technology works on different configurations or where there is excessive exterior corrosion or coatings in the field. See Figure S1 in the study's **supporting information**.

We also encourage utilities to consider using a handheld XRF with a radioactive element such as ^{57}cobalt to correctly identify LLGIPs and avoid the risk of mistakenly treating them as "Not Lead" in their service line inventory.

Finally, we ask those who have handheld XRFs with radioactive element to consider checking interior plumbing that is galvanized pipe to check for a lead lining that could release high levels of lead in drinking water. Note that the XRF will need to be reporting in counts of lead and not milligrams per square centimeter that is used for paint.

1. The XRF was less successful distinguishing between LLGIP and leaded brass. However, brass can be identified from the outside visually or with a magnet.
2. EPA flagged this in its **guidance** for complying with the LCR Revisions. See page 2-6 (28 of 164 of the PDF).
3. Utilities must submit to the state **annual updates** of their service line inventories starting in 2027. They must also make these inventories public. For those serving more than 50,000 customers, the inventory must be online.
4. There are two primary exceptions to this deadline: 1) the public water system does not have access to the LSL despite many attempts; and 2) more than 39% of its public water system's service lines in 2024 had to be replaced. In this second circumstance, the water system can ask the state for more time to comply.
5. "If the water system is unable to demonstrate that the ***galvanized service line*** was never downstream of a ***lead service line,*** it is a ***galvanized requiring replacement service line*** for purposes of the service line inventory

and replacement requirements pursuant to **§ 141.84**."

6. Note that a service line with a short section of lead pipe known as a **lead connector** (also called a gooseneck or pigtail) is not sufficient on its own to make the service line an LSL or GRR. Utilities must **replace lead connectors** when encountered during planned or unplanned water system infrastructure work unless the connector is not under the control of the system.
7. See Table S2 in the study's **supporting information**.

References

DeSantis, M K, Villalona, C and Tully, J (2026) Service line characterization via handheld lead K-shell X-ray fluorescence, Environmental Science and Technology Letters 13(8):1071-1076, https://doi.org/10.1021/acs.estlett.6c00528 [LID 30108]

Neltner, T (2026) Lead in water: EPA shows cobalt XRF can identify lead-lined pipes, Unleaded Kids, 8 August 2026, https://unleadedkids.org/epa-cobalt-xrf/2026/08/08/ [LID 29843]

Yellow Mexican Playground Paint contains Crocoite

ILPPWA 2026-released research is co-authored by Mark Taylor*

*[*Editor's note: Professor Mark Taylor is a member of The LEAD Group's Technical Advisory Board]*

Authors: Lilian Fernanda Hernanez-Valdez; Carlos Ibañez-del Rivero; Diana Maria Meza-Figueroa; Mark Patrick Taylor. © The Authors, 2026

Title: Lung Bioaccessibility of Metals from Lead Based-Painted Surfaces in Public Playgrounds at Vulnerable Areas in Northern Mexico

URL:
https://www.researchgate.net/publication/417273250_Lung_Bioaccessibility_of_Metals_from_Lead_Based-Painted_Surfaces_in_Public_Playgrounds_at_Vulnerable_Areas_in_Northern_Mexico#fullTextFileContent

Journal: Exposure and Health (2026) 18:82; https://doi.org/10.1007/s12403-026-00814-8

Date online: 29 Oct 2026

Abstract

Lead exposure remains a major global health concern, particularly for children. Following the phase-out of leaded gasoline, lead-based paints have become an important potential exposure source in countries with weak regulations. This study investigated painted coatings and soils from 19 public playgrounds in Hermosillo, Mexico. Portable X-ray fluorescence revealed very elevated Pb concentrations in yellow paints (mean = 142,226 mg·kg−1), far exceeding the United Nations threshold of 90 mg·kg⁻1, alongside elevated Cr, As, Ba, Ti, and S concentrations. Conversely, playground soils reflected background geochemistry. Analyses of the painted coatings by X-ray diffraction, Raman spectroscopy, and Scanning electron microscope confirmed the use of **crocoite (PbCrO4)** pigments, rutile (TiO2) and barite (BaSO4). Lung bioaccessibility showed low Pb and Cr solubility in Gamble solution (< 1%), whereas higher dissolution occurred under artificial lysosomal conditions (ALF), reaching 8.6% and 20.3%, respectively. Predictive modeling estimated blood lead levels (BLL) of 1.2 to 1.9 µg·dL⁻1, below the Centers for Disease Control and Prevention reference value (3.5 µg·dL-1), yet non-negligible; comparison with default soil-ingestion inputs confirmed that inhalation represents a minor pathway, while ingestion remains the dominant contributor to modeled BLL. While non-carcinogenic risks were below threshold levels, carcinogenic risks for Cr(VI) exceeded benchmark values. These findings indicate that deteriorating playground paints may represent localized sources of Pb- and Cr-bearing particles. Although modeled inhalation risks were low, the continued presence of lead chromate pigments supports the need for vigilance and preventive measures to minimize potential exposure.

Quotable quote Most 1960s mentally handicapped kids had lead poisoning

This Quotable Quote was sent in by Alex Jewson. Originally online at:
https://www.facebook.com/100063718563083/posts/1741251348008801/?mibextid=wwXIfr&rdid=eFapl2tr40O8xPTo



earthlyeducation - Sunday, November 1, 2026 at 10:50 AM ·

guys the world is much better than it was 50 years ago, but it's also still awful AND the whole world can do much much much better all three of these statements are true and to hold them simultaneously is so important



Quote in image:

Dr. Sandra Steingraber:

"In the 1960s public schools had special classrooms for the "educable mentally handicapped." Most of those kids had lead poisoning."

Violence via Social Media and AI and Digital Duty of Care

Editor's note: The following email (reprinted in full - almost - from The Anger Machine: The November Leigh Report, 3rd Nov 2026 - https://mailchi.mp/australianlabor.com.au/the-leigh-report-8135297 [LID 30046] - is by Australia's one politician, Dr Andrew Leigh, (federal Labor Member for Fenner), who has actually studied the impacts of lead. Before he was a politician, 24 years ago (in October 2002), Andrew contacted The LEAD Group for information on lead from petrol and its role in the increase in violent crime, for his PhD in Public Policy, at Harvard University, Boston MA USA. Leaded petrol features in his 2014 book "The Economics of Just About Everything".



Email Subject: **The Anger Machine: The November Leigh Report**

Dear Friend,

Welcome to the November *Leigh Report*: your quick monthly political roundup, direct from the bush capital.

Anger, Algorithms and Democracy

The attack on Helen Haines has drawn attention to the alarming rise in political anger. In the United States, an analysis of congressional speeches found that anger was at its highest level in 150 years. In Germany, offences targeting politicians and political candidates rose 40 percent last year. Britain has seen two members of parliament murdered in a decade. And in Australia, threats against parliamentarians reported to the Australian Federal Police have quadrupled since 2020.

There's no shortage of theories about why anger has risen, from inflation and inequality to housing and employment. But those things differ substantially across countries. If we're trying to explain a big global shift, the right answer likely involves a big global change.

Delivering the Joan Kirner Social Justice Lecture in Melbourne (text, podcast), I argued that the most likely explanation is the shift in how we get our information. Social media is now the top source of news, displacing traditional sources such as newspapers, television and radio.



Helen and I founded the Parliamentary Friends of Cycling back in 2020, alongside Dave Sharma and Stephen Hodge

Unlike traditional media, social media privileges anger. Stories that provoke outrage or denounce opponents are more likely to be shared than those that are more even-handed. This has been exacerbated by the way our feeds have changed. A decade ago, social media served you up the best of your friends' content. Now, most of what we see on social media is content from strangers, including from anger merchants who make money by producing posts that are as shocking and divisive as possible. On Instagram, for example, only 7 percent of content comes from friends, with the rest being selected by the algorithm for maximum engagement.

As I discussed in my Joan Kirner Oration, this doesn't just affect how we talk about politics; it's also shaping gender relations, with one survey finding that 23 percent of Gen Z men in Australia believe that feminism should be resisted with violence if necessary. Men in their twenties now have similar gender attitudes to men in their seventies.



Delivering the Joan Kirner Oration on the rise of anger and the role of social media

What's the solution? In the case of Helen Haines, we don't yet know everything about the motivations of her alleged attacker. My parliamentary tribute to Helen focused on her kindness, and her willingness to disagree without being disagreeable.

As to the broader challenge, our government's proposed Digital Duty of Care will help by requiring platforms to give people a choice between a friends-based feed and a stranger-based feed. If you want content by people you follow, you'll be able to choose it, without being defaulted back to a feed dominated by whatever the algorithm throws up.

There's also a vital role for community groups. As Assistant Minister for Charities, I've been working to encourage more people to volunteer, donate and join. Team sports, local cleanups, book clubs and parental support groups are all important to shaping a stronger society and a healthy democracy.





Cassandra Fernando MP and I joined some of the big-hearted charities of Melbourne's outer south-east.

Making the Economy Work Better

On the economic front, our government is working hard to address the global inflation challenge. Since the war in Iran began, inflation has risen in almost all advanced economies, in some cases by more than the rise in Australia. The private sector accounts for four-fifths of demand, but the federal government is doing its part by finding responsible savings measures (including one that is currently being blocked by the Coalition and Greens).

Beyond the immediate challenge of inflation, we're pursuing reforms to make Australia's economy more productive and dynamic. That includes banning non-compete clauses to allow more workers to move to a better job, proposed bankruptcy reforms to give Australians a fairer chance to start again, and encouraging a healthy and dynamic franchising sector (for more, see my speech to the National Franchising Council).

To boost productivity in the housing sector, we're encouraging modular construction, which I discussed in a speech to the Australian Sustainable Built Environment Council. To reduce the cost of imported machinery and consumer goods, we're working to bring the European Union free trade agreement into force, a deal that will eventually see 98 percent of Australian goods exports enter the EU tariff-free.



Photo: With volunteers at the Red Cross-Uber clothing drive

AI, Inequality and Humanity

I've recently given two talks on artificial intelligence that might interest you. In a speech on how AI might affect inequality, I broke down the evidence to see what we know so far. My best prediction at this point is that AI may reduce wage gaps, but widen wealth gaps. In the workplace, these tools appear to be particularly valuable for increasing the productivity of workers with less experience and education, which could reduce wage inequality. But at the same time, many of the gains from AI may flow to those who own the technology, which could widen the wealth gap. It's still early days, but we know from earlier technologies that the benefits to society as a whole are likely to be larger if we can ensure that fairness is at the heart of the AI rollout.

Shifting from economics to ethics, I joined Franciscan philosopher Father Paolo Benanti for an event at the National Press Club last month on the ethics of artificial intelligence, moderated by Corrie McLeod. My speech (whimsically titled 'What Should AI Love?') is available to read or listen to as a podcast, while a transcript from the whole event is also available.



Launching Madhumita Iyengar's Multicultural Empowerment and Linkages Alliance

From the Frontiers of Science to Yerrabi Pond

On the local front, I've paid tribute to innovator Monika Mironov, educator Tamsyn Terry and the generous souls at the Canberra Food Co-op. On the Good Life podcast, I've chatted with former special forces soldier Ben Pronk about stoicism, epicureanism, absurdism, running, painting, ….

Until next month. Yours sincerely,

Andrew Leigh, Assistant Minister for Productivity, Competition, Charities and Treasury

We acknowledge the Traditional Custodians of the ACT, the Ngunnawal people. We acknowledge and respect their continuing culture and the contribution they make to the life of this city and this region.

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Huge Cost of Lead in AvGas Eclipses Minor Cost of Ending Leaded Fuel

All the lead in all the leaded AvGas in the world is very likely Australian lead

By Elizabeth O'Brien, Lead Scientist and Lead Advisor, orchestrated by Ian Smith, Systems Analyst, using OpenClaw on top of Claude AI and Ollama local AI models where possible, on solar-powered infrastructure. *© The LEAD Group Inc. November 2026*

As far as The LEAD Group is aware, all the lead in all the leaded Aviation Gasoline (AvGas) in all the world is Australian lead, and this has been the case for all leaded fuel (MoGas for motor vehicle fuel up until 2021 when it was eliminated globally for road use) and AvGas for general aircraft (not jets), since 1994 when the North American fuel lead additive manufacturer closed down, leaving only the United Kingdom (UK) fuel lead additive manufacturer which has used Australian lead since it began manufacturing in 1956.

Although lead occurs in crude oil (due to the plants taking up lead from the soil before they became oil underground) leaded fuel has extra lead additive (tetraethyl lead) deliberately added. Aviation gasoline for piston-engine aircraft or PEAs (called AvGas 100LL) now contains 0.56 grams of tetraethyl lead per litre, and that lead must be expelled from the engine during normal operation to prevent fouling, dispersing lead and lead compounds into the air and soil around general-aviation airfields (Mills and Peckham 2022) and under flightpaths. If The LEAD Group is right in believing that the lead for that tetraethyl lead is Australian, then a share of the responsibility for childhood lead exposure around every piston-aircraft airfield on Earth traces back to Australia, and Australia carries a corresponding responsibility to end it.



2020 Volcano Art Prize (VAP) Entry. Artist: Dr Michael Hindmarsh. Title: Lead in AVGAS. Lead-Safety Message: "It's too late for concern about me being a Vet and a Bush Pilot over Northern Queensland spreading Tetra Ethyl Lead with gay abandonment, but we MUST ban lead in aviation fuel ASAP." Description of Work: annotated results of a web search, with a sourced image on aviation-fuel composition and lead contamination.

https://volcanoartprize.com/portfolio-item/lead-in-avgas/ [LID 19822]

The health and economic costs of childhood lead exposure are devastatingly high, completely eclipsing the minor operational cost of transitioning aircraft to unleaded fuel. Because lead is a potent neurotoxin with no safe exposure threshold for children or pregnant women, medical economists measure its damage to a community primarily through lost lifetime earnings (due to intelligence quotient (IQ) reduction), specialised education costs and chronic healthcare burdens.

Public health models evaluate these immense community costs across several categories:

1. Lost lifetime productivity

This is the largest and best-quantified category. Lead lowers childhood IQ, and lower IQ tracks, across a population, into lower lifetime earnings. In the first nationwide assessment of its kind, Wolfe et al (2016) modelled the lead emitted by general-aviation piston aircraft, which they note are now the single largest source of lead emitted to the air in the United States (US), and found that aircraft-attributable lead causes about **US$1.06 billion a year** (2006 dollars) in damages from reduced lifetime earnings, with an uncertainty range of $0.01 to $11.6 billion. Using dynamic, economy-wide methods that capture the knock-on effects of a less productive workforce, the figure rises as high as $11.3 billion a year (Wolfe et al 2016). A summary for journalists put the headline numbers at roughly $1.63 billion annually in lost productivity and $1.06 billion in lost wages (Trilling 2016).

These are annual, recurring figures, and they flow from a surprisingly small quantity of fuel: the United States burned about 248 million gallons of leaded AvGas in 2008 (Wolfe et al 2016). For scale, the total lead burden carried by a single year's birth-cohort of American children, across all lead sources, has been estimated at between $110 and $319 billion (Wolfe et al 2016).

2. Specialised education costs

The productivity figure captures only lost earnings. It does not count what communities spend trying to remediate the damage while children are still in school. Lead exposure produces learning difficulties and behavioural problems, and children living or schooling near general-aviation airfields have been shown to carry blood-lead levels raised to clinically significant degrees (Mills and Peckham 2022). The remedial and special-education costs that follow are borne by families and school systems, not by the fuel's producers or users, not by the tetraethyl lead manufacturer, not by the lead refiner, not by the lead smelter and not by the Australian lead mining companies that keep digging lead out of the ground despite the global health economic costs of lead exposure.

3. Chronic healthcare burdens

Lead's harm does not stop at childhood or at the brain. Beyond the developmental delays, learning difficulties and lower IQ it causes in children, lead exposure in adults is linked to

high blood pressure, joint pain and reproductive problems, and long-term exposure raises the risk of kidney damage, anaemia and cancer (ESA 2023). These are lifelong, cumulative costs to the health system, and like the others they are socialised: paid by the public, not the polluter.

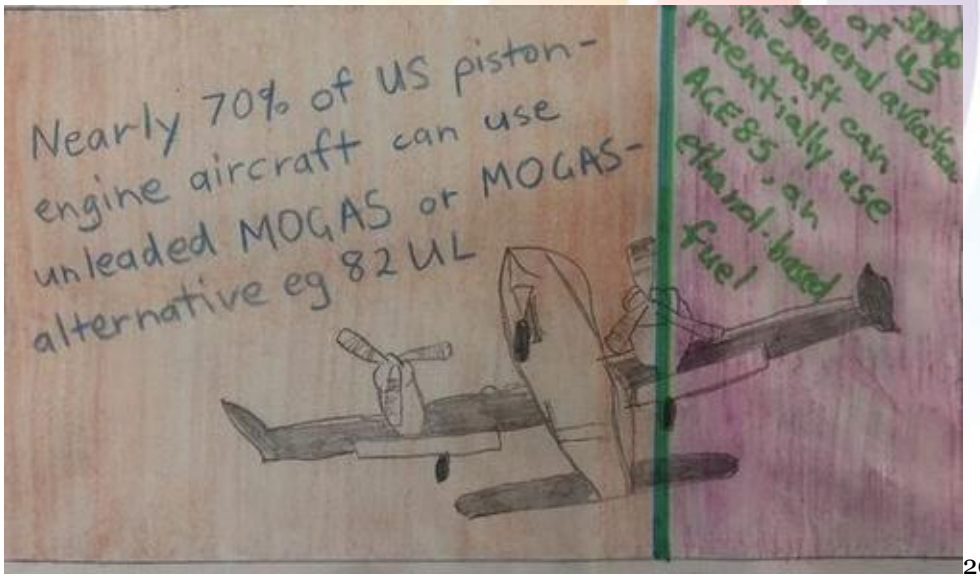
A global problem, formally recognised

This is not a United States peculiarity. Mills and Peckham (2022) reviewed the situation in the United Kingdom and issued a call for action, noting that although road fuel was de-leaded decades ago, piston-engine aircraft (PEA) fuel was left untouched, and that while the problem is acknowledged by the US Environmental Protection Agency (US EPA) and mandatory action required in US EPA regulations once a risk that can be mitigated has been identified, it has received little attention in the UK. The same leaded fuel flies over the same kinds of suburbs the world over. Every country needs regulations which mandate action once a clearly preventable risk is identified.

In the United States the recognition is now formal. On 18 October 2023 the EPA issued its Clean Air Act endangerment finding, determining that "lead emissions from aircraft engines that operate on leaded fuel cause or contribute to air pollution that may reasonably be anticipated to endanger public health and welfare" (ESA 2023).

The minor cost of ending it

Against these billions of health and economic costs of AvGas lead exposure borne by individuals worldwide, sits the cost of stopping leaded AvGas being used, which is modest and, increasingly, in the US at least, already being paid. Unleaded replacement fuels for high-compression piston engines exist and are advancing through certification: General Aviation Modifications, Inc.'s (GAMI's) G100UL (unleaded), Swift Fuels' 100R and UL100E among them. The United States National Academies, asked to examine the transition away from leaded AvGas, treated it as a logistical and infrastructure transition to be managed rather than a technical wall to be broken (US National Academies 2026), and the US Federal Aviation Administration's Eliminate Aviation Gasoline Lead Emissions (EAGLE) plan targets the removal of leaded 100LL by the end of 2030 (US FAA 2026). The obstacles are supply chains, storage, certification paperwork and a temporary price gap, real, but finite, one-off, and small beside a billion-dollar annual harm that compounds in every exposed child for life.



2021 Volcano Art Prize (VAP) Entry. Artist: Elizabeth O'Brien. Title: Most piston-engine planes can use non-leaded fuel. Lead-Safety Message: "Nearly 70% of US piston-engine aircraft can use unleaded MOGAS or MOGAS-alternative eg 82UL while 30% of US general aviation aircraft can potentially use AGE85, an ethanol-based fuel." Description of Work: China wax pencil for blue text, recycled highlighter for green text, and a lead pencil for a propeller-aeroplane sketch, on a Derwent Aquarelle background. https://volcanoartprize.com/portfolio-item/most-piston-engine-planes-can-use-non-leaded-fuel/ [LID 27733]

The arithmetic, and the responsibility



The comparison is not close. On one side, a recurring health cost measured in the billions each year, falling hardest on children who had no say in it. On the other, a bounded, manageable transition cost that the aviation industry is already absorbing elsewhere. By the ordinary logic of cost-benefit analysis, the case for ending leaded AvGas was made years ago; what remains is the will to act on it.

2026 Volcano Art Prize (VAP) Entry. Artist: Grandma Lead. Title: Dream of Electric Planes. Lead-Safety Message: "I dreamed a dream that every national leader set a sunset date for the phase-out in their country of leaded AvGas-using propellor planes..." Description of Work: a crayon drawing of an electric plane, photographed and saved as a phone sticker, then combined with skyscape photographs. https://volcanoartprize.com/portfolio-item/dream-of-electric-planes/ [LID 29869]

For Australia the case is sharper still. If the lead in the world's AvGas is Australian lead, then Australia is not a bystander to this harm but its wellspring, and has a double obligation: to end leaded AvGas in its own skies, over Point Cook and everywhere else, and to stop supplying the lead that poisons children around airports and under PEA flight paths in every other country.

References

ESA (Environmental Science Associates) (2023) *Changing course on aviation emissions: the transition to unleaded aviation gasoline*, https://esassoc.com/news-and-ideas/2023/08/changing-course-on-aviation-emissions-the-transition-to-unleaded-aviation-gasoline/ [LID 30044]

Mills, A and Peckham, S (2022) 'Lead exposure from general aviation emissions in the UK: a review and call for action', *Public Health Challenges*, https://onlinelibrary.wiley.com/doi/10.1002/puh2.27 [LID 30040]

Trilling, David (2016) *The economic impact of lead emissions from piston-engine planes*, Journalist's Resource, December 16, 2016, https://journalistsresource.org/environment/plane-lead-fuel-emissions-economic-impact/ [LID 30045]

US FAA (Federal Aviation Administration) (2026) *Transition Plan to Unleaded Aviation Gasoline, Version 1.0*, 28 July 2026, https://www.faa.gov/unleaded/Transition_Plan_to_UL_Avgas_20260728_V1.pdf [LID 30038]

US National Academies of Sciences, Engineering, and Medicine (2026) *Understanding the Transition to Unleaded Aviation Gasoline*, https://nap.nationalacademies.org/resource/29409/9780309605175_508.pdf [LID 30043]

Wolfe, P J, Giang, A, Ashok, A, Selin, N E and Barrett, S R H (2016) 'Costs of IQ loss from leaded aviation gasoline emissions', *Environmental Science & Technology*, vol. 50, no. 17, pp. 9026-9033, https://pmc.ncbi.nlm.nih.gov/articles/PMC5338738/ [LID 30042]

Info Pack 64 Eliminating leaded AvGas in Australia

November 2026 version of Info Pack 64 by Elizabeth O'Brien, The LEAD Group, including emails from the Australian federal government and Australian Pilot Ian Ryan. NB: LID means Library ID within The LEAD Group's Library Database. Dr Soni, mentioned below, is the author of the 13 July 2026 LinkIn post "Experts create knowledge Connectors create impact: The most influential people are often not the experts. They're the connectors who turn ideas into impact" *reprinted by The LEAD Group in LEAD Action News vol 24 no2, August 2026, at https://lead.org.au/lanv24n2/LANv24n2-08.pdf [LID 29766]*

This Info Pack was written for community advocates like Joe Schembri who resides near Point Cook Air Base, Victoria, but it also provides good background for someone like Dr Soni of RMIT who might be able to request RMIT Flight and Engineering Courses personnel to consider joining us in aiming to eliminate Leaded AvGas in Australia ASAP, making Point Cook Air Base the first Australian unleaded fuel airport. I highly recommend a blood lead study in the community around Point Cook Air Base, which includes soil lead and interior dust wipe lead and rainwater tank lead studies tied in with every residence of a person of any age who has their blood lead tested.

Also, I have added below my usual Info Pack (which ends with my signature below and "(c) The LEAD Group Inc"), an email I sent to a Pilot called Ian Ryan at Moorabbin Airport, Victoria, who is also keen to phaseout 100 octane Low Lead AvGas (which is called for short "100LL") in Australia.

By the way, no lead is added to jet fuel (kerosene) anywhere in the world, but Leaded AvGas is generally the fuel used by light aircraft including propellor airplanes and non-turbo helicopters in Australia and in most countries, although non-leaded fuels are now available for these aircraft. The best advocates against Leaded AvGas are all located in the USA.

You are most welcome to join us in advocating for the elimination of leaded AvGas in Australia and beyond. I have subscribed to receive the emailed newsletters at www.OregonAviationWatch.org and I receive regular emails from Gary Keller, Anti-Innospec Anti-AvGas Campaigner, Environmental Director for Citizens Against Gillespie Expansions and Low Flying Aircraft (CAGELFA) and Aviation-Impacted Communities Alliance (AICA) in the USA. If you say it's ok, I can ask Gary to include your email address when he sends me updates.

You are encouraged to request from the federal minister of transport and/or health, a child blood lead survey around the vicinity of the light aircraft airport near you.

In South Australia, there's a guy called Daniel who is part of a group of people protesting AvGas use at Australia's largest propellor-plane airport (Parafield, in Adelaide), so, if you're on board, I could ask him if he'd like to join us too.

I've previously asked experts to write about the phaseout of Leaded AvGas for The LEAD Group's e-newsletter - LEAD Action News! Here's what we've published so far (and their Library ID numbers for our records):

https://lead.org.au/lanv4n3/lanv4n3-18.html If Petrol Sniffing was a White Problem Leaded Petrol would be Banned [LID 6295]

https://www.lead.org.au/fs/What_can_I_do_about_climate_change_AND_lead_20091217.pdf [LID 11918]

https://lead.org.au/lanv12n2/lanv12n2-11.html Timeline of leaded aviation fuel [LID 15146]

https://leadsafeworld.com/lanv16n2-lead-safe-world-posters-now-available/ Phasing Out Leaded AvGas - Not as Easy as it Sounds [LID 18875]

https://leadsafeworld.com/lanv22n1-contents/lanv22n1-09-action-on-leaded-aviation-fuel-in-the-us-and-australia/ [LID 21771]

US FAA Blocks AvGas Ban by Miki Barnes of Oregon Aviation Watch was reprinted at pp 48-52 and *Avgas and Pediatric Health* by Dr Charles L. Blum was reprinted at pp 65-9 in 2024 October – LANv22n3 – Lead Action Week Retrospective at https://leadsafeworld.com/wp-content/uploads/2024/10/LANv22n3-Lead-Action-Week-Retrospective.pdf

I even thought to mention leaded Avgas in my blog re Donald Trump:

https://leadsafeworld.com/grandma-lead-calls-for-lead-testing-of-donald-trumps-would-be-assassin/ [LID 27943]

Finally, because AvGas is included, please check out our *SUMMARY Model National Lead Safety Policy Proposal by The LEAD Group* [LID 27368] and you can read the full Policy (published 18 July 2023) at https://www.lead.org.au/lanv21n4/LANv21n4_Model_National_Lead_Safety_Policy_and_2023_VAP.pdf [LID 27897] - accessible via https://leadsafeworld.com/solutions/

Multiple entries in to The LEAD Group's art competition Volcano Art Prize (VAP) have mentioned leaded aviation fuel/AvGas, so why not put in your own entries in 2027 VAP which closes on 26th July 2027?



Title: Lead in AVGAS. Artist: Dr Michael Hindmarsh. Lead-Safety Message: It's too late for concern about me being a Vet and a Bush Pilot over Northern Queensland spreading Tetra Ethyl Lead with gay abandonment – but we MUST ban lead in aviation fuel ASAP. https://volcanoartprize.com/portfolio-item/lead-in-avgas/ [LID 19822]

EMAIL TO VICTORIAN PILOT IAN RYAN AFTER BOTH IAN RYAN AND THE LEAD GROUP (WITH IAN'S HELP) MADE SUBMISSIONS ON AUSTRALIA'S AVIATION GREEN PAPER

Link to Ian Ryan's (Tristar Aviation) Submission: https://www.infrastructure.gov.au/sites/default/files/documents/awptor2023-submission-a80-tristar-aviation.pdf [LID 29767]

Link to LEAD Group Submission:
https://www.infrastructure.gov.au/sites/default/files/documents/agp2023-submission-c191-the-lead-goup.pdf [LID 27932]

Sent: Tuesday, 27 August 2024

Subject: Next moves on eliminating leaded AvGas in Australia? FW: Please update me on the Aviation White Paper in relation to Australia's phaseout of leaded AvGas

Hi Ian,

Please see the response below.

It seems our submission fell on deaf ears and we'll need a major follow-up campaign if we're going to get any change before 2050!

All I have found in the fact sheets and "simple reading" version is:

"We [the Australian government] will work with organisations to make aircraft fuel better for the environment.

We will support organisations to do this as quickly as they can."

From the full White Paper there appears to be a misnaming and the executive should really be called "Airservices Australia executive for noise":

"Initiative 35: Appoint an Airservices Australia executive for noise and environment to lead the agency's work on noise minimisation, including engagement with affected communities, and ensure this work is integrated with the operational decisions of air traffic controllers."

And:

"Appoint an Airservices Australia executive for noise and environment to lead the agency's work on noise minimisation, including engagement with affected communities, and ensure this work is integrated with the operational decisions of air traffic controllers."

The following section and paragraphs tell me they're already preparing the excuses for failure to achieve low or zero emissions aviation, especially in rural and remote areas:



Title: Lead from helicopters. Artist: Elizabeth O'Brien. Lead-Safety Message: #Grandma Lead says non-turbo helicopters use leaded AvGas and some fire suppressants dropped from Fire Fighting helicopters may be contaminating the environment they're working to protect, with lead and other toxic heavy metals. https://volcanoartprize.com/portfolio-item/lead-from-helicopters/ [LID 28192]

"Over the long term we must also be positioned to adopt new propulsion technologies (such

as electric or hydrogen powered aircraft) as they become available

"Available evidence suggests that alternative emerging low and zero emissions aviation technologies are unlikely to be deployed on shorter haul routes until the 2030s and not on longer haul routes until the 2050s. With their initial deployment likely on shorter haul routes, these aircraft have potential to support decarbonisation of regional, remote and general aviation in particular in the lead-up to 2050. However, parts of these sectors are probably least able to afford the capital expenditure required to adopt these new technologies."

"… Safe, affordable and reliable air services are vital for regional and remote Australia, connecting people to family, community, and the services they need to maintain and improve their standard of living. Australian aviation grew from the necessity of servicing remote and regional Australia by air, and this remains critical today.

"Some remote and regional air services are thriving and leading innovation in the transition to net zero and increased automation. But consolidation in the sector has reduced services and regional airfares are high compared to those of other countries. Remote and regional aerodromes need to build their climate resilience and accelerate their journey to net zero."

IF ONLY the definition of safety included OHS for pilots while refuelling with leaded AvGas by phasing it out!! And safety of children under general aviation flight paths and near general aviation airports!! Instead, it is purely about preventing air accidents:



Title: Butterflies and Tulips. Artist: Zoe Lu. Lead-Safety Message: In the 1920s when tetra ethyl lead (TEL) was first made, the factory became know as the House of the Butterflies as lead poisoned workers had hallucinations and went insane or died. When will we stop using TEL in aviation fuel (AvGas)? https://volcanoartprize.com/portfolio-item/butterflies-and-tulips/ [LID 28182]

10.1."World-leading aviation safety regulation

Safety remains the Australian Government's top aviation policy priority"

It looks from the following role for Department of Climate Change, Energy, the Environment and Water that we will need to write to DCCEEW to demand a phase-out of leaded AvGas:



Title: Stop Doing the Damaging Stuff. Artist: Elizabeth O'Brien. Lead-Safety Message: As I wrote in our Model National Lead Safety Policy (2023): David Attenborough says, The plan is obvious: stop doing the damaging stuff. So let's stop burning fossil fuels, especially leaded fuels like AvGas, and stop lead poisoning our kids because we need smarter, wiser minds to avert a climate crisis. https://volcanoartprize.com/portfolio-item/stop-doing-the-damaging-stuff/ [LID 28172]

"DCCEEW leads the Australian Government's response to climate change and sustainable energy use, and protects our environment, heritage and water and administers the Environment Protection and Biodiversity Conservation Act 1999."

And the plan seems to be to replace Avgas using aircraft with hydrogen or electric aircraft when the cows come home!

"A common challenge for all GA operators will be the transition to net zero

"Some GA sectors will lead the way in testing new technologies before broader adoption. The ageing GA fleet, particularly aircraft reliant on Avgas rather than jet fuel, will have a different pathway to net zero compared to domestic airlines. New net zero technologies, such as electric aircraft, can support productivity in the industry by lowering ongoing fuel and maintenance costs, but the high upfront capital costs and lack of recharging infrastructure are barriers to adoption. Through the Regional Airports Program, outlined in Chapter 7: Connecting regional Australia, the Australian Government will invest a further $40 million to support regional and remote airports to invest in infrastructure to improve safety and connectivity; and expand eligibility to infrastructure that supports the transition to net zero (for example, providing electric chargers and hydrogen refuelling infrastructure and improving connection to the grid)."

The interim plan seems to be to increase the use of leaded AvGas and talk about environmental safety while pretending that leaded Avgas is a safe fuel:

"The role of the Australian Government

The Australian Government has a key role ensuring GA operations are safe and secure through fit-for-purpose regulation, protecting GA providers, the broader aviation sector and the public.

The Australian Government also has a role in ensuring GA has reasonable and competitive access to airspace and airports, especially at LFAs. In addition, the Australian Government

shares a role with state, territory and local governments in helping GA limit negative externalities in relation to noise, environmental and safety impacts on those living close to airports or under flight paths.“

I’m really hoping you have some thoughts on how to get back up from this body blow.

Elizabeth

From: Aviation White Paper, Infrastructure.gov.au

Sent: Monday, 26 August 2024 3:14 PM

Subject: RE: Please update me on the Aviation White Paper in relation to Australia's phaseout of leaded AvGas [SEC=OFFICIAL]

OFFICIAL

Good afternoon,

The Aviation White Paper was released on the Department’s website today and can be accessed here: www.infrastructure.gov.au/AviationWhitePaper.

The White Paper sets long-term policies for the aviation sector out to 2050 to guide the industry’s next generation of growth and innovation, outlining 56 initiatives to improve the industry’s safety, productivity, competitiveness and sustainability.



Title: Beware lead in volcano ash. Artist: Christopher Nguyen. Lead-Safety Message: The ash and smoke from volcanoes can contain as much lead as the lava. When leaded AvGas is banned and lead industry emissions are reduced, volcanoes will again become the major source of lead in the earth’s atmosphere. https://volcanoartprize.com/portfolio-item/beware-lead-in-volcano-ash/ [LID 27739]

The release of the White Paper is the culmination of two years of development and consultation, and we appreciate the involvement of stakeholders in providing input and feedback throughout the process.

Public submissions made on the Aviation Green Paper can be found at the bottom of this webpage: www.infrastructure.gov.au/have-your-say/aviation-green-paper.

Kind regards, Aviation White Paper Project Office, Domestic Aviation and Reform Division

GPO Box 594 Canberra, ACT 2601 - www.infrastructure.gov.au - Department of Infrastructure, Transport, Regional Development, Communications and the Arts

CONNECTING AUSTRALIANS • ENRICHING COMMUNITIES • EMPOWERING REGIONS

I acknowledge the traditional custodians of this land on which we meet, work and live. I recognise and respect their continuing connection to the land, waters and communities. I pay

my respects to Elders past and present and to all Aboriginal and Torres Strait Islander people.

OFFICIAL

Title: On a clear day. Artist: Claire Leight. Lead-Safety Message: If lead could be removed from aviation fuel, all days could look like this.



https://volcanoartprize.com/portfolio-item/on-a-clear-day/ [LID 28923]

EMAIL FROM THE LEAD GROUP TO INFRASTRUCTURE

Sent: Thursday, 22 August 2024 4:41 PM

To: Aviation Green Paper infrastructure.gov.au; Aviation White Paper, infrastructure.gov.au

Subject: Please update me on the Aviation White Paper in relation to Australia's phaseout of leaded AvGas

Dear Aviation White Paper team,

My charity made a submission which I have found on your website at https://www.infrastructure.gov.au/sites/default/files/documents/agp2023-submission-c191-the-lead-goup.pdf but I cannot find the promised mid-2024 Aviation White Paper release nor even a page from which I can choose to read The LEAD Group's submission or other submissions.

Can you please update me on Australia's progress towards phasing out leaded AvGas? Great strides have been made in the US and Europe and we must not be left behind. Elizabeth

PILOT IAN RYAN'S RESPONSE TO MY EMAIL ABOVE

Sent: Thursday, August 29, 2024 12:18 PM

Subject: RE: Next moves on eliminating leaded AvGas in Australia? FW: Please update me on

the Aviation White Paper in relation to Australia's phaseout of leaded AvGas

Dear Elizabeth,

Unfortunately, the White Paper does not consider TEL at all. In fact, there is only one mention of Avgas (p143), and none of TEL/Lead. I do not believe that initiative 35 (noise and environment) will consider anything other than aircraft noise. Airservices currently manages noise only, and I do not expect that to change.

The White Paper relies heavily on battery and hydrogen-powered aircraft to achieve net zero, and as a side-effect eventually eliminate 100LL. I do not agree with the timeframes or current state of electric/hydrogen aircraft that was published in the White Paper. I included that in my response to the Green Paper, but I do not think that they considered it. I do not believe that the White Paper will offer any initiatives to support the transition away from 100LL.



Title: Sunset clause. Artist: Benji Muthukrishna. Lead-Safety Message: Australia needs a sunset clause, meaning a legislated date to cease the use of leaded aviation fuel. A good date would be 2030 or earlier. https://volcanoartprize.com/portfolio-item/sunset-clause/ [LID 28892]

In addition, there have been additional issues encountered in the USA for complete 100LL replacement fuels. See this website for more details: https://www.avweb.com/insider/fuel-reboot-needed/ [LID 29768]

The next steps for myself as a user of 100LL is to try and support the continued rollout of AvPulp, by IOR. While not a 100% replacement for 100LL, it will work in most aircraft we operate (unfortunately, only after purchasing suitable paperwork), and many used for flight training. We are discussing with IOR and others on the airport about the possible introduction of AvPulp, but it will take a little time.

Industry-wide, I don't see a solution until the USA does something. I will continue to watch their moves and see what happens. Australia is too small a market to be a leader, so we will have to follow whatever happens overseas.

If I hear any new developments, I will keep you informed, Ian Ryan

Every Country Must Transition to Unleaded AvGas

By Elizabeth O'Brien, Lead Scientist and Lead Advisor, orchestrated by Ian Smith, Systems Analyst, using OpenClaw on top of Claude AI and Ollama local AI models where possible, on solar-powered infrastructure. © The LEAD Group Inc. November 2026. Australian legal duty of care precedent found by Joe Schembri.

Continuing to use leaded aviation gasoline (AvGas 100LL) poses serious public health risks, particularly for childhood lead exposure near general aviation airports, while transitioning to unleaded alternatives involves cost-beneficial though complex logistical, infrastructure and aircraft adaptation costs.

The United States (US) is the most advanced country in organising to phase out leaded AvGas, because a Congressional Mandate of the 2024 Federal Aviation Administration (FAA) Reauthorization Act legally required the FAA to partner with the aviation industry to create a roadmap for transitioning the US piston-engine aircraft fleet away from leaded 100LL fuel.

Every country can benefit by following in the footsteps of the US FAA.



In Australia, the government has a legal duty of care precedent to do so. The motto of Australia's Civil Aviation Safety Authority (CASA) is "safe skies for all" (see at right). CASA's 2010 Aeronautical Study of Point Cook states (CASA 2010):

> *"It is important to note that the study may make recommendations based on existing and projected data. The following comment as summarised by Chief Justice Sir Harry Gibbs of the High Court of Australia has been considered while conducting the study:*
>
> > *Where it is possible to guard against a foreseeable risk which, though perhaps not great, nevertheless cannot be called remote or fanciful, by adopting a means which involves little difficulty or expense, the failure to adopt such means will in general be negligent. **
>
> *CASA applies a precautionary approach when conducting aeronautical studies*
>
> ** Gibbs, Chief Justice Sir Harry. Turner v State of South Australia (1982). High Court of Australia before Gibbs CJ, Murphy, Brennan, Deane and Dawson JJ."*

So, why didn't the CASA report apply the Harry Gibbs precedent for a government having a

duty of care to protect residents under general aircraft flightpaths like at Point Cook, to the fact that leaded AvGas is still used in all general aircraft airports in Australia?

Health Risks of Leaded Aviation Fuel

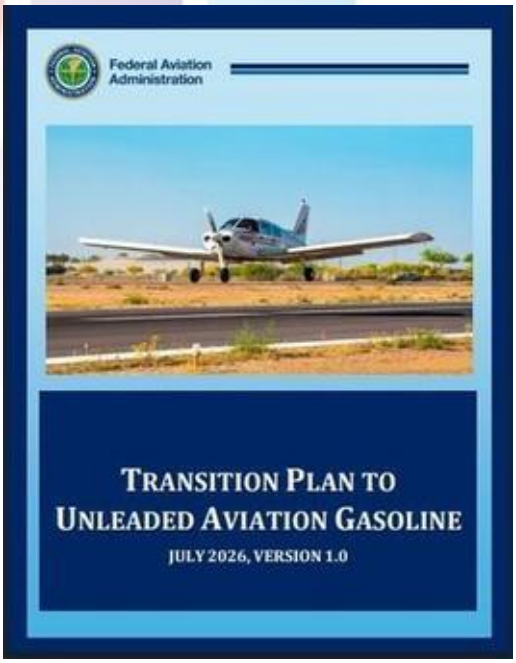
- **Neurodevelopmental Impact:** Lead is a potent neurotoxin that impairs cognitive development, lowers intelligence quotient (IQ), and causes behavioural and academic difficulties in children living or attending school near general aviation airfields.
- **Primary Source of Air Lead:** Leaded AvGas accounts for roughly 70% of total lead emitted into the air in the US, as documented in the US Environmental Protection Agency (EPA) Clean Air Act Endangerment Finding (US EPA 2023).
- **Persistent Accumulation:** Lead particles do not degrade; they settle in soils and playgrounds surrounding airports, creating long-term exposure pathways through inhalation and hand-to-mouth contact.

Economic Costs and Challenges of the Transition

- **Timeline and Mandates:** Under the FAA Transition Plan to Unleaded Aviation Gasoline (US FAA 2026) and the 2024 FAA Reauthorization Act, the industry is targeting the elimination of leaded 100LL by the end of 2030 (and 2032 for Alaska).
- **Replacement Fuel Hurdles:** High-compression piston engines require high-octane performance to prevent destructive engine knock. While drop-in replacements like General Aviation Modifications, Inc.'s (GAMI's) G100UL, Swift Fuels 100R and UL100E are advancing through certifications (such as Supplemental Type Certificates and Piston Aviation Fuels Initiative (PAFI) fleet authorisations), a universal drop-in fuel is technically and logistically challenging.
- **Infrastructure and Price Gaps:** Airports and Fixed Base Operators (FBOs) face supply chain, storage and co-mingling logistics, and initial unleaded alternatives may carry higher production or retail costs compared to legacy 100LL. Federal grant rules currently force airports to continue stocking 100LL until safe, wide-scale alternatives are fully deployed.

In the US, the transition of the general aviation (GA) fleet from leaded aviation gasoline (100LL) to unleaded alternatives is guided by the FAA Transition Plan to Unleaded Aviation Gasoline Version 1.0, released in July 2026 under the Eliminate Aviation Gasoline Lead Emissions (EAGLE) initiative (US FAA 2026).

The federal target is to phase out 100LL nationally by the **end of 2030**, with a two-year carve-out extending to the **end of 2032 for Alaska**.



Four Phase Roadmap

- **Phase 1: Fuel Authorisations and Comparisons (ongoing through Spring 2027):** completing final technical evaluations, laboratory and engine testing, and direct fuel comparisons.
- **Phase 2: Market Experience (mid to late 2028):** scaling initial distribution and gathering operational data from early-adopter airports and FBOs.
- **Phase 3: National Transition (targeted completion by 2030):** phasing out 100LL across the lower 48 states as refiners and fuel sponsors ramp up high-octane unleaded production to meet an estimated annual demand of 180 million gallons.
- **Phase 4: Alaska Transition (targeted completion by 2032):** managing unique logistics for remote Alaskan communities where piston aircraft provide essential infrastructure.

References

CASA (Civil Aviation Safety Authority), Office of Airspace Regulation (OAR), Australian Government (2010) Aeronautical Study of Point Cook, December 2010, https://www.radschool.org.au/magazines/Vol46/pdf/pointcook-aero-study.pdf [LID 30086]

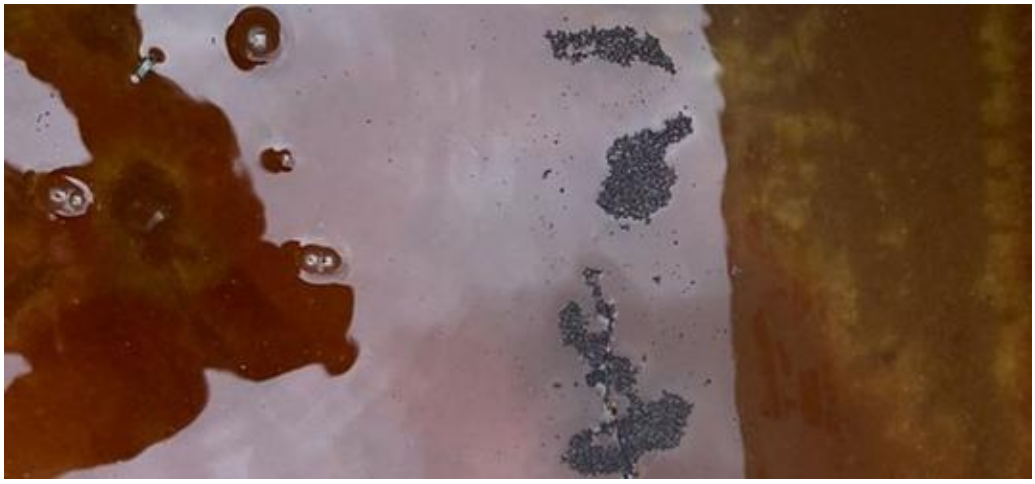
US EPA (United States Environmental Protection Agency) (2023) Finding that lead emissions from aircraft engines that operate on leaded fuel cause or contribute to air pollution that may reasonably be anticipated to endanger public health and welfare, Federal Register 88:72372-72404, 20 October 2023, https://www.federalregister.gov/documents/2023/10/20/2023-23247/finding-that-lead-emissions-from-aircraft-engines-that-operate-on-leaded-fuel-cause-or-contribute-to [LID 30088]

US FAA (Federal Aviation Administration) (2026) Transition Plan to Unleaded Aviation Gasoline, Version 1.0, 28 July 2026, https://www.faa.gov/unleaded/Transition_Plan_to_UL_Avgas_20260728_V1.pdf [LID 30038]

Unleaded fuel and quiet planes long overdue over Point Cook

Poems and photos by Joseph "Joe" Schembri, compiled in Joe's words by Elizabeth O'Brien, The LEAD Group, including in to Volcano Art Prize entries, from emails and phonecalls with Joe between July and October 2026

Joe Schembri: In the photo (below) you can see black particles from aircraft flying low overhead Point Cook, Victoria, residential area, as the local pilot training school uses the Australian Commonwealth Air Force's Fly Neighbourly Policy / "Good Neighbourly Policy" as a front or an illusion that would hide the truth.



2026 Volcano Art Prize (VAP) Entry. Click on the image to hear the song while you read the song lyrics in the poem below. Artist: Joe Schembri. Title: **Tin Can with Wings.** Lead-Safety Message: For 30 years my neighbours withheld that their aircraft used leaded fuel (AvGas). In the photo, black particles are floating in a concrete pit. The small particles are attracted to each other and join together as shown. These particles came from the exhaust from piston-engine aircraft (PEAs) of the Royal Melbourne Institute of Technology (RMIT) Aviation Academy at Point Cook Airfield, flying circuits over my property. Description of Work: photo and poem by Joe Schembri with song of the poem composed, arranged and performed by Agentic AI as Orchestrated by Lucas Schembri.

Tin Can with Wings

Poem by Joe Schembri

Tin can with wings
Yes wings.
Flying in the sky.
Tin can has a sound.
The sound that is raw.
The sound is loud.
This tin can with wings
Pretending to be a bird
Be a bird flying in the sky.
The bird flying in the sky

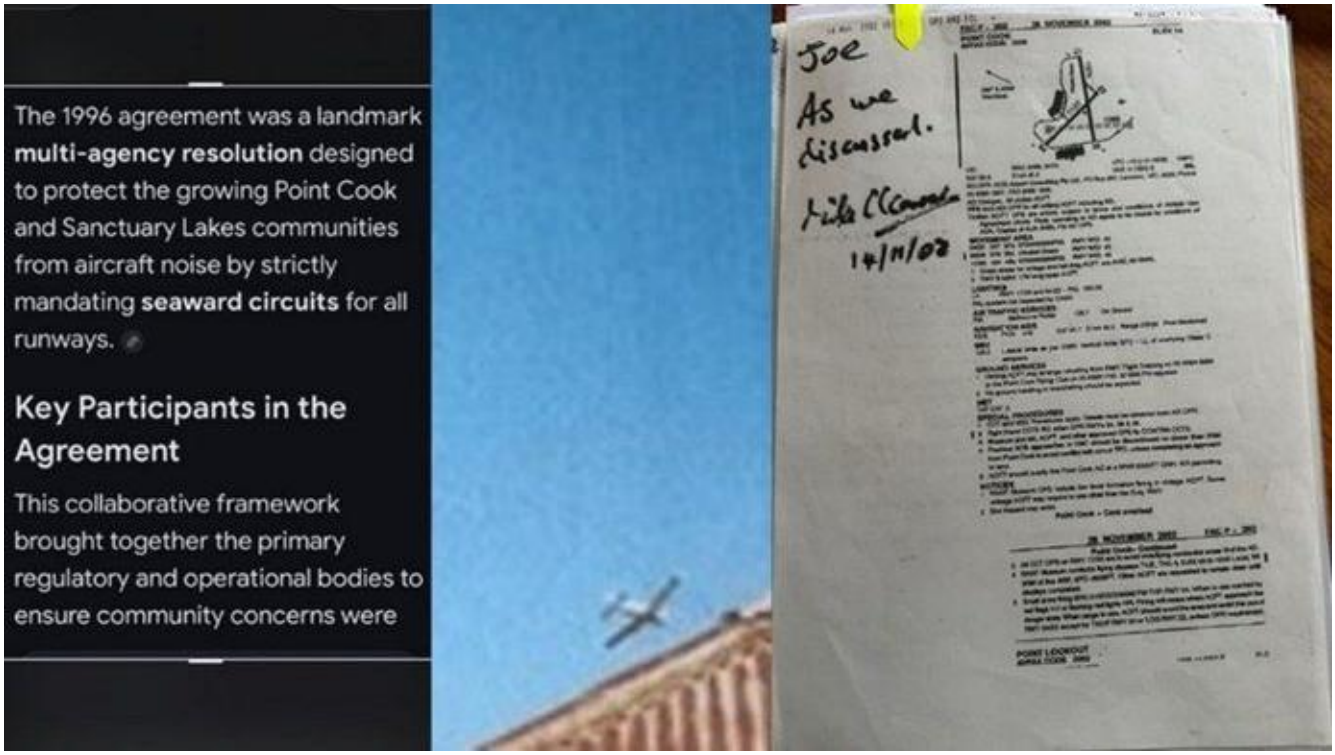
Flying in the sky.
The birds are honest
Honest birds sounds
Sounds different nothing to hide
Nothing to hide under its wings.
Bird sounds are not raw,
Bird sounds are not loud.
Bird sounds are gentle
Gentle all the time.
Straight away you can tell the difference between the tin can with wings and a bird flying in the sky.
Flying in the sky.
The flying tin can with wings has been hidden a secret in the sky.
Thirty years hidden their secrets from the sky.
Wild birds are honest
Honest nothing to hide.
The birds leave their mark.
Leave their mark
By giving back
Yes giving back to the place they have been.
Giving back on their journey,
But on the other hand.
On the other hand
The flying tin can high in the sky.
High in the sky.
Your secret has been uncovered
Uncovered hidden in the sky.
Thirty years of Deception
Thirty years of telling a lie.
Thirty years of Good Neighbourly policy.
Good Neighbourly policy just a lie.
Yes a Lie!
Lie!
Thirty years our leader telling us lies!
Thirty years of seaward circuits
Seaward circuits that failed to be delivered
Thirty years of dark particles
Dark particles raining down from the sky.
Raining down on our Children.
Raining down.
Our leaders knew
Yes our leaders knew.

Our leaders knew of the facts
The facts that dark particles harm our Children
Harm our Children
Harm our Children while they play.
Our leaders knew
Yes our leaders knew.
But it was so easy
To look the other way.
Our leaders eyes were fixed
Eyes were fixed
Our leaders eyes were fixed to the tin can in the sky.
Our leaders couldn't see the Children!
Children!
Our leaders eyes were fixed to the sky.
The tin can with wings flying in the sky.
Children were playing
Playing while dark particles
Dark particles rained from the sky.
Our leaders knew
Our leaders failed
Our leaders lied
So the tin can with wings can fly in the sky .
Tin can flying in the sky.
Our leaders eyes were fixed to the tin can with wings
In the sky.
Our leaders failed us
Failed us many times over.
Thirty years of lies.
Failing to protect our children
Failed to stop the dark particles
Dark particles raining on our Children
Good Neighbourly policy
What a lie
Lies
Yes lies
That keep the tin can flying in the sky
Yes lies in the sky
Lies in the sky
My family and others families at Point Cook
Was told lies and they covered over with words.
The Good Neighbourly policy
Is only a shopfront for their lies

Our leaders failed us,
They knew and said nothing
To warn us of the harm
Of lead contamination
Because they allowed aircraft
To fly over children.

https://volcanoartprize.com/portfolio-item/tin-can-with-wings/ [LID 29890]

PicturepRoducts prize winner



2026 Volcano Art Prize (VAP) Entry. Click on the image to hear the song while you read the song lyrics in the poem below. Artist: Joe Schembri. Title: **Game they Play.** Lead-Safety Message: In 2002, I received a fax from Canberra that clearly indicates pilots from RMIT Aviation Academy at Point Cook Airfield were instructed to fly away from the residential homes. When I sent it to the operational manager of the airfield, within 30 minutes the aircraft that were flying circuits over my property, decided to bombard me with aircraft flying over my home - flying north, south, east or west as if I was in a war zone. Until recently I didn't know their piston-engine aircraft (PEAs) all use leaded AvGas. Description of Work: photos and poem by Joe Schembri with song of the poem composed, arranged and performed by Agentic AI as Orchestrated by Lucas Schembri.

Game they Play

Poem by Joe Schembri

The illusion of many hides the truth.

Through words and scripts they set the move.
Victims are chosen before it begins.
A silent border where nobody wins.
Like a chess game without any rules.
Power moves made behind closed rooms
Authorities hold the upper hand covering up
The change with careful plans.
And why should truth be pushed away?
Why does illusion lead the day?

It's the game they play
High stakes every day
Creating fires creating fear
Then acting like they weren't here
Hiding the truth behind the stage
Turning the silence in to a cage
It's the game they play
And the truth gets lost away.

Script writers lead with their pens in hand
Lines are drawn across the land,
Like sheep they follow, heads held low
Nobody asks what they all know.
They release the dogs to round up strays,
Calling order in different ways
The culture and the boys club stays
Still alive in real time today.
Like the Trojan horse, they roll it in
Systems of cover and power within.
Many choose to look away
Because the bully still walks today
The walls stay high, the door gets closed.
Truth gets buried never exposed.

It's the game they play
The illusion remains
High stakes moving piece by piece
While the noise never brings release
But hiding truth won't make it fade
Every script these marks they've made
It's the game they play
But truth still finds its way.

https://volcanoartprize.com/portfolio-item/game-they-play/ [LID 29952]

Game they Play

Poem by Joe Schembri

The illusion of many hides the truth.
Through words and scripts they set the move.
Victims are chosen before it begins.
A silent border where nobody wins.
Like a chess game without any rules.
Power moves made behind closed rooms
Authorities hold the upper hand covering up
The change with careful plans.
And why should truth be pushed away?
Why does illusion lead the day?
It's the game they play





2026 Volcano Art Prize (VAP) Entry. Click on the image to hear the song while you read the song lyrics in the poem below. Artist: Joe Schembri. Title: **Pilots and Our Leaders**. Lead-Safety Message: Piston-engine aircraft (PEAs) of the Royal Melbourne Institute of Technology (RMIT) Aviation Academy were supposed to fly seaward from Point Cook Airfield, but instead they fly over residents, making noise and dropping lead emissions on children, reducing their learning abilities. When RMIT was training Chinese pilots in a circuit, aircraft flew over our home every minute. Description of Work: Point Cook TV screenshots from "Airfield Anger" news article, Wyndham TV, 5th Nov 2018 showing Joe Schembri and map graphic, from https://www.facebook.com/watch/?v=191993791717795 ; collaged with photo (of leaded AvGas PEA over Joe's home) and poem by Joe Schembri with song of the poem composed, arranged and performed by Agentic AI as Orchestrated by Lucas Schembri.

Pilots and Our Leaders

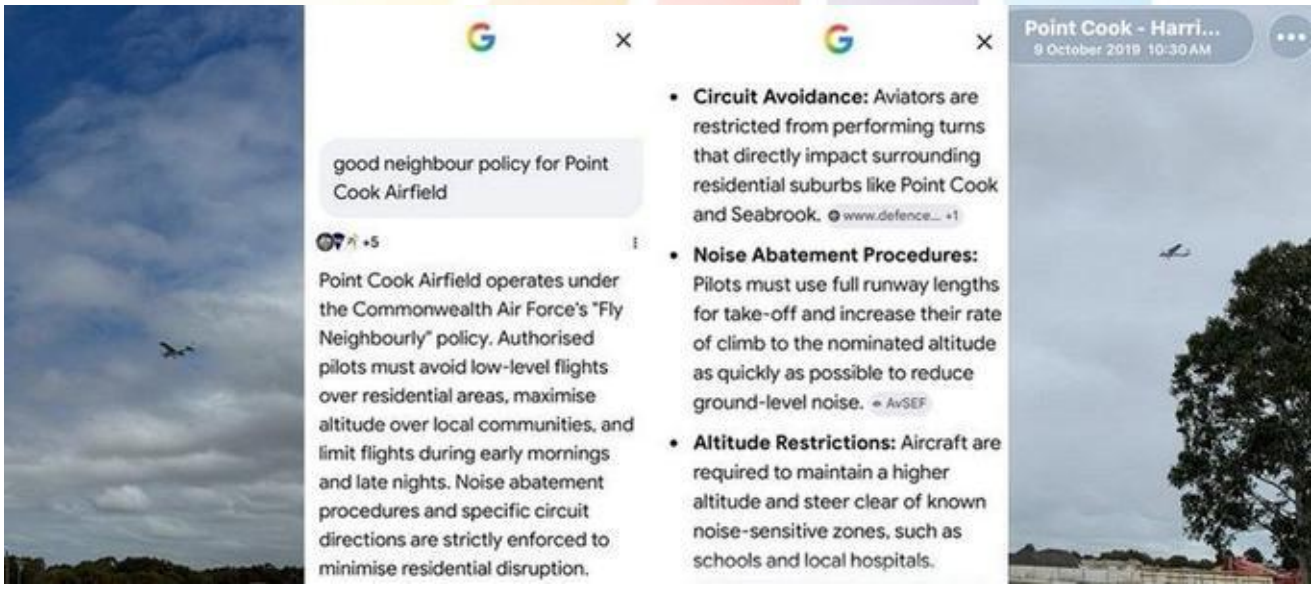
Poem by Joe Schembri

Pilots and our leaders think
Children don't matter anymore,
While planes fly in the sky
Children.
Yes Children don't matter anymore
While planes flyin' in the sky.

Yes,
Children don't matter anymore.
Planes try to fly like birds in the sky,
But they're only metallic.
Yes - metallic.
A tin can with wings.
Their sounds are raw and bloody loud.
As they fly in the sky.
Leaving a tail of metallic grey
Yes grey particles falling from the sky.
Children don't matter anymore,
While planes fly in the sky.
Yes!
Yes today, Children don't matter anymore
While planes fly in the sky.
Be real.
Yes today. Children don't matter anymore.
We are told that pilots and our leaders do care about Children.
That is a lie.
They lie to keep the tin can with wings flying in the sky.
Our leaders don't care about Children
Pilots don't care about Children.
Why!
Yes why?
There is so much space.
Why planes fly over Children?
There is so much space.
Why fly over Children?
There are other places to fly.
Our leaders failed us.
Our leaders don't care about our Children.
Pilots failed us.
Pilots don't care about our Children.
Good Neighbourly policy is a lie.
Good Neighbourly policy is just another one of their lies.
Our leaders and pilots look the other way
They want the tin can with wings to fly in the sky .
Children don't matter anymore.
While planes fly in the sky.
The raw and deafening sound of the tin can with wings.
Covering up the sound of the Children playing.
Children playing.

Children don't matter anymore.
While our leaders and pilots look the other way.
Look the other way.
They can't see the Children.
They can't see the Children.
They are high on that grey sty
They are high.
They can't see the Children.
The grey stuff
Dropping from the sky.
Children don't matter anymore while planes fly in the sky.
The tin can with wings is flying in the sky.
It doesn't make sense.
Yes it doesn't make sense.
They can fly away from Children.
They can fly away.
Yes.
Fly away from Children it's simple.
Stay away from Children.
Just listen pilots and our leaders.
It's simple
Stay away from Children.
Listen! Children are our future.
Yes! Our Future.
Children do matter all the time.
So stay away from our Children
Tin can with wings, fly away.
Fly away.
Our Children do matter all the time.
Children do matter all the time.
All of the time. All of the time.

https://volcanoartprize.com/portfolio-item/pilots-and-our-leaders/ [LID 29953]



2026 Volcano Art Prize (VAP) Entry. Click on the image to hear the song while you read the song lyrics in the poem below. Artist: Joe Schembri. Title: **Metallic Bird Go Away**. Lead-Safety Message: Although the noise pollution is obvious, it took me 30 years to find out that the piston-engine aircraft (PEAs) of the Royal Melbourne Institute of Technology (RMIT) Aviation Academy were and still are contaminating my family and the whole Point Cook community with lead. If RMIT could switch their fleet to PEAs certified for non-leaded AvGas or better still, to quiet and non-fossil-fuelled electric planes, then together we can build a better future for all. Description of Work: photos (of leaded AvGas PEAs over Point Cook farming community) collaged with <good neighbour policy> Google AI Assistant search results; and poem by Joe Schembri with song of the poem composed, arranged and performed by Agentic AI as Orchestrated by Lucas Schembri.

Metallic Bird Go Away

Poem by Joe Schembri

Metallic bird go away
Metallic bird go away.
Fly another way
You have kept secrets for thirty years.
Yes we know!

Metallic bird go away
Metallic bird fly another way.
Stop flying over our Children
Stop flying over them
Your secret is out in the open sky.
Yes we know of your lies
Good Neighbourly policy
What a joke.
Good Neighbourly policy

Lies for thirty years.

Metallic bird go away.
Metallic bird fly another way
Stay away from our Children.
For thirty years leaders and pilots are high on darkness from the sky.
Onto the Children darkness falls
Darkness falls on the Children.
While leader and pilots are high on darkness from the sky.

Metallic bird fly away
Metallic bird fly another way
Leave the Children to play.
Leave the Children to play.
We know the truth.
Darkness is falling from the sky.
Stay away from the Children.
Children are playing today.

Stop darkness falling from the sky

Metallic bird fly another way
Leave! Yes! Just leave!
Leave the Children to play.
Leave the Children to play.

https://volcanoartprize.com/portfolio-item/metallic-bird-go-away/ [LID 29954]

Joe Schembri: I've lived since 1982 and raised three sons quite close to Point Cook Air Base where RMIT do pilot & engineer training courses. The government is supposed to protect us, especially children.

My youngest son had vision problems. A specialist had to create a special set of contact lenses to give his eyes some curvature. My 36 year-old youngest son is seeing a specialist today (9th July 2026) for his eyes.

I have 8 grandchildren. To each grandchild as they reach a certain age, I give them a spirit level, a compass and a measuring tape so they can be balanced in the moment, knowing where they are and how far it is to get to where they want to go.

Planes fly at 200 foot altitude over our property but they're supposed not to fly lower than 1000 foot over us. In all the years I've lived here since moving here in 1982, why didn't the Point Cook RAAF Air Base inform us that AvGas that's being released over our area contains lead? I had some soil tests done.

JS: I emailed RMIT's Chancellor about leaded AvGas about a year ago and got a request from his lawyer that I stop emailing him

To give you understanding that when RAAF flight training ceased at Point Cook Airfield in the 1990's, civil aviation replaced them. Without any consultation, secrecy was used to

control residents plus they created the narrative to mislead the residents. AirServices with the stakeholders at Point Cook Airfield addressed the increasing civil aviation at Point Cook by addressing the noise factor of Point Cook by implementing seaward circuits on all runways.

This Seaward Circuits agreement was “implemented” in 1996. But RMIT failed to implement it.

Also for 30 years they withheld that their aircraft used leaded fuel (AvGas).

When I emailed them, and questioned about the contamination and asked if they have ever warned the residents, they did not respond.

In 2002, I received a fax from Canberra that clearly indicates there was instructions. A circle flying was not to go north of the airfield away from the residential homes.

When I sent it to the operational manager of the airfield, within 30 minutes the aircraft that were flying circuits over my property, decided to bombard me with aircraft flying over my home - flying north, south, east or west as if I was in a war zone. This is the type of arrogance, that the community have to put up with.

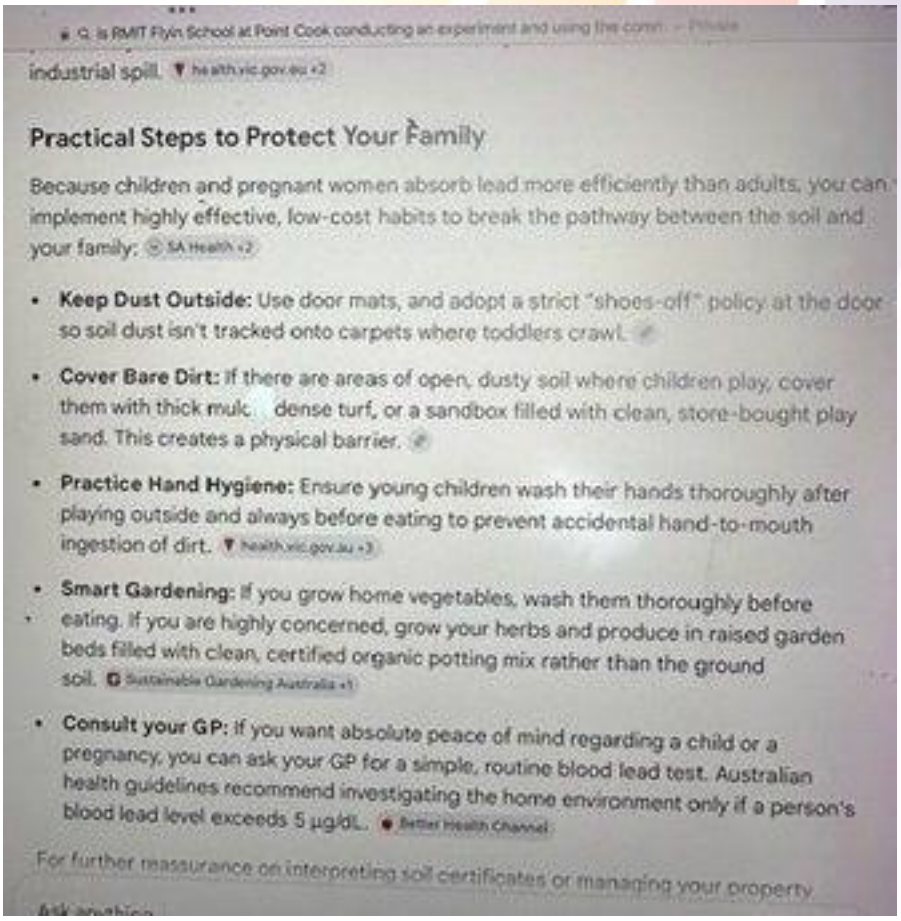
There was an agreement in 1996, but it was kept a secret till 2000 when I asked for it via a Freedom of Information (FOI) application. But the system that Authorities use to create firewall one after another to protect themselves.

In 1999, a RAAF aircraft took off from Point Cook Airfield late evening, my home was vibrating and the noise was very loud. I went outside then I saw aircraft wheels just above the tops of my trees. At that moment I could not breathe, I was gasping for air then I swallowed my tongue, and I was about to die. I had to dig my fingernails into my tongue to hook it out when I recovered and was able to talk. I called the airbase. No one was there, but I left a message. In the morning I received a call from the operational manager of Point Cook and he was only concerned about if I saw the number of the aircraft, and did nothing.

Months later I requested a copy of the message and was only told that they couldn’t find it.

When I requested the incident report. I received an incident report that failed to indicate that I swallowed my tongue but rather I tasted aviation fuel on my tongue.

It shows the Boy’s Club at work. It took me 30 years to find out that RMIT was contaminating my family and the Community in Point Cook.



The Google AI Assistant list (at left) of Practical Steps to Protect Your Family from Lead should include:

- **Prevent Lead Air Pollution:** If you live near a General Aircraft (GA) or Piston Engine Aircraft (PEA) airport, contact your local State and Federal Members of Parliament to demand that they ensure governments stop these aircraft from flying over residential areas in the short term, and from using leaded AvGas in the mid-term (as the US has set about doing) and in the long term, that all PEAs be replaced by renewable-energy-fueled electric planes.



The photo below is of an AvGas-fueled aircraft flying over my home. When RMIT was training Chinese pilots in a circuit, aircraft flew over our home every minute. Good Neighbourly Agreements at Point Cook is only a shopfront: when we look inside we find empty promises. The Aircraft in the photo is flying low. It has taken off from the Point Cook Airfield, the boundary of the airfield is located 1.2 kilometers south of its position. The pilot would have known of the Good Neighbourly Agreement but failed to consider families that he is contaminating. The operational manager of the airfield would have given instructions. But for 30 years RMIT has continued to NOT implement seaward circuits as the 1996 agreement clearly indicated. Also RMIT failed to warn residents of the lead contamination.

Thank you for your time and patience, together we can build a better future for all.
Joseph Schembri

Councils are Lead Liable due to Duty of Care

The Implications of Environmental Lead for Local Government

Article initially prepared for the Australian Institute of Environmental Health 24th National Conference and presented at the Launceston Country Club Resort, Tasmania on the 21 October, 1997 by Jason Bawden-Smith when he was the Managing Director, JBS Environmental Services and Technologies [now JBS&G]. First reprinted by The LEAD Group titled: "Are Councils Lead Liable?" in Lead Aware Times vol 1 no 1 (the first and only issue of that newsletter while The LEAD Group was funded by NSW EPA and Health who were not comfortable with the word "Action" in the normal newsletter title of LEAD Action News) minus the References. Secondly reprinted in the NSW Environmental Trust-funded "Council Lead Project Took Kit" (still without the References), which was created and distributed by The LEAD Group in hard and soft copy in 2002 to every Council in New South Wales. Finally reprinted here with the References, with URLs and Library ID numbers (LIDs) added by Elizabeth O'Brien, The LEAD Group, 8th Nov 2026.

On 20 October 1997 New South Wales commemorates its inaugural "Lead Poisoning Awareness Week". This date recognises the world's first discovery by Dr Turner (20 October 1897), that childhood fatalities in Queensland were caused by lead poisoning[1]. Lead hazards have resulted in the clinical poisoning of many hundreds of children in Australia over the last century, with scores of fatalities. Rathus (1957) has reviewed historical cases of clinical lead poisoning in Queensland from 1890-1940 and Freeman (1970) reviewed 90 cases in Sydney from 1948-1967. Both authors attribute the majority of poisonings to the ingestion of lead paint hazards (ie. paint chips or dust/soil contaminated by the removal of lead-based paint).

The adverse health effects of exposure to even low lead levels are well-known and documented[4,5,6]. Claire Patterson (1965) best summarised the adverse effects of lead when he found that:

- A single atom of lead, once in the human body, binds to a protein and induces some damage.
- The greater the exposure the more serious the effects.
- Lead has no physiological function.
- Any amount of body lead reflects environmental pollution.

Some of the more disturbing aspects of recent lead research, include studies that have linked lead exposure to anti-social behaviour, juvenile delinquency and adult criminality [8,9,10] and the association of even low lead levels in adults and hypertension[11]. One recent study conducted among 850 boys attending high school, showed that those with relatively high levels of lead in their bones were more likely to engage in aggressive acts and delinquent behaviour than boys with less lead in their bone[12]. Although none of the children in the study had ever been diagnosed with lead poisoning, a direct relationship was found between the amount of lead in their leg bones and reports by parents, teachers and children themselves of aggressive and delinquent behaviour. Even after taking into account other predictors of delinquency, such as maternal intelligence, socioeconomic status, child-rearing factors, race and history of medical problems the association of lead exposure and aggressive behaviour remained. Delinquent acts in childhood have been shown in past studies to be strong predictors of criminal behaviour later in life. This study breaks new ground, opening

the possibility that some of the violence in our society could be the result of preventable environmental pollution by lead[13].

Prevalence of Elevated Blood Lead Levels in Urban Children

A national survey of 1-4 year old children[14] found only 7.3% of children had blood lead readings above the NHMRC target level of 0.48 µmol/L (10 µg/dL) and only 1.7% above the NHMRC action level of 0.72 µmol/L (15 µg/dL). However, some researchers have questioned the statistical significance of the national survey due to the poor response rate, small population size and the lack of peer review.

A more comprehensive study conducted of 718 children in Central and Southern Sydney[15] may be a better indicator of the prevalence of children with elevated blood lead levels living in older urban areas of Australia. The study found that 16.1% of children had blood lead levels above 0.48 µmol/L and 3.9% above 0.72 µmol/L. The blood lead levels for children living in a 10 km radius of the Sydney Central Business District were 25 % above 0.48 µmol/L and 7% above 0.72 µmol/L. Corresponding findings for children living 10 km outside the radius were 9% above 0.48 µmol/L and 1.5% above 0.72 µmol/L. The primary difference between the two areas was the presence of older housing stock with lead paint within the 10 km zone of the CBD.

A survey of preschool children's blood lead levels in inner Sydney[16], where the majority of housing was built before WWII, found 50% of children above 0.48 µmol/L and 17.1% above 0.72 µmol/L. The study also found that children present during a home renovation were approximately five times more at risk of developing a blood lead level above 0.72 µmol/L.

Potential Lead Liability for Local Government

Issue 1: Liability To Persons Affected By Lead Poisoning As A Result Of Renovation/Demolition Work Carried Out On Houses Or Buildings Within Council Boundaries.

Liability depends on a Plaintiff establishing that the Council owed him or her a duty of care. The decision of the High Court in the Council of the Shire of Sutherland v Heyman (1985) 157 CLR 424 emphasised that a duty of care owed by a Council has to be determined by reference to the same principles which applied in general matters: there had to be a sufficient degree of proximity between the Council and the Plaintiff, such as to create an obligation on the Council to take reasonable action to prevent that loss or injury. Where a Council had a mere statutory power, and the negligence alleged against the Council was failure to exercise that power, then no duty of care could arise. If the Council decided to exercise the power and did so negligently, or if the Council was in fact, performing a statutory duty (as opposed to merely exercising a power), and did so negligently, then a duty of care would arise. The duty would be to act in such a way as to prevent foreseeable injury or loss.

Renovation and demolition work may require development approval and would require building approval. In considering a development application, section 90 (1) (c) of the Environment Planning and Assessment Act imposes a duty on the Council to take into consideration; "The existing and likely future amenity of the neighbourhood." Section 90 (1) requires a Council to consider "the public interest".

Section 68(1) of the Local Government Act and Regulations 12 and 13 of the Local Government Regulations create a duty on the Council to consider the "healthiness" of building when considering a building approval.

Thus, when faced with a development or building application, the Council is under a duty to consider health hazards which may be caused by the development or building work. That is, Council is exercising a statutory duty, rather than a mere power, when considering a development or building applications.

In establishing the necessary degree of proximity, reliance is an important factor. The Alec Finlayson Pty Limited v Armidale City Council (123) ALR 155, case concluded:

"Where a public authority knows, or should know, when taking some action, that it is in a distinctly superior position to appreciate or to assess a consequential threat, which is foreseeable, of injury, damage or loss, or to avoid the materialisation of injury, damage or loss, compared with the position of some individual or class of individuals, it is likely that the situation will also involve the concept of reliance, by those who may be affected, upon the public authority to take reasonable care".

With respect to lead paint on buildings, Council's are in a superior position, compared with persons who may be affected by lead poisoning, to "avoid the materialisation" of that injury by imposing conditions on any development or building work to which it gives approval. Councils have a duty to control development and building work in such a way as to safeguard the health of persons who might be adversely affected by that work. Councils are aware of the prevalence on lead paint in pre 1970 buildings and the danger created by any deterioration or disturbance of lead paint by work carried out on those houses or buildings. Councils are therefore in a far superior position, as a result of its knowledge and its ability to control development and building work, to safeguard the health of persons who might be adversely affected by that work, than the persons themselves. The persons to whom duty is owed include the owners of the properties, the workers who will carry out the work on the properties and, in the case of dust or airborne contamination could also include immediate neighbours of the properties. Each of those persons stands in a sufficient degree of proximity to the Council to impose on the Council a duty of care. When assessing a development or building application Council should ensure that conditions are imposed on the approval to prevent those persons potentially suffering lead poisoning.

Issue 2: Liability To Persons Affected By Lead Poisoning As A Result Of Exposure From Their Presence On Premises Owned Or Operated By The Council.

The law of occupier's liability has been well established for many years. There is little doubt that a person attending a child care centre, a baby health clinic, or any other premises owned or occupied by the Council and open to the public, would stand in a sufficiently proximate relationship to the Council to be owed a duty of care by the Council as an occupier of those premises. As a result of the knowledge of lead paint hazards (potentially present in all buildings constructed before 1970) held by Council, lead poisoning would be a foreseeable injury to any visitor who attends these premises and is exposed to lead. Under these circumstances, Council has a legal duty to take whatever steps are necessary to prevent visitors from being exposed to lead.

Developing A Local Government Lead Management Plan[17]

The NSW Lead Reference Centre (LRC) are developing a Local Government Lead Strategy with the assistance of peak local government groups. They have prepared a preliminary document to assist Council's in dealing with lead issues. The document incorporates health issues, sources and pathways of lead exposure, and the relevant legislation relating to local government and lead (however, this legislation is still under review). The document also outlines steps that local government can take to develop lead management plans (copies are available from the LRC). They include:

Identify Council owned or occupied buildings and develop lead management plans for those with lead hazards.

Identify council management, technical, maintenance staff and others, assess their need for training and train them.

Determine whether council procedures for managing lead hazards are adequate, especially for development and building approvals.

There are at least two NSW Councils who have already taken initiatives to increase community awareness about lead hazards and to reduce emissions to the environment and exposure to humans. Ashfield Municipal and Tweed Shire Councils have developed community information sheets that are widely distributed to residents and displayed at Council's offices. Both Councils have also commenced inspecting Council owned properties used by sensitive populations for lead hazards. Tweed Shire Council is also providing free lead paint testing services.

Council Powers and Obligations[17]

"Protection of the Environment Operations Bill

This bill proposes a larger role for Local Government as a regulator of activities that can cause pollution of land, air and water by materials containing lead".

"Building and Demolition Approvals[17]

Wherever an approval is necessary under clause 24 of the LGA, Councils can ensure the safe renovation of private buildings by imposing appropriate conditions.

When determining an application for approval under s89 of the LGA, Councils must take into consideration the requirements of any relevant regulations and criteria in a local approval policy that has been adopted.

When considering an application for demolition approval, Councils must comply with clause 65 of the Local Government (Approvals) Regulation 1993, which refers to Australian Standard AS2601-1991 *The Demolition of Structures*. Councils could include criteria relating to lead management in their local approvals policy. This policy could include criteria relating to demolition, provided it is not more onerous than the regulation.

If a Council does not have a local approval policy (and there is no applicable regulation), under Section 89 (2) it must seek to give effect to the applicant's objectives to the extent to which they are compatible with the public interest. The public interest includes protection of public health, safety and convenience".

Please note there are scheduled reforms to the NSW planning and environmental legislation.

Orders

Councils can also use powers under s124 of the LGA where applicable. Order 21 can be used to ensure that land or premises are placed or kept in a safe and health condition.

Limiting Lead Liability for Local Government

As outlined earlier in the paper it is crucial for Councils to discharge their legal duty relating to potential lead poisoning claims made by visitors to Council owned properties. This can only be achieved by identifying and managing any identified lead hazards in properties owned by Council and used by sensitive populations (preschool children and pregnant women).

Comprehensive assessment of lead paint hazards (includes lead paint, lead-contaminated soils and dusts) can be achieved by using three methods: chemical spot tests, laboratory analysis and new X-ray fluorescence spectrum analysers (NITON XL-309).

Table 1 outlines the advantages and limitations of three methods used to test lead paint.

Table 1 Comparison of Three Lead Paint Testing Methods

Destructive
Yes
Yes
No
Creates dust during collection
Yes
Yes
No
Need to re-seal sample area
Yes
Yes
No
Availability of results
30-90 sec.
3-14 days
5-20 sec.
Accurate and precise
No
Yes
Yes
Quantitative
No
Yes
Yes
US EPA & HUD approved
No
Yes
Yes
Cost per test (excluding labour)
20¢ to $8
$20-60
$3-6
Cost-effective
Yes
No
Yes

Chemical spot tests are cost-effective but unreliable. Many studies have shown unacceptable levels of false positives and false negatives [18,19]. Users of chemical spot test kits may recommend the costly remediation of non-lead painted surfaces or worse, fail to detect lead painted surfaces placing children at undue health risk. Professional consultants, environmental health officers, property managers, builders and painters place themselves at risk of costly litigation using chemical spot tests.

Laboratory chemical methods provide the most accurate and precise method for estimating lead content in paint. However, laboratory analysis of paint for total lead is very expensive and it can be weeks before you receive your results. Sample collection is also difficult, especially for intact lead paint, and issues of sample contamination and traceability during subsequent handling can arise.

The NITON XL-309 is the first portable XRF spectrum analyser to be used in Australia for testing lead paint. The primary advantage is speed, quantitative accurate (0.1 mg/cm^2) and precise (±0.15 mg/cm^2) results available instantly. Approximately 100 tests can be taken in one hour. The depth index determines where lead is located, on the surface or buried under several coats on non-lead paint. The instrument stores 3000 readings which can be down loaded to computer. The XL-309 also comes with lead in soil and dust capabilities that have been shown to produce results as good as any NATA registered laboratory[20]. Labour costs are also cheaper using the non-destructive XL-309, as there is no time spent collecting paint chips and re-sealing damaged surfaces. The disadvantages are the initial cost (although the XL-309 is now available for lease) and a low dose radiation source (Cd^{109} 307 Mbq) is used requiring an Environmental Protection Authority radiation license.

On completion of the assessment, a lead hazard control plan can be developed for each property. It is beyond the scope of this paper to outline the details of a lead hazard control plan. However, JBS Environmental has spent several months studying new innovative remediation techniques in the United States and it is our opinion that, except in extraordinary cases, lead safe renovations should cost no more than 10-20% above normal maintenance costs.

References

1. Turner A.Jefferis. Lead poisoning among Queensland children, *Australasian Medical Gazette* 1897; 16:475-479. [Not found online, 8th Nov 2026]
2. Rathus EM. *The history of lead in Queensland*. Internal report, Queensland for the year 1957-58. [Not found online, 8th Nov 2026]
3. Freeman R. Chronic lead poisoning in children: A review of 90 children diagnosed in Sydney, 1948-1967. *Med J Aust* 1970, March 23. https://onlinelibrary.wiley.com/doi/abs/10.5694/j.1326-5377.1970.tb116904.x [LID 3398]
4. CDC (Centers for Disease Control). *Preventing lead poisoning in young children: a statement by the Centers for Disease Control - October 1991*. US Department of Health and Human Services/ Public Health Service/ Centers for Disease Control and Prevention. https://web.archive.org/web/20010609014144/https://wonder.cdc.gov/wonder/prevguid/p0000029/p0000029.asp#head001000000000000 [LID 1606]
5. National Research Council. *Measuring lead exposure in infants, children, and other sensitive populations*. Committee on measuring lead in critical populations. Board of Environmental Studies and toxicology. National Academy Press Washington, DC 1993. https://www.ncbi.nlm.nih.gov/books/NBK236458/pdf/Bookshelf_NBK236458.pdf [LID 3096]
6. Berry M, Garrard J, Greene D. *Reducing Lead Exposure in Australia: An Assessment of Impacts*. Final report, July 1993. Commonwealth of Australia ISBN 0642195404. Can be borrowed from https://catalogue.nla.gov.au/Record/1640426 [LID 1208]
7. Patterson C.C. Contaminated and Natural Lead Environments of Man. *Arch. Environ. Health,* 1965; 11, 322-360. https://authors.library.caltech.edu/records/btnnq-qzk72 [LID 22188]
8. Fergussson DM, Horwood J, Lynskey MT. Early Dentine levels and Subsequent Cognitive and Behavioural Development. *J. Child Psychol. Psychiatry* 1993; 34:215-277. [Not found online, 8th Nov 2026]
9. Scatterfield J. Childhood Diagnostic and Neurophysiological Predictors of Teenage Arrest rates: an eight-year Prospective Study, in Sarnoff A, Mednick T, Sack SA, eds. *The Causes of Crime: New Biological Approaches*, edited by Sarnoff A. Mednick, Terrie E. Moffitt, and Susan A. Stack. New

York, NY: Cambridge University Press 1987. [Not found online, 8th Nov 2026]
10. Denno DW, *Biology and violence*, New York, NY. Cambridge University Press 1990. [Book available for purchase at https://www.dymocks.com.au/biology-and-violence-by-deborah-w-denno-9780521362191]
11. Hu M. Hypertension Linked To Low Lead Levels in Adults. *J. Amer. Med Assoc.* 289:33-36, April 1997. [Article not found online on 8th Nov 2026 but perhaps was actually or related to: Hu, Howard; Aro, Antonio; Payton, Marinelle; Korrick, Susan; Sparrow, David; Weiss, S & Rotnitzky A. The Relationship Of Bone And Blood Lead To Hypertension - The Normative Aging Study, JAMA Vol 275 No 15, 1st April 1996. https://jamanetwork.com/journals/jama/article-abstract/400490 [LID 331]
12. Needleman HL, Riess JA, Tobin MJ, Biesecker GE, Greenhouse JB. Bone Lead Levels And Delinquent Behavior. *J. Amer. Med Assoc.* 275:363-369, Feb 1996. https://jamanetwork.com/journals/jama/article-abstract/395592 [LID 13899]
13. United States Department of Housing and Urban Development. *Moving Toward A Lead-Safe America: A Report to the Congress of the United States*. Washington, DC: US Department of Housing and Urban Development, February 1997. https://web.archive.org/web/20011116163647/http://www.hud.gov/offices/lead/reports/annrept.pdf [LID 25152]
14. Donovan D 1996. *Lead In Australian Children. Report on the National Survey of Lead in Children*. Australian Institute of Health and Welfare (AIHW), Commonwealth of Australia ISBN 0642 24547 9. https://www.aihw.gov.au/getmedia/b6d0e6d2-09f1-4ef1-b62b-a0930557509b/lead-in-australian-children.pdf [LID 64]
15. Mira M, Bawden-Smith J, Causer J, Alperstein A, Karr M, Snitch P, Waller G, Fett J. Blood lead concentrations of urban Australian children. [Actual title: Blood lead concentrations of preschool children in Central and Southern Sydney] *Med J Aust* 1996: 164; 399-402. https://onlinelibrary.wiley.com/doi/abs/10.5694/j.1326-5377.1996.tb122086.x [LID 21492]
16. Fett MJ, Mira M, Bawden-Smith J, Causer J, Brokenshire T, Alperstein G. Community Prevalence Survey Of Children's Blood Lead Levels And Environmental Lead Contamination In Inner Sydney. *Med J Aust* 1992: 157; 441-5. https://onlinelibrary.wiley.com/doi/epdf/10.5694/j.1326-5377.1992.tb137301.x [LID 767]
17. Lead Reference Centre. *Local Government Lead Management - Draft Policy Document*. NSW Environmental Protection Authority 15 October 1997. [LID 612] Finalised and published as *Managing Lead Contamination in Home Maintenance, Renovation & Demolition Practices. A Guide for Councils* - including an example Development Control Plan (DCP) for lead - Planning NSW and NSW EPA (Environment Protection Authority), May 2003. https://web.archive.org/web/20050515024410/www.planning.nsw.gov.au/plansforaction/pdf/managinglead.pdf [LID 7222]
18. United States Department of Housing and Urban Development. *Guidelines For The Evaluation And Control, Of Lead-Based Paint Hazards In Housing*. Washington, DC: US Department of Housing and Urban Development, June 1995. Accessible via links to each chapter etc at https://web.archive.org/web/20120921082307/http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/lbp/hudguidelines1995 [LID 2846]
19. Cooner L. *Evaluation of Test Swabs for Detecting Lead Paint*. Division of Workplace Health and Safety, May 1995. [Not found online, 8th Nov 2026]
20. Quality Control Technologies. Internal QC results for JBS Environmental Services & Technologies, April 1997. [Never published or web-published.]

Growing up in the Broken Hill Lead Program in the early 1990s

Letter to the Editor from Max Mawby, 13 October 2025

Letter to the Editor – from Max Mawby, 13 October 2025

Hi Elizabeth

Here's a bit of history which sadly is only repeating. A lead story in the Who Weekly from April 1992.







My wife Loren is in the opening group photo as a kid with her 2 brothers and her dad. Her family used to be a part of the Broken Hill community lead program back in the 1990's.

Regards, Max Mawby, Organiser

CEPU SA Branch www.cepusa.com.au

http://www.facebook.com/CEPUSABranch

TROUBLE IN THE AIR
Broken Hill residents battle the toxic dusting of lead that drifts across their town – by Jane Nicholls, WHO Weekly, April 8, 1992. [LID 24081]

TROUBLE IN THE AIR

Broken Hill residents battle the toxic dusting of lead that drifts across their town ▪ by Jane Nicholls

THE BREEZE THROUGH THE WINdow gently lifts the Thomas the Tank Engine curtains in Aaron Turley's bedroom. The three-year-old is showing a visitor around his house in Broken Hill, NSW, proudly pointing out his Thomas toys, books and bedcover. Aaron then scuffs up the hallway to the lounge room, where he and sister Erica, 20 months, scatter toy guns, Big Bird plastic cameras and mini pianos across the carpet. Dennis and Kym Turley, smiling proudly, are the overseers of this picture of Australian familial bliss.

But the breezes are not exactly sweet in this outback centre, pop. 21,000. Broken Hill's rich lead and zinc mines form the backbone of the city's economy, but they are also at least one of the causes of the frighteningly high blood-lead levels in some of the local children. "If you look out the window," says Dennis, 32, peering across King Street from the home he and Kym purchased for $55,000 eight years ago, "you can see the dust blowing now through the trees. That's from the North Mine skimp dump."

Skimp dumps are huge mounds of earth that have had most of the lead and zinc mined out, leaving behind small amounts of heavy metals. Once airborne, the fine dust from the skimps can create biological havoc. Inhaled or consumed, lead can cause a staggering variety of health problems, including irritability, learning difficulties, headache, sleep disturbances, kidney damage and anaemia. Young children are at greatest risk because their central nervous systems are still developing.

Broken Hill residents have long known that their city had an annoying dust problem. But when they learnt that there was lead dust breezing through their community, they were scared and angry. Finally, the region's Public Health Unit arranged for blood-lead level tests for Broken Hill children aged between 12 months and 4 years. In January, it reported that of the 899 children tested, nearly 20 per cent had blood-lead levels that exceeded the "level of concern"—25 micrograms of lead per 100 ml of blood—set by the National Health and Medical Research Council.

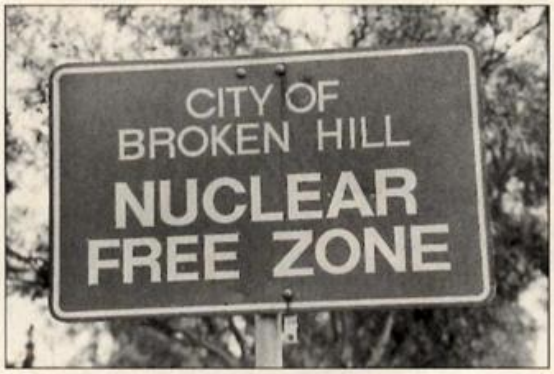
Last week, Joanne Boog, 34, founder and president of the Broken Hill environmental group Back to Basics, delivered a petition signed by nearly 5,000 community members to NSW Environment Minister Tim Moore. It asks the NSW government to come up with funding—around $250,000 is needed—for research into the sources of the lead problem, decontamination methods and an immediate clean-up program. Boog doesn't want to condemn the mines, which now only employ about 1,350 people. "But," she says, "we've had it up to here." Boog hopes the petition will at least spark a parliamentary debate on the issue.

What Broken Hill residents want first is some concrete information. They know that their toddlers, who crawl about close to the ground and play in high-lead dirt, are especially vulnerable to overexposure. And they know that the sick, old or pregnant are at greater risk as well. They know that residents living in South Broken Hill, closest to the mines and the lead-rich ore body called the "line of lode", tend to have higher readings than others. But they don't know what the long-term effects will be, what the future will hold for them or their children.

Peter Black, 48, Broken Hill's mayor, has endorsed his council being represented on the local Environmental Health Steering Committee that is reporting to state government on the lead issue, but he still thinks all the fuss is much ado about nothing. "We feel we're being singled out for media attention generated by a few malcontents in Broken Hill," he says. "It's a problem that's grossly exaggerated."

The blood test results tell a different story. Dr Mark Jacobs, who directed the initial round of testing in Broken Hill, says, "The main [thing] we are concerned with here is the effect of chronic low-level exposure and how that can affect [a child's] intellect and behaviour." While above the "level of concern", even the highest lead levels in Broken Hill are not at the acutely toxic level, says Jacobs.

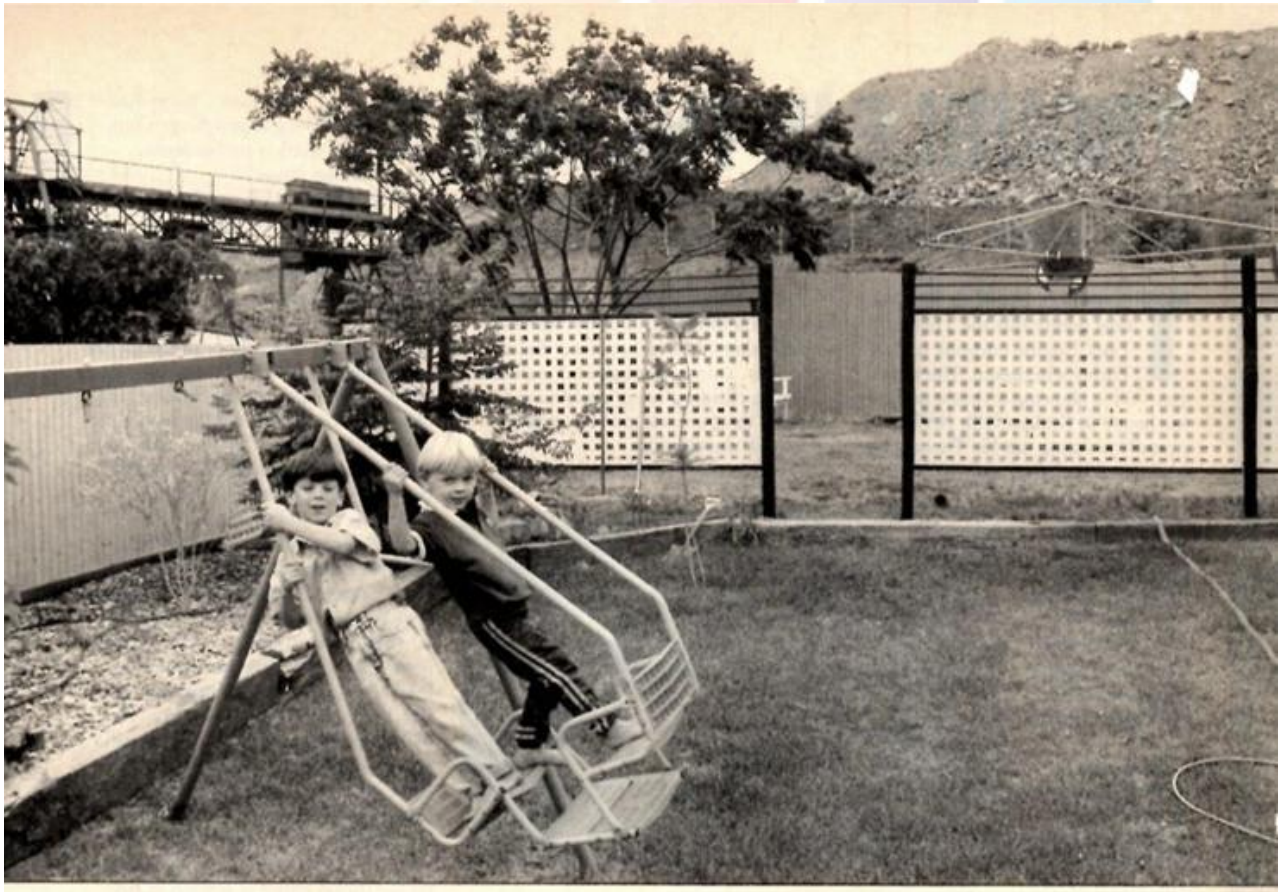
Lead poisoning is "a bloody subtle thing", agrees Broken Hill GP Don Howarth, who is on the steering committee. He is also assisting Dr Brian Gulson, the chief research scientist in the CSIRO's Division of Exploration and Geoscience, with ongoing tests to determine the sources of lead contamination. Gulson's highly sophisticated isotope "fingerprinting" can determine whether the source of lead is mine dust, food, water, paint or petrol. Gulson discourages Broken Hill parents from quickly linking high lead levels to the mines alone. And Howarth points out that, regardless of the source of the lead, behavioural problems—such as hyperactivity and impaired learning—can just as easily be traced to genetics or upbringing. Nevertheless, a report about to be re-



◄ One of many concerned "Hillers", in front of MMM's South Mine, says, "We want to go on living [here], but we aren't happy putting our children's lives at risk."

➤ Broken Hill mayor Peter Black defends his city, saying, "Sydney is a lot more polluted."

Photographs by Stephen Ellison/Outline Press



leased by the CSIRO's Adelaide-based Division of Human Nutrition suggests that lead *does* have a lasting effect on intellect. The long-term study looked at some 500 children living near a lead smelter at Port Pirie, SA, and has found that the children with the highest exposure to lead showed small but significant intellectual lags in development, according to Dr Peter Baghurst, one of the report's authors.

Results from that study have Broken Hill residents more up in arms than ever. They are pressuring Keith Chilman, the city's senior inspector of mines and chairman of the steering committee, to quickly finish a report he is writing recommending that further state funds for testing and decontamination be made available. Chilman concedes that he has been tardy in making his report, adding, "If I had a kid with a high lead level, I'd be looking at getting out of here."

Erica Turley—dragging her brother's Thomas the Tank Engine colouring book around by its dog-ears—is the cherubic face on the dilemma. Her first test gave a reading five points above the level of concern. Her levels rose another point on a second test. (Aaron, identical to Erica on his first test, dropped to the borderline of concern with his second.) Kym and Dennis are just thankful that the children haven't exhibited any obvious signs of lead toxicity so far. But even if they did, the alternatives for the family would be few. "We've got commitments here, so we just can't up and leave," says Kym, 31, who has lived in Broken Hill all her life.

The Turleys' home sits half a kilometre from the lead-rich line of lode and about the same distance from a skimp dump. Some Broken Hill residents, including Mayor Black, point to old houses (with lead paint and accumulated lead dust in the ceiling) or poor hygiene as the source of the lead, and "Hillers" generally agree that the mines are not the only problem. But the Turleys' home was built in 1975, and Dennis, who cleans and repairs railway lines on mining land, follows a strict clean-up routine each day.

"My children don't come in contact with Dennis's work clothes," says Kym. "On Fridays [the only day Dennis brings his work clothes home], he always enters through the back door and automatically puts his clothes in the washing machine. The washing machine gets immediately turned on. They say some of [the lead remains] in the washing machine, so before I do our normal wash I rinse out what's in there. I damp dust, I vacuum every day, I wash floors every day."

The Turleys complain that the state government has swept the problem in their community under the rug. "I think the NSW government reckons far west is as far as Dubbo," says Dennis, "and beyond that is no man's land. If they do anything [to help], it will only be a token."

"High-lead" parents meet regularly in Broken Hill to air their concerns. Today, a group gathers in Joanne Boog's garden. Julee Mann's son Nicholas, 5, was bang on the level of concern when he was first tested, but Benjamin, 4, came up with almost



➤ These Broken Hill brothers tested above the "level of concern" set by the National Health and Medical Research Council. Their home, which is located at the foot of a skinp dump, is up for sale.

➤ Frequent hand-washing is recommended, to reduce contamination. It cost $400 to fit this special basin outside one family's back door. "We became quite paranoid," says the mother of this boy.

twice that. Julee, 40, tells the group that, compared with her two older children, her youngsters are more volatile emotionally. She worries that low-level lead poisoning could be the cause: "[My boys have] chronic mood changes, from being happy and then, by somebody just saying the wrong word, to tears, to genuinely, really emotionally upset." The Manns live in a home once owned by a mine manager, located right next to the mine.

"Last year," Julee says, "we bought a poodle, and within eight weeks we had to give him away because he got really sick and was vomiting and had diarrhoea. I rang the RSPCA. They suggested we have a blood test done. He was twice the toxic level for dogs."

The story about the poodle falls into the category of tales that regularly circulate in Broken Hill and frighten parents most. It's an account that gives some credence to the fear among Hillers that they've taken up residence with a poison. Many whispers blow about the community: unexplained child deaths, "lost" test results, babies born blind. Some contain a gust of truth, others are the rumours of people who are genuinely afraid.

While waiting and hoping for help from the state, residents are coping by declaring war on lead dust. Keeping the dust down is a constant, wearing battle. "You'd be amazed at what [mining companies and medical advisers] are telling people to do," says resident Carmel Williams, 29, mother of 14-month-old Eliza (who was too young to be tested in the government round-up). "It's just phenomenal. It's dusting daily if possible or at least two times a week. Vacuuming the same amount and vacuuming when children are not in the room, which is pretty hard when you've got one my age. And [you're supposed to] grass all areas within the [yard] and make sure you rinse the grass regularly."

Dennis and Kym Turley are trying to give their children the best chance they can by adhering to the stringent cleaning regime they've established in their home. But the fact that they live in high-risk South Broken Hill is something they can't change. They've considered selling their house—not to move away from the city they love, but to move to a safer part of town. "But who wants to buy our home?" asks Kym, trying to grab Erica as she speeds out of the lounge room to collect more toys. "South is supposed to be *the* high-risk area, and I wouldn't like to sell my home to a family with young children."

The Turleys, like other Broken Hill residents, live with the worry. "They reckon it affects their brains," says Kym, running her fingers through her daughter's hair, "that they won't take in as much as what a child without lead will. That's what worries me, because in years to come they're going to need their education." ■



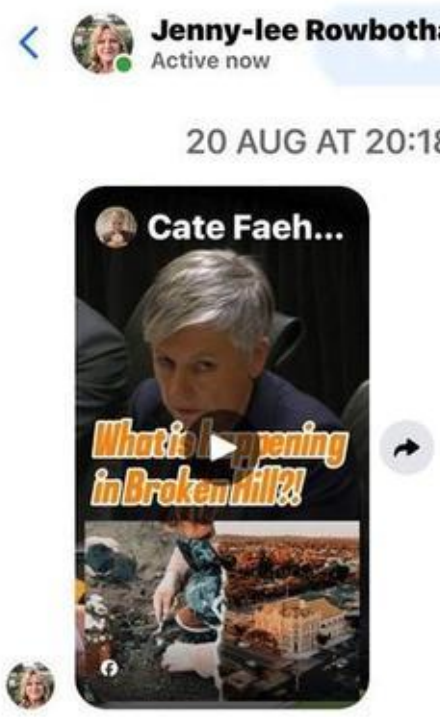
➤ Happy Day Pre-School workers follow health precautions that include covering the sandpit after playtime.

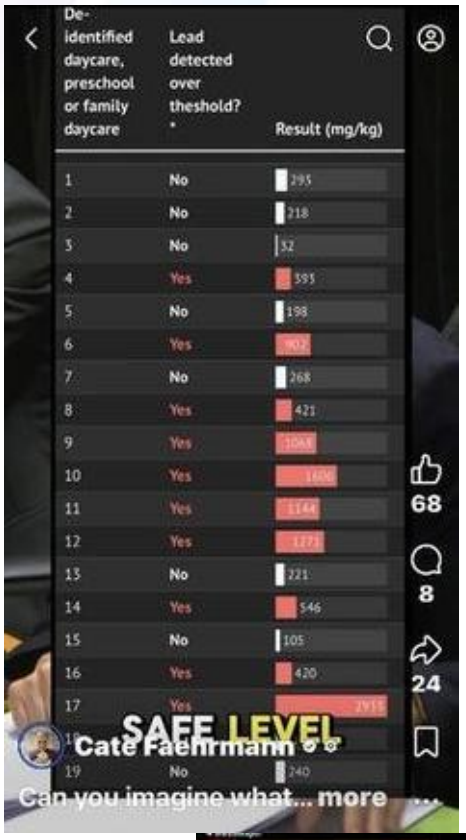


➤ Kym and Dennis Turley, with tots Erica and Aaron, are matter-of-fact about their plight: "It's a bit hard to sell and pack up."

Duty of Care in Broken Hill Childcare Centres

Facebook Post and Transcript of Facebook Reel "What is happening in Broken Hill?!", 20th August 2026 by Cate Faehrmann, New South Wales (NSW) Greens, https://www.facebook.com/watch/?v=1593831238852997 [LID 30030] *and comments by First Nations Broken Hill Mother and Grandmother, Jenny Rowbotham*





Cate Faehrmann's Facebook Post 20th August 2026: Can you imagine what would happen if tests by the government revealed that child care centres in Sydney had toxic levels of lead in their soil? Pretty bloody swift action and recrimination. Not for the kids of Broken Hill.

One in 3 kids in Broken Hill have blood lead levels above a national safety standard. For First Nations Kids it's more than half. There is no safe level for lead in blood. This should be a national scandal. Why isn't it?

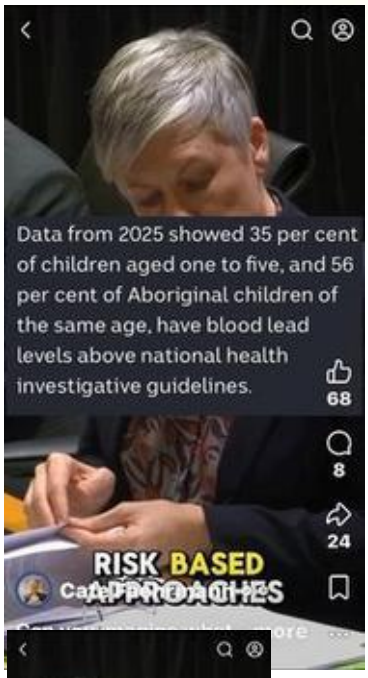


TRANSCRIPT of Facebook Reel, 20th August 2026:

Cate Faehrmann: The list that I got back yesterday confirms that there are 10 childcare facilities that have recorded soil lead levels above the 300 milligram per kilogram safe lead limit. One was 2933, another was 1,271, another 1,606, recognizing the safe limit is 300 mg/kg.

Another is 1,271. Another is 1,144.

But apparently the EPA has only remediated four of those childcare centres. Do you know why the EPA hasn't remediated all of the childcare centres that have lead in their soil that is higher than the safe level in Broken Hill?



Tony Chappel, Chief Executive Officer (CEO) of the NSW Environment Protection Authority (EPA): The four sites that were remediated, the property manager opted in to proceed with remediation.



Cate Faehrmann: so you offer this testing on an opt-in basis and then it's up to the owner or operator of the facility if they want to proceed with further action? And it says that the EPA provided information to the affected properties, including an assessment report, advice and recommendations and a fact sheet with recommended measures.

Was anything else done?



So if the property owner chose not to take anything up, that was it. That EPA's job's done?



Tony Chappel, NSW EPA: It's important to understand the context here, which is that these are complementary services offered to operators of these services... facilities who are obligated to ensure the safety of their staff and other people there? So this is an additional service that's available?



Other NSW EPA staffer: I think too, we need to be careful with language here. So health investigation levels, when you read the National Environmental Protection Measure for Contaminated Sites, clearly says investigation levels are not cleanup or response levels, nor are they a desirable soil criteria. Investigation levels are intended for assessing existing determination to trigger consideration of appropriate site-specific risk-based approaches.

Cate Faehrmann: Right, so appropriate site-specific risk-based approaches for a child care centre with lead in the soil 10 times

above the safe level…What's the appropriate action then? Were the parents notified?

Tony Chappel, NSW EPA: It's really appropriate for the operator to engage with the parents and for staff, it's their obligation to ensure the safety of the worksite. So, we need permission from the site owner to undertake remediation. In some cases, we were able to do that.

TV News presenter: Upper House Greens MP Cate Faehrmann says the lack of accountability is a concern.

Cate Faehrmann: So we don't know if the parents have been told. We don't know what's happened with the kids. And we don't know if they're still playing in that toxic dirt. Can you imagine if this was happening in Sydney? It is absolutely outrageous.

Facebook Messenger text exchange between Jenny Rowbotham and Elizabeth O'Brien, The LEAD Group Inc, 1st Nov 2026:

Jenny Rowbotham: So instead of dealing with the lead contamination at the childcare centres in Broken Hill and the children being exposed to lead there, the government has withdrawn Rainbow Preschool's funding which means closure without any inquiry or follow up about the contamination or the children that have been exposed there.

The other preschool with a high soil lead reading has also closed stating theft of money by a staff member as the reason for closure.

I really do think that's an excuse to shut a preschool that's been running since the 1970s. Again because of high lead levels and contamination of both the preschool and the children this is a way of walking away with no liability. They have a duty care to everyone involved.

Elizabeth O'Brien: The children of Broken Hill are so lucky to have you as their lead-safety advocate. ❤️

Jenny Rowbotham: Thank you - it's been a long journey but well worth the time, effort and perseverance of years of doors being slammed shut and being told "nothing to see here".

Sept 30th 2026 LEAD Group objection to Bowdens lead mine

By Elizabeth O'Brien, Lead Scientist and Lead Advisor, orchestrated by Ian Smith, Systems Analyst, using OpenClaw on top of Claude AI and Ollama local AI models where possible, on solar-powered infrastructure. © The LEAD Group Inc. November 2026

The LEAD Group Inc's Objection to the Bowdens Silver Project (SSD-5765), by Elizabeth O'Brien, Lead Scientist and Lead Advisor, with assistance from Ian Smith, Systems Analyst using OpenClaw AI. The full Submission is at https://www.ipcn.nsw.gov.au/sites/default/files/webform/make_a_submission_bowdens_silver/81836/The%20LEAD%20Group%20Inc%27s%20Objection%20to%20Bowdens%20Silver%20SSD-5765%20Submission%20to%20IPC%2020260930.pdf *[LID 29961] and the audio transcript of the Oct 15 2026 Presentation of this Submission is at* https://www.ipcn.nsw.gov.au/sites/default/files/2026-10/Public%20Hearing%20Day%202%20Transcript.pdf *[LID 29968]*

The LEAD Group Inc objects to the Bowdens Silver Project in its entirety and asks the Commission to REFUSE the application, on grounds of human health, water resources, biodiversity, Aboriginal cultural heritage, greenhouse gas emissions, economics, social impacts, rehabilitation and, above all, the lack of demonstrated need for a new lead, zinc or silver mine and the failure of the Australian and NSW regulatory framework relied upon to protect the community from the toxic metal lead.

Who we are and why we object

The LEAD Group Inc has worked since 1991 to manage and eliminate lead exposure and contamination in Australia and internationally. We run a global lead information service, sell LEAD Group Kits, provide free Kits for Indigenous Australians, run the Volcano Art Prize and the world's largest publicly-accessible lead library, and publish LEAD Action News. We created the Model National Lead Safety Policy (LEAD Group 2023a), part of the Lead Knowledge Library of our partner UNICEF's Partnership for a Lead-Free Future (PLF), despite and because of Australia being the world's largest lead exporter.



UNICEF's Partnership for a Lead-Free Future envisions a world where every child grows up free from lead exposure (UNICEF n.d.)

The LEAD Group seeks to stop all new lead being mined in order to give the world a chance of achieving global lead-safety by 2041. I have been particularly motivated by the knowledge that throughout my entire life of 70 years, all the lead in all the leaded fuel in all the world was mined in Australia. We continue to work with multiple NGOs to ban leaded AvGas globally, very likely still all made with Australian-mined lead.

We object because the project is, in substance, a new open-cut lead and zinc mine; because there is no demonstrated need for it when the same and greater quantities of lead, zinc and silver can be recovered from products and wastes we already have; because its public and occupational health risks, above all from lead, are unacceptable and cannot be managed by the very agencies whose competence the previous IPC approval relied upon; because its environmental, water, biodiversity, greenhouse and cultural-heritage impacts are severe and in places irreversible; and because the assessment process itself is not fit for purpose. I beg the Panel to consider: is adding more Australian lead for the world to mismanage worth the short-term profits to mining company shareholders and NSW and Australian governments? We request this Panel not to approve an extra 95,000 tonnes of lead being added to communities already living in poverty around the world, when the lead they're already exposed to is likely Australian exported. As UNICEF's explainer concludes: prevention is the best cure (UNICEF n.d.).



A boy dismantles used lead-acid batteries. Photo from UNICEF's Explainer: 7 Things to Know about Lead Exposure (UNICEF n.d.)

Estimates of lead's harm just keep growing

Whenever the harm from lead is re-measured, it is found to be larger than previously estimated. In 2011, Tsai and Hatfield put the global benefit of phasing out leaded fuel alone at US$2.45 trillion a year, 4.27% of global GDP (Tsai and Hatfield 2011). In 2013 the World Health Organization (WHO) estimated 143,000 deaths per year from lead poisoning (UPI 2013). By 2015 the International Society for Environmental Epidemiology put it at 674,000 deaths annually (ISEE 2015); in 2016 Dr Perry Gottesfeld reported 853,000 deaths annually from lead, versus 852,000 for all other occupational risk factors combined (Gottesfeld 2016).

Lanphear et al (2018) found that in the United States alone, low-level lead exposure causes an estimated 412,000 deaths a year, roughly ten times more than previously thought, with no safe threshold found. The most comprehensive estimate yet found that in 2019 lead exposure caused about 5.5 million adult cardiovascular deaths worldwide and cost children under five 765 million IQ points, at a global economic cost of US$6.0 trillion, about 7% of global GDP (Larsen and Sánchez-Triana 2023). In one decade, the best published estimate of lead's annual global death toll grew from 143,000 to 5.5 million.

The 2026 state of knowledge is starker still: Pure Earth's President wrote that "lead poisoning causes more deaths annually than all natural disasters, active wars, traffic accidents, HIV, and malaria combined", and the Director of UNICEF's PLF Secretariat wrote to Partners that lead poisoning is the world's most widespread environmental health threat to children, affecting over 4 in 10 children in low- and middle-income countries: "No other single hazard impairs so many children, so silently, so invisibly and so irreversibly" (LEAD Group 2026b). A decision-maker in 2026 cannot assume, as decision-makers in every previous decade wrongly assumed, that current estimates of lead's harm are the ceiling. They have only ever been the floor (Figure 1).

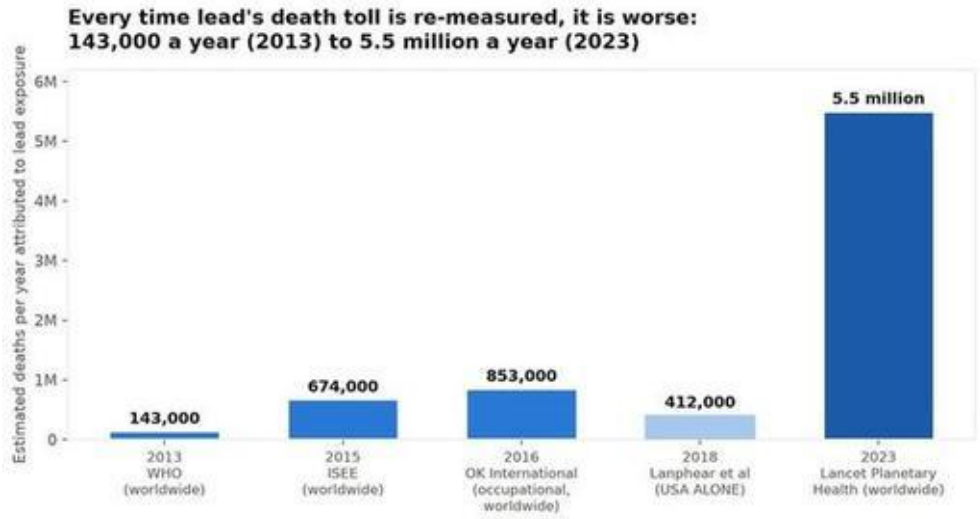


Figure 1: Published estimates of deaths attributed to lead exposure, 2013-2023. The 2018 estimate is for the United States alone (UPI 2013; ISEE 2015; Gottesfeld 2016; Lanphear et al 2018; Larsen and Sánchez-Triana 2023)

A lead mine, not a silver mine

The project is marketed as a "silver mine", but silver is a tiny fraction of an ore body dominated by lead and zinc. The Department of Planning and Environment's own Assessment Report records a product stream of approximately 60% zinc concentrate and 40% silver/lead concentrate by weight: over the life of the mine, roughly 95,000 tonnes of lead and 130,000 tonnes of zinc against about 2,060 tonnes of silver (DPE 2022). By weight the operation is roughly 99% base metal, and lead alone outweighs silver by around 40 to one (Figure 2). "Silver" carries no public-health stigma; "lead" carries an enormous and well-

earned one. We ask the Commission to assess this application for what it is: a toxic lead and other heavy metals mine proposal (LEAD Group 2023b).

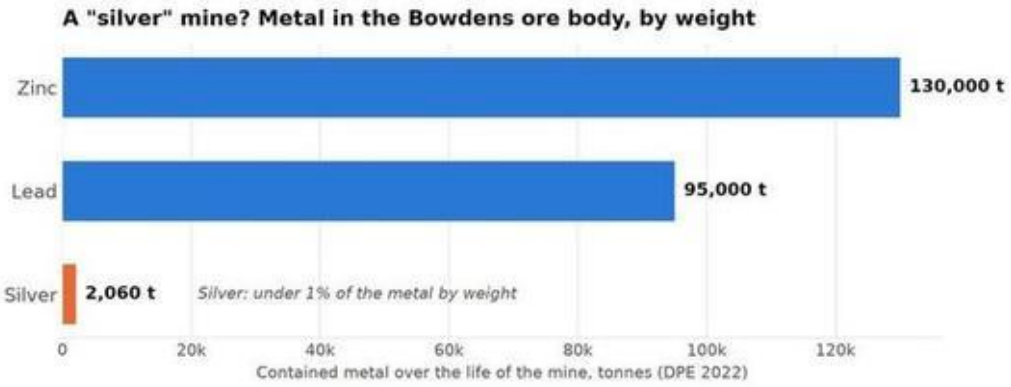


Figure 2: Contained metal in the Bowdens ore body over the life of the mine, by weight (DPE 2022)

Nor is lead the end of it. The proponent's own Feasibility Study records that "arsenic, antimony and fluorine were determined to be at levels in the silver/lead concentrate that would likely trigger penalties from smelters" (Silver Mines Limited 2018b). Yet antimony is not among the twelve metals the Human Health Risk Assessment considered, and the word "antimony" does not appear once in the Department's entire December 2022 Assessment Report (DPE 2022). Neither NSW Health nor the NSW Environment Protection Authority (EPA) identified this. Two agencies that did not notice that a penalty-level toxic metal in the product concentrate was missing from the health assessment cannot credibly assure this Commission that the mine's risks are "able to be managed". The Commission is being asked to assess a cleaner mine than the one actually proposed.

There is no need for this mine: the circular economy

The threshold question for any new mine is need. There is none here. Lead is close to 100% recyclable and lead batteries are the most-recycled consumer product in the world; secondary lead already supplies the majority of global demand (International Lead Association 2023). In Australia, roughly 137,000 tonnes of used lead-acid batteries arise as waste each year and about 98-99% are recycled, carrying on the order of 80,000-90,000 tonnes of lead a year (DCCEEW 2020). The Bowdens mine would produce roughly 3,200 tonnes of lead a year. Australia's existing used-battery lead stream is more than ten times the mine's lead output, before counting lead in roof flashing, radiation shielding, solder, ammunition, pewter and brass. We do not need to dig up more lead; we need to collect and recycle the lead we already have (O'Brien 2024; LEAD Group 2023b).

Silver likewise: 197.6 million ounces (about 6,145 tonnes) of silver was recycled worldwide in 2025 alone, the highest level in 13 years (Silver Institute and Metals Focus 2026), while Bowdens would recover about 1,650 tonnes over its entire 16-year life (Stockhead 2024). The world already recycles a whole Bowdens' worth of silver roughly every four months. End-of-life solar panels carry silver at grades comparable to high-grade ore, with new Australian technology recovering 97-100% of it (University of Newcastle 2025), and Australia's

cumulative solar-panel waste to 2050 carries an estimated 600-1,500 tonnes of recoverable silver (Tan, Deng and Egan 2023): a second Bowdens, sitting in our own waste stream (Figure 3).

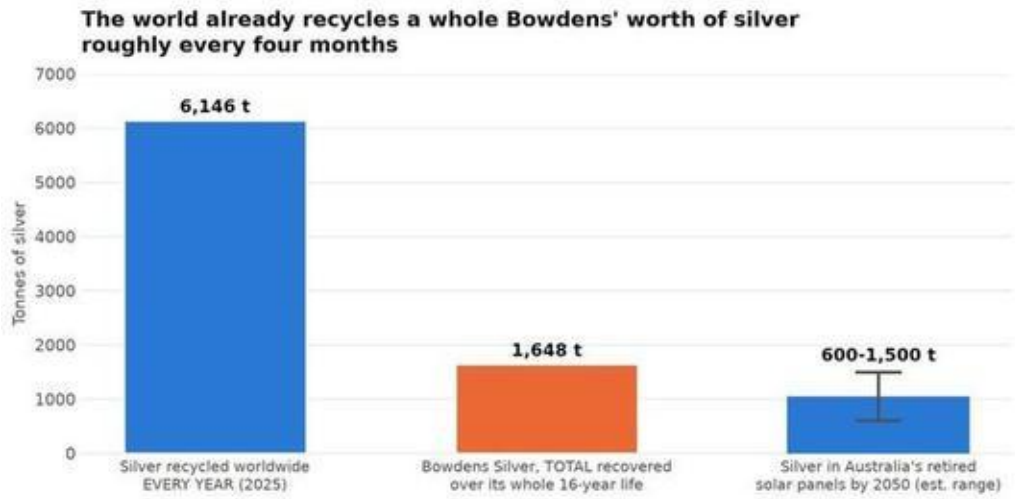


Figure 3: Silver recycled globally each year, against Bowdens' total lifetime recovered silver and the estimated silver in Australia's retired solar panels to 2050 (Silver Institute and Metals Focus 2026; Stockhead 2024; Tan, Deng and Egan 2023; University of Newcastle 2025)

The lead hazard cannot be managed

There is no established safe level of lead exposure apart from zero (WHO 2026). Australia's leading lead-contamination researcher, Professor Mark Taylor, advised the Commission that "no existing, large, multi-element mining operation, which processes lead can demonstrate an absence of off-site impacts" and that "elevated blood leads around lead mines and processing facilities are always present… even after operations have ceased", because of the pollution halos seen at Broken Hill, Mount Isa and Port Pirie (Taylor 2023; Taylor et al 2020). Toxicologist Dr Barry Noller advised that lead exposure is under-estimated where only PM10 and PM2.5 are assessed, because that omits the coarser fallout dust that children ingest, and that drought reduces the water available for dust suppression and increases dust-borne lead (Noller 2023). Lead concentrate would be trucked by B-double, up to around 18 loads a week, to Newcastle, Port Botany or the Port Pirie smelter (DPE 2022), extending the lead footprint along transport corridors, and agricultural producers raised contamination of livestock, olives and wine (Southan 2023).

Broken Hill is the proof the regulators cannot protect children

The previous Panel approved the project in part on "the absence of any outstanding concerns regarding health impacts from NSW Health or the NSW Environment Protection Authority that are unable to be managed" (IPC 2023). Broken Hill is NSW's 140-year-long "controlled" experiment in regulating an active lead mine beside a community, and it refutes that reliance. After decades of oversight and millions of taxpayer dollars, the 2024 Broken Hill Lead Surveillance Program found about 35% of all children aged 1-5, and 68% of Aboriginal

children, still had blood lead above the national 5 µg/dL action level (NHMRC 2015; Far West Local Health District 2025). Peer-reviewed research shows contemporary mine emissions, not merely legacy contamination, independently drive children's blood lead (Dong, Taylor and Zahran 2019).

And lead's harm does not cease on a child's sixth birthday. Lead absorbed over a lifetime is stored in bones and teeth and re-mobilised into the bloodstream by pregnancy, lactation, menopause and age-related bone loss, doing fresh damage each time (Gulson et al 1998; ATSDR 2020). Adults with blood lead of just 6.7 µg/dL were at 37% greater risk of premature death from any cause and 70% greater risk of cardiovascular death than adults at 1 µg/dL; in Professor Bruce Lanphear's words, "There's no safe threshold" (Lanphear et al 2018; Choong 2020). Yet only pregnant women and pre-school children are ever included in Broken Hill community blood lead surveys.

Worse, the competence and good faith of the regulator itself are in question. The NSW EPA commissioned an expert report on environmental lead risks at Broken Hill, received it in December 2019, and did not release it until October 2023 (EPA 2025). Internal emails revealed staff proposing to "quietly load it onto the LeadSmart website and not tell anyone", and the delay has been described as a cover-up. Most relevant of all to this application: the EPA's own internal concern was that "history may repeat itself" near the proposed Bowdens mine (Woodburn and Ormonde 2025). If NSW Health and the EPA cannot protect the children of Broken Hill, there is no basis to believe they will protect the children of Lue.

A process that is not fit for purpose

The LEAD Group's 2023 Parliamentary submission argued that capture by mining interests of regulatory and political processes voids the fitness for purpose of the mine approvals process, and that the EIS has become a tick-the-box exercise "bought and paid for by mining interests", with Bowdens the case in point (LEAD Group 2023b). The Lue Action Group's independent experts found the application deficient against the Secretary's Environmental Assessment Requirements: on human health and acid drainage the project is "not approval-ready" (Noller 2023); on surface water the IPC "does not have sufficient information to make an informed decision" (Baguley 2023); on hydrogeology the proponent "has insufficient water supply approvals" (Flavel 2023). Dr Amanda Cohn's dissenting statement on the Parliamentary inquiry found the majority's conclusions contradicted the evidence (Cohn 2023). And the original consent was declared void by the NSW Court of Appeal in August 2024 because the Commission had failed to consider the mine's own transmission line (IPC 2026). A process that approves a mine while overlooking how it will be powered is not one whose health and environmental findings should be given the benefit of the doubt.

Environmental impacts

The project would emit approximately 1.42 million tonnes of CO2-equivalent over its life as assessed (DPE 2022), at a time when NSW and Australia are committed to deep and rapid emissions reduction. It would store about 30 million tonnes of tailings behind a 56-metre-

high embankment (Silver Mines Limited 2018b) in the upper catchment of Walkers Creek, draining through Lawsons Creek into the Cudgegong and Macquarie Rivers, the headwaters of part of the Murray-Darling Basin (DPE 2022). More than 23 million of the 46.3 million tonnes of waste rock is potentially acid-forming; Dr Noller warned that acid mine drainage reaching Lawsons Creek "may lead to damage to the isolated aquatic ecosystems beyond the point of restoration" and that the final pit void may require "continuous water treatment into the future" (Noller 2023): a perpetual liability with no responsible party once the mine closes. The mine would demand 1,092 to 1,303 megalitres of water a year in a drought-prone catchment, clear roughly 381 hectares of native vegetation including around 180 hectares of endangered Box-Gum Woodland, and directly impact 25 Aboriginal cultural heritage sites, including two scarred trees (DPE 2022): irreplaceable heritage erased for a mine that is not needed.

The overseas comparison

The largest comparable analogue in the United States is the Red Dog zinc-lead-silver mine in Alaska: fugitive dust from concentrate haulage contaminated soil, water and vegetation with lead and cadmium for kilometres beside its road, and the facility has repeatedly topped the US Toxics Release Inventory (Nobel 2018). Even a well-resourced, closely monitored operation under better legislation could not keep lead on-site. More broadly, the US has for two decades effectively been unable to approve a new primary lead mine, because of an ambient air-lead standard more than three times tighter than Australia's (0.15 versus 0.5 µg/m³, averaged over three months rather than a year) (US EPA 2016; NEPC n.d.), strict retrospective Superfund liability, and the closure of the last US primary lead smelter in 2013. The Bowdens proposal is possible here precisely because Australian law is less protective of community health than its US equivalent.

Port Pirie, the proponent's own named likely destination for the Bowdens silver/lead concentrate (Silver Mines Limited 2018b), survives only on public money, most recently a $135 million federal-state bailout (ABC News 2025), and SA Health's 2025 analysis records that 59.2% of tested children under five exceeded the 5 µg/dL national investigation level, the worst result in a decade, with the average Port Pirie two-year-old carrying more lead today than in 2016 (SA Health 2026). A peer-reviewed assessment of the public health education material used in Australia's three lead towns found it "normalised environmental lead" (Sullivan and Green 2016). Wherever Australia hosts a lead industry, governments manage the community's expectations instead of the industry's emissions. That is the lead economy Bowdens would feed.

What we asked the Commission to do

The LEAD Group asks the Commission to refuse the application outright. If, contrary to this submission, it is minded to approve, the full submission sets out minimum conditions, while stressing that even all of them together cannot make a new lead mine safe or necessary: prove-no-harm-first via independent child blood-lead modelling on validated local baseline

data before any approval; a hard, enforceable ambient air-lead limit of 0.15 µg/m³ at the nearest residences with automatic suspension on exceedance; independent baseline and ongoing monitoring of dust, soil, water, eggs and blood lead (to a detection limit no higher than 0.2 µg/dL) for all residents within 30 km, funded by the proponent, with automatic suspension on any statistically significant off-site increase; monitoring by Total Suspended Particulates and fallout dust, not PM10 alone; full product stewardship, with the proponent funding collection and recycling of a weight of lead at least equal to the mine's output; strict retrospective remediation liability backed by funds held independently in perpetuity; tailings engineered to the probable maximum flood and relocated out of the agricultural water catchment; no disturbance of any Aboriginal site without the free, prior and informed consent of Traditional Owners; all vehicles and motors electric, with entirely renewable electricity; and all monitoring and compliance assessed by experts appointed independently of the proponent (LEAD Group 2023b; Taylor et al 2020; Noller 2023).

Conclusion

The Bowdens Silver Project is a new lead and zinc mine dressed up as a silver mine. It is not needed: Australia already holds, in its used batteries and other lead products, more than ten times the lead this mine would produce, and silver and zinc likewise. Its lead-health risk is unacceptable and, as Broken Hill proves beyond argument, cannot be managed by the NSW agencies the previous approval relied upon, one of which suppressed its own lead report while fearing this very precedent. The process that approved it once has already been found wanting by the courts. We must prioritise the health of the many above continuing profits for the few, as without our health, we've got nothing.

As Elizabeth O'Brien put it to the Panel at the public hearing on 15 October 2026: "I would actually like to add one last question for the panel. Wouldn't you have a duty of care to refuse this mine, because of the predictable liability for the NSW Government in perpetuity?"

References

ABC News (2025), Nyrstar to get $135 million bailout for struggling smelters, Australian Broadcasting Corporation, https://www.abc.net.au/news/2025-08-05/nyrstar-135-million-support-deal-for-struggling-smelters/105613710 [LID XXXXX]

ATSDR (Agency for Toxic Substances and Disease Registry) (2020), Toxicological Profile for Lead, US Department of Health and Human Services, Atlanta GA, https://wwwn.cdc.gov/TSP/ToxProfiles/ToxProfiles.aspx?id=96&tid=22 [LID XXXXX]

Baguley, S (2023), Proposed Bowdens Mine SSD-5765: Surface Water Submission Report to the Independent Planning Commission, on behalf of the Lue Action Group, 23 February 2023, https://www.ipcn.nsw.gov.au/sites/default/files/pac/projects/2022/12/bowdens-silver/email-and-postal-public-submissions/lue-action-group/01_surface-water_shireen-baguley_february-2023.pdf [LID XXXXX]

Choong, E (2020), Lead is an issue beyond childhood, LEAD Action News, vol 21 no 1, The LEAD

Group Inc, https://leadsafeworld.com/wp-content/uploads/2020/10/LANv21n1-11.pdf [LID 19130]

Cohn, A (2023), The mining impacts inquiry report fails regional communities, 15 December 2023, https://www.amandacohn.org/the_mining_impacts_inquiry_report_fails_regional_communities [LID 27899]

DCCEEW (Department of Climate Change, Energy, the Environment and Water) (2020), A review of data on lead-acid batteries entering Australia and arising as waste, Australian Government, https://www.dcceew.gov.au/sites/default/files/documents/lead-acid-batteries-entering-australia.pdf [LID XXXXX]

Department of Planning and Environment (NSW) (2022), Bowdens Silver Project (SSD-5765): Assessment Report, DPE, Sydney, December 2022, https://www.ipcn.nsw.gov.au/sites/default/files/pac/projects/2022/12/bowdens-silver/referral-from-dpe/bowdens-silver-assessment-report.pdf [LID XXXXX]

Dong, C, Taylor, M P and Zahran, S (2019), The effect of contemporary mine emissions on children's blood lead levels, Environment International, vol 122, pp 91-103, https://doi.org/10.1016/j.envint.2018.09.023 [LID 19234]

EPA (NSW Environment Protection Authority) (2025), Statement on Environmental Lead Risks at Broken Hill report, 19 September 2025, https://www.epa.nsw.gov.au/news/epamedia/250919-statement-on-environmental-lead-risks-at-broken-hill-report [LID XXXXX]

Far West Local Health District (2025), Broken Hill Lead Surveillance Program 2024 Annual Report, NSW Health, released 16 July 2025, https://www.nsw.gov.au/departments-and-agencies/fwlhd/media-releases/broken-hill-lead-surveillance-program-2024-annual-report [LID XXXXX]

Flavel, C (2023), Bowdens Proposal: Hydrogeology, submission to the IPC on behalf of the Lue Action Group, 15 February 2023, https://www.ipcn.nsw.gov.au/sites/default/files/pac/projects/2022/12/bowdens-silver/email-and-postal-public-submissions/lue-action-group/02_groundwater_craig-flavel_february-2023.pdf [LID XXXXX]

Gottesfeld, P (2016), The Environmental and Health Impacts of Lead Battery Recycling, Occupational Knowledge International, background paper for ECOWAS, https://wedocs.unep.org/bitstream/handle/20.500.11822/13943/1_ECOWAS%20lead%20background%202016.pdf [LID XXXXX]

Gulson, B L, Mahaffey, K R, Jameson, C W, Mizon, K J, Korsch, M J, Cameron, M A and Eisman, J A (1998), Mobilization of lead from the skeleton during the postnatal period is larger than during pregnancy, Journal of Laboratory and Clinical Medicine, vol 131 no 4, pp 324-329, https://doi.org/10.1016/S0022-2143(98)90182-2 [LID XXXXX]

Independent Planning Commission NSW (2023), Bowdens Silver Project SSD-5765: Statement of Reasons for Decision, 3 April 2023 (consent subsequently declared void), https://www.ipcn.nsw.gov.au/sites/default/files/pac/projects/2022/12/bowdens-

silver/determination/230403-bowdens-silver-project-ssd-5765-statement-of-reasons-for-decision.pdf [LID XXXXX]

Independent Planning Commission NSW (2026), Bowdens Silver case page, https://www.ipcn.nsw.gov.au/cases/2022/12/bowdens-silver [LID XXXXX]

International Lead Association (2023), Lead batteries are the most recycled product, https://ila-lead.org/ [LID XXXXX]

ISEE (International Society for Environmental Epidemiology) (2015), Commentary: ISEE call for action for global control of lead exposure to eliminate lead poisoning, Epidemiology, vol 26 no 5, pp 774-777, https://journals.lww.com/epidem/Fulltext/2015/09000/Commentary___ISEE_Call_for_Action_for_Global.22.aspx [LID 18949]

Lanphear, B P, Rauch, S, Auinger, P, Allen, R S and Hornung, R W (2018), Low-level lead exposure and mortality in US adults: a population-based cohort study, The Lancet Public Health, vol 3 no 4, pp e177-e184, https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(18)30025-2/fulltext [LID 18948]

Larsen, B and Sánchez-Triana, E (2023), Global health burden and cost of lead exposure in children and adults: a health impact and economic modelling analysis, The Lancet Planetary Health, vol 7 no 10, pp e831-e840, https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(23)00166-3/fulltext [LID 28013]

LEAD Group, The (2023a), Model National Lead Safety Policy - Towards a Lead-Safe World, 18 July 2023, https://www.leadfreefuture.org/events-and-resources/knowledge-library/lead-safe-world-model-national-lead-safety-policy [LID 27279]

LEAD Group, The (2023b), Submission No. 184 to the Inquiry into the current and potential impacts of gold, silver, lead and zinc mining on human health, land, air and water quality in NSW, Portfolio Committee No. 2, NSW Parliament, https://www.parliament.nsw.gov.au/lcdocs/submissions/82416/0184%20Lead%20Education%20and%20Abatement%20Design%20(LEAD)%20Group%20Incorporated.pdf [LID 27620]

LEAD Group, The (2026b), A Lead Safe World is in the Frame, LEAD Action News, vol 23 no 2, The LEAD Group Inc, https://leadsafeworld.com/wp-content/uploads/2026/03/LANv23n2-A-Lead-Safe-World-is-in-the-Frame.pdf [LID 29164]

NEPC (National Environment Protection Council) (n.d.), National Environment Protection (Ambient Air Quality) Measure, https://www.nepc.gov.au/nepms/ambient-air-quality [LID XXXXX] (accessed 7 November 2026)

NHMRC (National Health and Medical Research Council) (2015), NHMRC Statement: Evidence on the Effects of Lead on Human Health, EH58, Canberra, https://www.nhmrc.gov.au/sites/default/files/documents/reports/statement-lead-human-health-eh58.pdf [LID XXXXX]

Nobel, J (2018), America's Most "Toxics-Releasing" Facility Is Not Where You'd Think, National Geographic, 21 February, https://www.nationalgeographic.com/science/article/most-toxic-town-us-kotzebue-alaska-red-dog-mine [LID XXXXX]

Noller, B N (2023), Statement on behalf of the Lue Action Group regarding the proposed Bowdens silver mine at Lue: Human Health and AMD Risk, submission to the IPC, 23 February 2023, https://www.ipcn.nsw.gov.au/sites/default/files/pac/projects/2022/12/bowdens-silver/email-and-postal-public-submissions/lue-action-group/06_human-health-amd-risk_barry-noller_february-2023.pdf [LID XXXXX]

O'Brien, E (2024), Circular Economy for Lead Petition to the Australian House of Representatives (Petition EN6714), LEAD Action News, vol 22 no 4, The LEAD Group Inc, https://leadsafeworld.com/wp-content/uploads/2025/02/LANv22n4-18.html [LID 28314]

SA Health (2026), Port Pirie Blood Lead Levels: Analysis of blood lead levels for 2025, Department for Health and Wellbeing, Government of South Australia, Adelaide, https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/resources/port+pirie+blood+lead+levels+analysis+for+2025+annual+report [LID XXXXX]

Silver Institute and Metals Focus (2026), World Silver Survey 2026, The Silver Institute, Washington DC, https://silverinstitute.org/wp-content/uploads/2026/04/World-Silver-Survey-2026.pdf [LID XXXXX]

Silver Mines Limited (2018b), Feasibility Study - Bowdens Silver Project, ASX announcement, 14 June, https://www.silvermines.com.au/wp-content/uploads/2018/06/feasibility_study.pdf [LID XXXXX]

Southan, M (2023), Australian Olive Industry submission, Bowdens public hearing, IPC, February 2023, https://www.ipcn.nsw.gov.au/sites/default/files/pac/projects/2022/12/bowdens-silver/public-submission-rounds/speaker-presentations/michael-southan-australian-olive-industry--bowdens-public-hearing.pdf [LID XXXXX]

Stockhead (2024), Silver Mines upgrades and optimises Bowdens, highlighting strong economics, 24 December, https://stockhead.com.au/resources/silver-mines-upgrades-and-optimises-bowdens-highlighting-strong-economics/ [LID XXXXX]

Sullivan, M and Green, D (2016), Misled about lead: an assessment of online public health education material from Australia's lead mining and smelting towns, Environmental Health, vol 15 no 1, https://doi.org/10.1186/s12940-015-0085-9 [LID 19299]

Tan, V, Deng, R and Egan, R (2023), Solar photovoltaic waste and resource potential projections in Australia, 2022-2050, Resources, Conservation and Recycling, vol 202, 107316, https://doi.org/10.1016/j.resconrec.2023.107316 [LID XXXXX]

Taylor, M P (2023), Talking points for the Bowden's Mine IPC Hearing, Macquarie University, 23 February 2023, https://www.ipcn.nsw.gov.au/sites/default/files/pac/projects/2022/12/bowdens-silver/public-submission-rounds/speaker-presentations/professor-mark-taylor--submission-23-feb-2023.pdf [LID XXXXX]

Taylor, M P, Isley, C F and Fry, K (2020), Comments and assessment of potential lead exposure risks reported in the Bowdens Silver EIS, report prepared for the Lue Action Group, Macquarie University, 15 July 2020, https://www.ipcn.nsw.gov.au/sites/default/files/pac/projects/2022/12/bowdens-silver/public-submission-rounds/speaker-presentations/professor-mark-taylor-submission--lag-report.pdf [LID 27920]

Tsai, P L and Hatfield, T H (2011), Global benefits from the phaseout of leaded fuel: going unleaded, Journal of Environmental Health, vol 74 no 5, pp 8-14, reprinted by The LEAD Group Inc, https://www.lead.org.au/Global_Benefits_from_the_Phaseout_of_Leaded_Fuel-Going_Unleaded_201112.pdf [LID 14992]

UNICEF (n.d.), Explainer: 7 Things to Know about Lead Exposure, https://www.unicef.org/stories/7-things-know-about-lead-exposure [LID XXXXX] (accessed 29 September 2026)

University of Newcastle (2025), Scientists find a fast, new way to recover high-grade silver from end-of-life solar panels, December, https://www.newcastle.edu.au/news/2025/12/scientists-find-a-fast-new-way-to-recover-high-grade-silver-from-end-of-life-solar-panels [LID XXXXX]

UPI (United Press International) (2013), WHO: 143,000 deaths per year from lead poisoning, 18 October 2013, https://www.upi.com/Health_News/2013/10/18/WHO-143000-deaths-per-year-from-leadpoisoning/11551382150700/ [LID XXXXX]

US EPA (United States Environmental Protection Agency) (2016), Fact Sheet: Decision - National Ambient Air Quality Standards for Lead, https://www.epa.gov/sites/default/files/2016-09/documents/pb_naaqs_nfr_fact_sheet.pdf [LID XXXXX]

WHO (World Health Organization) (2026), Lead poisoning, fact sheet updated 10 June 2026, https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health [LID 30069]

Woodburn, J and Ormonde, B (2025), Children are being poisoned by high lead levels as state government agency accused of report cover-up, ABC News, 17 September 2025, https://www.abc.net.au/news/2025-09-17/broken-hill-lead-poisoning-cover-up-mudgee-silver-mine-fears/105775230 [LID 28863]

Oct 19th 2026 LEAD Group MRAG objection to Bowdens Lead Mine

Elizabeth O'Brien sent an email with Subject: "Please Stop Bowdens Mine & Plan instead for NSW to have the world's first Circular Economy for Lead", on Nov 3rd 2025 to the office of the NSW Minister for Planning and Public Spaces, Paul Scully, and the email and reply from Gino Mandarino, Deputy Chief of Staff, Office of The Hon Paul Scully MP, was then kindly submitted by Mudgee Region Action Group (MRAG) on behalf of The LEAD Group to the IPC 2026 Submissions process. To find it online at https://www.ipcn.nsw.gov.au/cases/2022/12/bowdens-silver *go to the Public Submissions box, and search for "LEAD Group"*

From Gino Mandarino, Office of The Hon Paul Scully MP, Minister for Planning and Public Spaces, 4 November 2025:

Dear Ms O'Brien, I acknowledge and thank you for your correspondence. I confirm that your correspondence has been forwarded to the Department of Planning, Housing and Infrastructure for further consideration as part of the assessment process for this project. Regards, Gino Mandarino, Deputy Chief of Staff.

From Elizabeth O'Brien to the Minister, 3 November 2025:

Dear The Honourable Paul Scully, As the lead author of Model National Lead Safety Policy Proposal by The LEAD Group (2023) at https://leadsafeworld.com/solutions/ and manager of the world's largest publicly-accessible lead library containing such gems as the Lancet Planetary Health study which says the global health burden of lead is up to 9% of global GDP, I'm writing to appeal to you to ignore the NSW government's vested interest in receiving mining royalties and taxes by creating jobs in toxic lead mining and to simply not approve Bowdens Lead Mine or any future NSW mine proposal where the largest mass of mine product will be lead. As noted in The LEAD Group's Circular Economy for Lead Petition at https://www.aph.gov.au/e-petitions/petition/EN6714 Australia needs a new policy of creating the world's first Circular Economy for lead, having already contributed too much grief from lead's increase in crime/health burden/environmental contamination/WHS nightmare to the world by being the world's largest lead exporter (with NSW contributing the most lead due to Broken Hill having had operational lead mines for over 140 years), and your federal colleagues in the Labor Party are currently pushing not only to protect the environment, but also to begin environmental contamination abatement. There is so much lead in the global and Australian environments due to not only the past use of leaded petrol and paint which has made lead the most widespread soil and building dust contaminant, but also to poorly controlled lead mining, smelting, transport, production of lead products such as flashing, damp coursing, brass plumbing products and lead-lighting for which there are safer non-lead alternatives and poorly controlled lead acid battery collection and recycling. Australia doesn't need another lead mine. Enough is enough. As NSW Planning Minister, I would hope that you could firstly quash Bowdens Lead Mine proposal once and for all, and secondly, get behind the creation of jobs in the areas of research, collecting and recycling lead that's already out there, and developing a plan to only approve a development that aims to

create new lead acid batteries from 100% recycled lead, thus creating the world's first circular economy for lead. With Bega Valley being the home of a circular economy research institute, the Bega Valley would make the perfect place to approve such a development. Think of the income to NSW when the intellectual property developed in creating a circular economy for lead was exported to the world, rather than more lead being exported. As the mother of lead poisoned children, I beseech you to stop actual lead leaving our shores, only to end up in the black markets of low and middle-income countries where children recycle lead acid batteries on the street and lead is turned in to toxic Ayurvedic medicines and added to herbs and spices to increase profits, made in to toys etc and generally being responsible for the loss of millions of IQ points in children and early death in adults. It's time to stop putting the almighty dollar before health, the environment and the lives and jobs of the people of the pristine Mudgee area. Isn't Broken Hill lead mining enough of an environmental disaster and global embarrassment for New South Wales? NSW needs smart children to help avert a climate disaster, not another lead mine. Yours Sincerely, Elizabeth O'Brien, aka Grandma Lead, Honorary Secretary, Australian Dust Removalists Association (ADRA), Lead Scientist and Lead Advisor, The Lead Education and Abatement Design (LEAD) Group Inc

Oct 28th 2026 LEAD Group objection to Bowdens lead mine

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

By Elizabeth O'Brien, Lead Scientist and Lead Advisor, orchestrated by Ian Smith, Systems Analyst, using OpenClaw on top of Claude AI and Ollama local AI models where possible, on solar-powered infrastructure. © The LEAD Group Inc. November 2026

The LEAD Group Inc's third submission objecting to Bowdens Silver SSD-5765, by Elizabeth O'Brien, lodged with the Independent Planning Commission of NSW on 28 October 2026 and published at https://www.ipcn.nsw.gov.au/sites/default/files/2026-10/87376%20-%20Elizabeth%20O%27Brien%20Redacted.pdf*[LID 30025]. Originally lodged 24 October 2023 as Submission 184 to the NSW Parliamentary Inquiry into gold, silver, lead and zinc mining [LID 27620].*



"You do realise that you are directly co-creating a future world don't you?" wrote Ken Wilber. "We're in this together, to create a world our children and grandchildren can flourish in," says Grandma Lead. And as the Australian Story episode broadcast on 2 October 2023 put it: "They say it's the people who are crazy enough to think they can change the world, who do!"

"In This Together" - painted sign photographed by Elizabeth O'Brien

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 Bank study published in The Lancet Planetary Health estimated that children younger than 5 years lost 765 million IQ points and that 5.5 million adults died from cardiovascular disease in 2019 due to lead exposure, 95% of the IQ loss and 90% of the deaths occurring in Low- and Middle-Income Countries (LMICs). The global cost of lead exposure was estimated at US$6 trillion in 2019, 6.9% of global gross domestic product (GDP). We argue that Australian lead, as the world's largest lead exporter, has caused so much damage globally that it is time to stop mining lead and start taking back the lead that is out there in the world, returning it and recycling it as safely as 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, 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 LMICs.

Change the mine approval system

Based on the submissions I've read and the evidence I've heard at the Orange and Mudgee hearings, the current NSW metalliferous mine approvals system comprises: a metalliferous mine is proposed; it is approved ignoring all objections; investors are found, the Environment Protection Authority (EPA) issues a licence and the mine begins operation under our current lax occupational health and safety (OHS) lead regulations; tiny fines and changed licence conditions may be applied if the community notices, tests and repeatedly complains about damage to indigenous heritage, lead dust emissions, tailings dam breaks and acid mine drainage, water overuse and contamination, loss of biodiversity and increased body burdens of toxic metals in humans, livestock, wildlife, bees and crops; and when profitability wanes, the mine site is left unrehabilitated, leaching lead and other toxic metals into the environment, with all mine jobs lost.

The LEAD Group proposes changing to a product stewardship system based on a circular economy in which toxic metals can only be mined if the life cycle is controllable: suspend all current approvals for new gold, silver, lead and zinc mines and mine expansions in NSW; require all proponents to develop stewardship plans over the whole life cycle of their toxic metal products, and to devise alternative scenarios whereby the lead that's already out there is collected, recycled and manufactured endlessly instead of freshly mined; run a NSW government-run, industry-funded baseline blood lead survey of all ages with annual follow-ups; and carry out supply chain analysis and isotopic fingerprinting research, within and beyond NSW borders, to properly assess the economic impacts on education, crime and health of lead that was mined in NSW, wherever it has gone.

Change NSW legislation so that the most toxic, greatest-estimated-weight metal product of any mine proposal gives its name to the mine. In most cases this will mean that "gold mine", "silver mine" and "zinc mine" proposals will be called "lead mine" from the start of the exploration licence and Environmental Impact Statement (EIS) process.

Broken Hill wrote the warning decades ago

One resident of Broken Hill has contacted my free lead information and referral service over 80 times since 1996. In 1999 I published her letter to Professor Brian Gulson, a founding member of The LEAD Group's Technical Advisory Board. Her words need no commentary:



"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... 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 cannot understand how they can cart this toxic material CERRUSSITE through the streets uncovered... Workers are sick, some of the men had lead readings of 80 micrograms per decilitre (µg/dL) and had to be treated... 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... Normandy mining company and Craig Williams will leave the town with millions, and the children will be left with no future." - Jenny Rowbottom, Broken Hill, 8 March 1999

Eighteen years later, in 2017, the same resident wrote again, of surface mining restarted in 2002 with no working air monitors, of children treated for heavy metal poisoning only when their parents took them to Adelaide, of children labelled disruptive rather than lead poisoned: “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[?]”



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

Bowdens on the record in 2013

In February 2013, Jayne Bentivoglio of Rylstone Olive Press asked The LEAD Group for Professor Mark Taylor’s statistics on dust from open-cut silver and lead mines and the impact it would have on olives and olive oil production, with a number of growers within a six-mile radius of the proposed Bowdens mine in the direct line of prevailing winds. Professor Taylor replied that dust fallout “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 the proponent. The Manager of New Projects told me the EIS “probably doesn’t take olives into account”. The project’s environmental consultant told me, among much else: “We’ve seen lead in tanks where there is lead flashing or paint or washers on the roof… We recommend a first flush device… And we recommend repainting lead flashing.” I advised instead that they recommend replacing lead flashing with non-lead flashing, because we’ve never found a paint company that will guarantee their paint will adhere to lead flashing for more than a few years. I had actually advised their consultant that replacing lead washers and lead flashing 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.

What's in a name

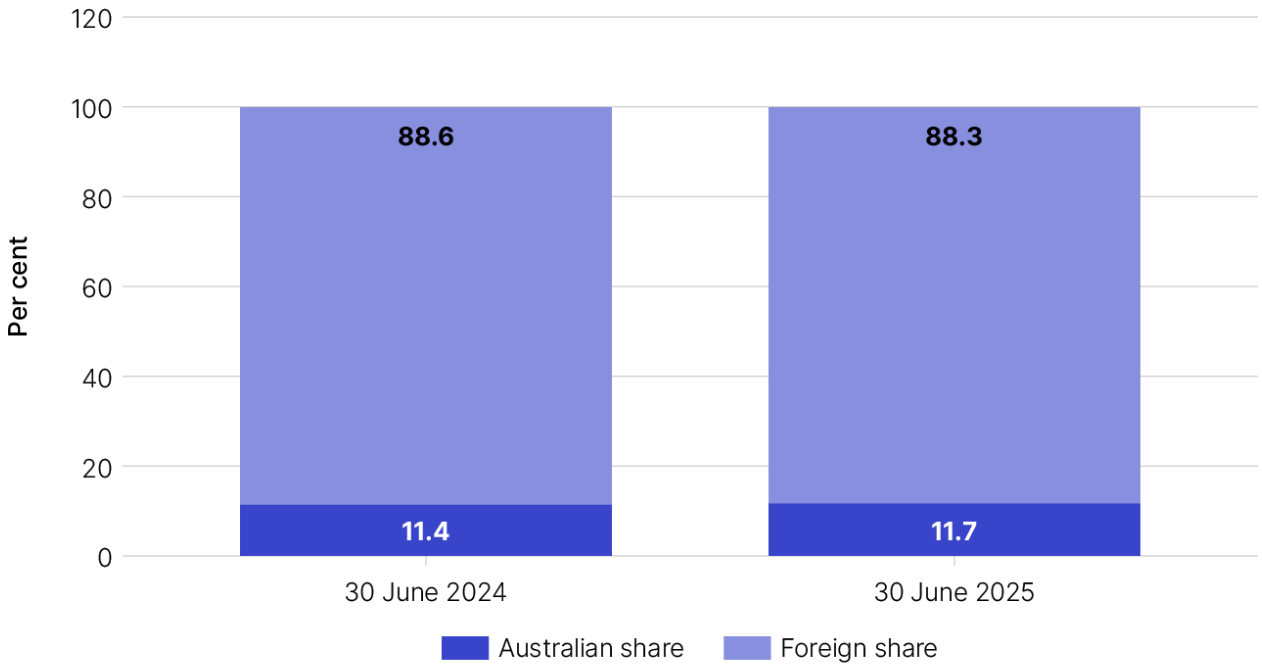
Calling a mine a gold mine, a silver mine, a tin mine, a copper mine or a zinc mine is a marketing technique based on the dollar signs in the eyes of the mine proponent, because the truth, calling it by the most toxic and voluminous mine product, "a lead mine", is so much harder to sell. So in popular culture Broken Hill is "a former gold-mining town" (e.g. in the 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.



The Headspace App's Desert Horizon sleepcast calls Broken Hill "a former gold-mining town"

And who owns most of the mines in Australia? Australia's mining industry is 86% foreign owned. Although many people think of BHP and Rio Tinto as Australian companies, BHP is 76% foreign owned and Rio Tinto 83%, and between them they constitute 70% of listed mining company resources. The industry has spent over $541 million in the last ten years lobbying Australian governments through its peak lobby groups, which are dominated by foreign interests. Capture by mining interests of regulatory and political processes voids the fitness for purpose of the mine approvals process, with no true independent oversight. The EIS, bought and paid for by mining interests, has become a tick-the-box exercise, its contents left unconsidered for merit or scientific rigour. Statements and assumptions of the proposed Bowdens lead mine are a case in point: many assertions are without scientific basis, yet accepted, and the mine approved without question.

Figure: Foreign and Australian share of registered interests



Mining in Australia: foreign ownership tabled. Source: Australian Tax Office (ATO) 2026

Additional Reference for this November 2026 version for LEAD Action News

ATO (Australian Tax Office) (2026) **Figure 2: Foreign and Australian share of registered interests from,** Mining or production tenements and exploration tenements: Data on foreign ownership of mining or production tenements and exploration tenements as at 30 June 2025. **Last updated** 5 March 2026, https://www.ato.gov.au/individuals-and-families/investments-and-assets/foreign-resident-investments/foreign-investment-in-australia/register-of-foreign-ownership-of-australian-assets/register-of-foreign-ownership-of-australian-assets-reports/register-of-foreign-ownership-of-australian-assets-2024-25-report/mining-or-production-tenements-and-exploration-tenements#ato-ForeignandAustralianshareofregisteredinterests [LID 30140]

Workers are not second-class citizens

Given that mine workers are not immune to the health impacts of lead, and cannot evolve such immunity by over-exposure at work, it has never been reasonable to permit workers' action blood lead levels to sit at six or more times the non-worker action level. OHS regulations that do so are treating workers as second-class citizens whose future health is sacrificed 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 wildlife from excess lead exposure, and the only possible conclusion is that lead mining is only economically viable if all involved are lead poisoned, like in Broken Hill. That is, ongoing lead mining means that no one in the world has ever been found to have a blood lead level of zero.

Stop all new lead mines

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 government to demonstrate to the world that it can reject 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 collecting and recycling to fulfil all current lead needs during the transition. While there's no pit at Lue, there's hope!

As the Wiradjuri man said at the water ceremony at Lue after the Mudgee hearing on 4 October 2023: "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 shows higher blood lead levels in Aboriginal children.

From 1994, when the Ethyl Corporation tetraethyl lead (TEL) plant closed in North America, the only remaining TEL plant, Innospec in the UK, was using Australian lead, and had been doing so since it started operations in 1956. I asked then 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 the century of leaded petrol use has finally ended, 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.

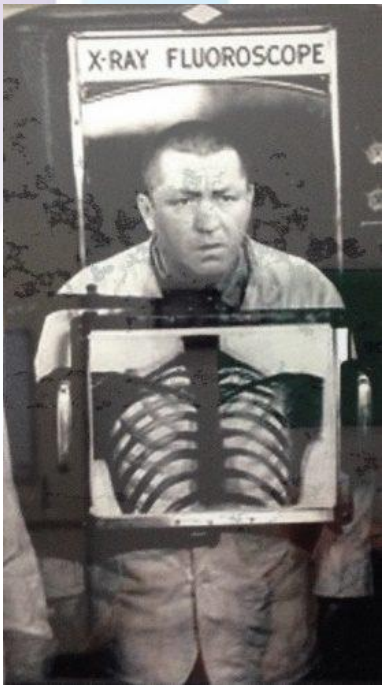
From largest lead exporter to largest exporter of lead safety wisdom



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: 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 dementia, cardiovascular disease, osteoporosis, and the hearing and balance problems which cause falls. In our lead-safe future, the only source of lead in air will be volcanoes.

"Elizabeth O'Brien and the Volcano", painting by Tony Lennon

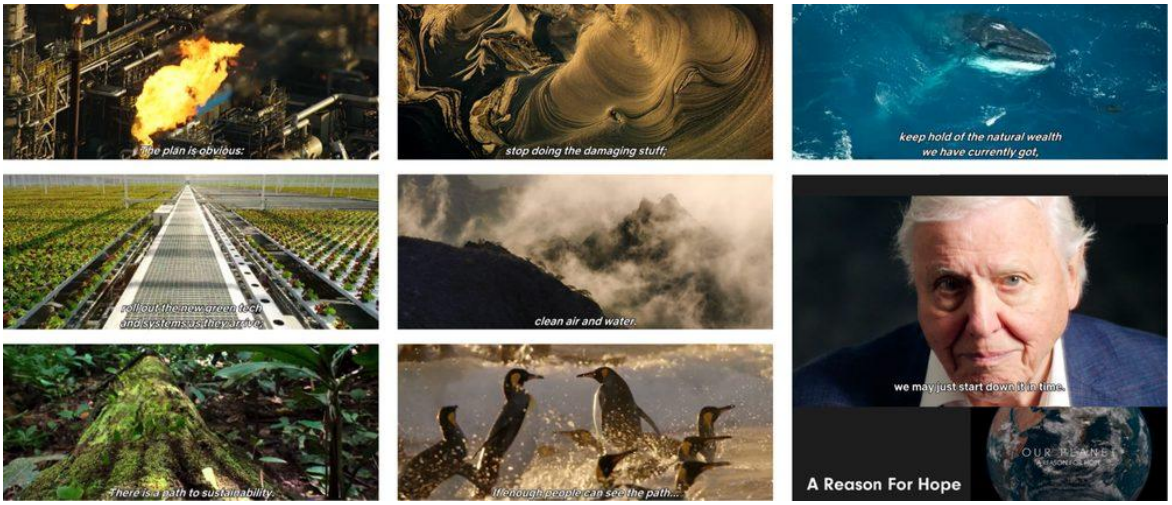
Lead products that can be collected and recycled until all lead uses are phased out include lead acid batteries, leaded ammunition, lead sinkers, lead flashing, roofing, guttering and piping, lead-contaminated ceiling void and building cavity dusts, lead paint removed from buildings and infrastructure, lead radiation shielding, and lead ballasts and weights. A Lead Hazard Reduction Credits system would reward lead collection and fund independent research, including 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. Currently, people have to travel to the US or Canada for bone lead tests on these rare XRF instruments.



X-ray fluoroscope, from the era when shoe shops X-rayed feet. Bone-lead XRF is today's safe, rare descendant

Stop doing the damaging stuff

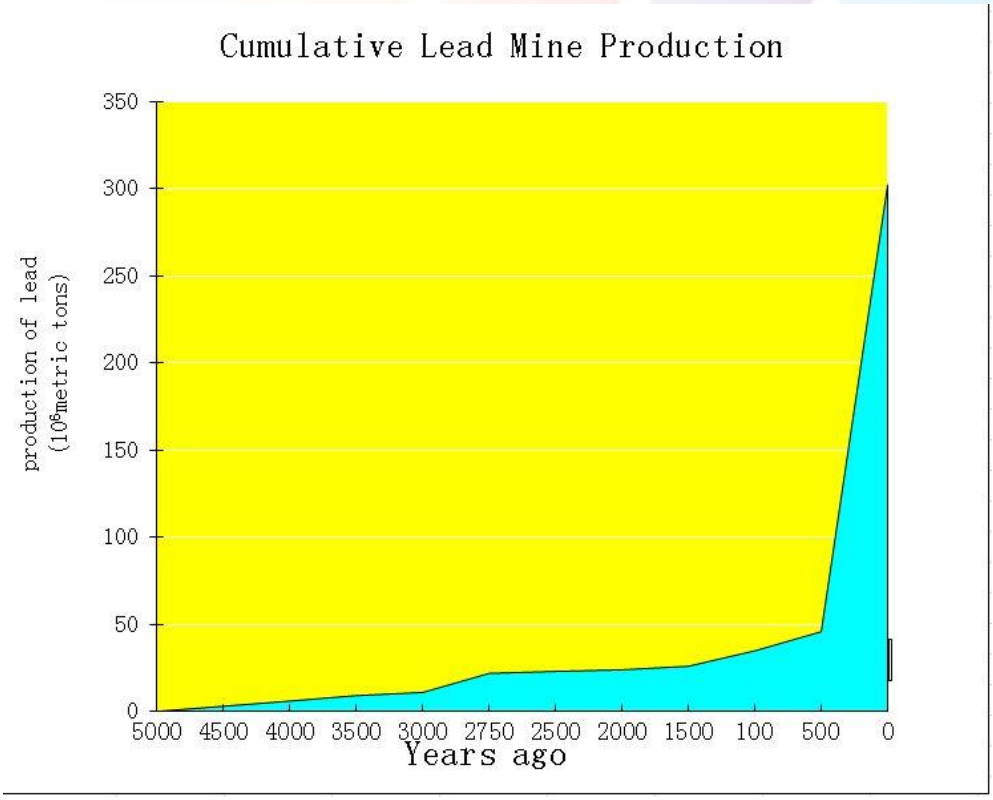
The vast majority of submissions and evidence presented to the 2023 Inquiry are from ecocentric people who've evolved beyond the egocentric epoch of the industrial revolution where greed was good. Mining companies embedded their interests in government regulation and the mine approval process in the 1950s and it's time for the process to catch up with the values of all stakeholders. As David Attenborough says, "The plan is obvious: stop doing the damaging stuff…"



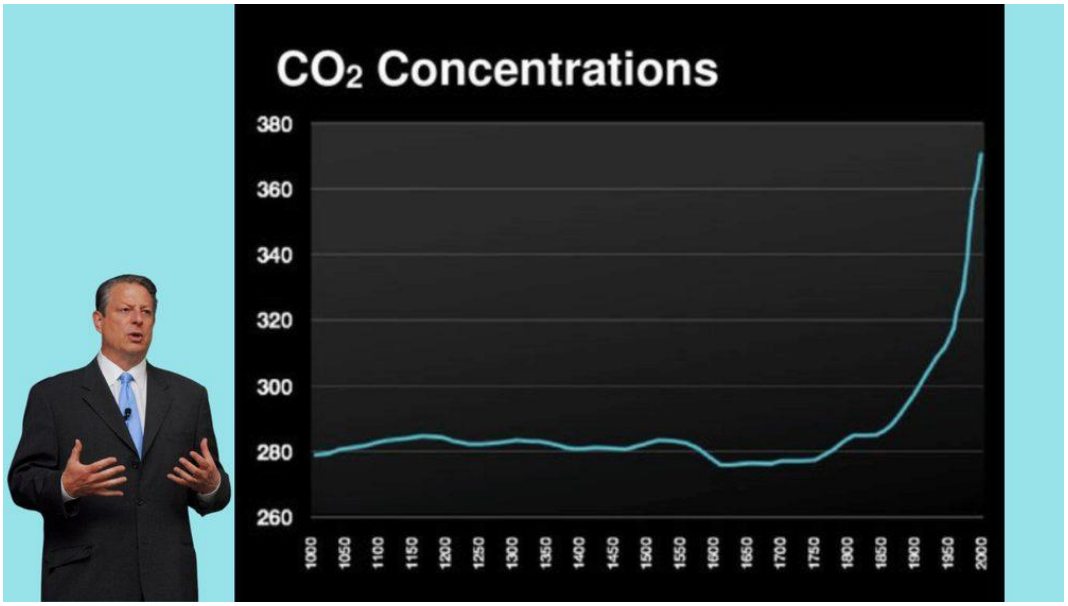
"The plan is obvious: stop doing the damaging stuff…" (Attenborough 2019). Video screenshots collaged by Lucinda Curran and Elizabeth O'Brien

I contend that in order to avert climate crisis, we must make the world lead-safe. It cuts both ways: sharper minds than lead-affected minds are needed to avert climate crisis, and anyone who is already lead poisoned will be worse off in hotter temperatures, which move lead from bone stores back into the circulating blood where it increases the risk of fatal heart attack, stroke, dementia and kidney failure.

There is a striking similarity in the shape of the following two graphs. The 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.



Cumulative production of lead over historic time. Reprinted from Flegal & Smith (NRC 1993, Figure 1-5, page 21), 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 DC



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. 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.

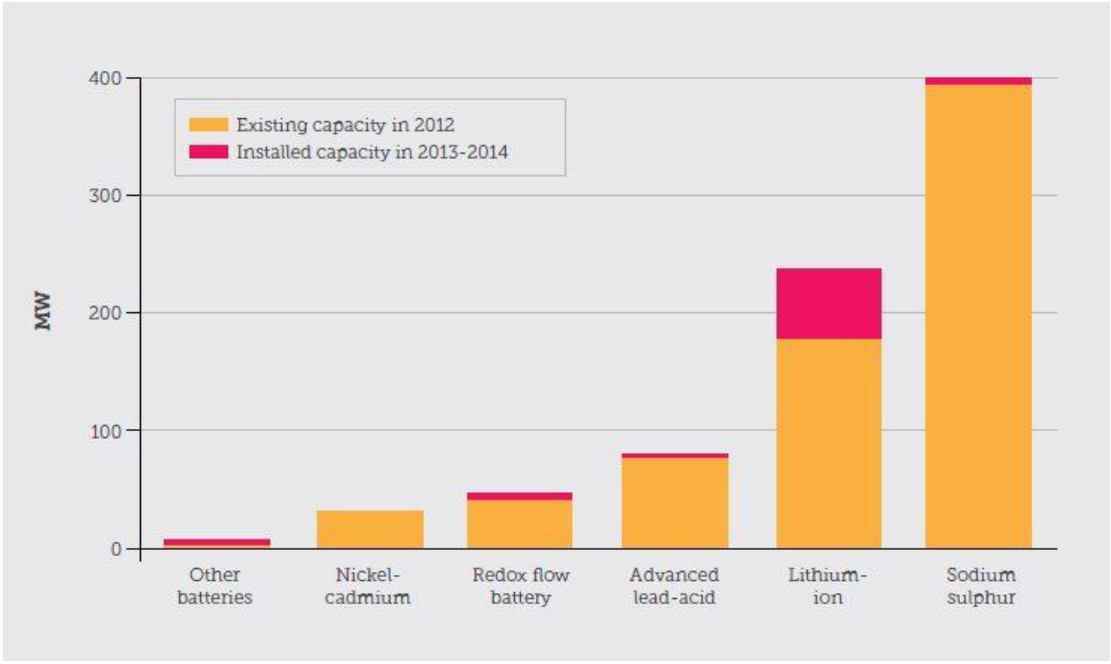
The lead is already out there

News from the Philippines makes the stakes plain. BAN Toxics reports that approximately half of the Philippines' 40 million children have blood lead levels exceeding 5 µg/dL, with exposure from lead paint in homes and schools, toys, cosmetics, and communities located near informal recycling of lead acid batteries.

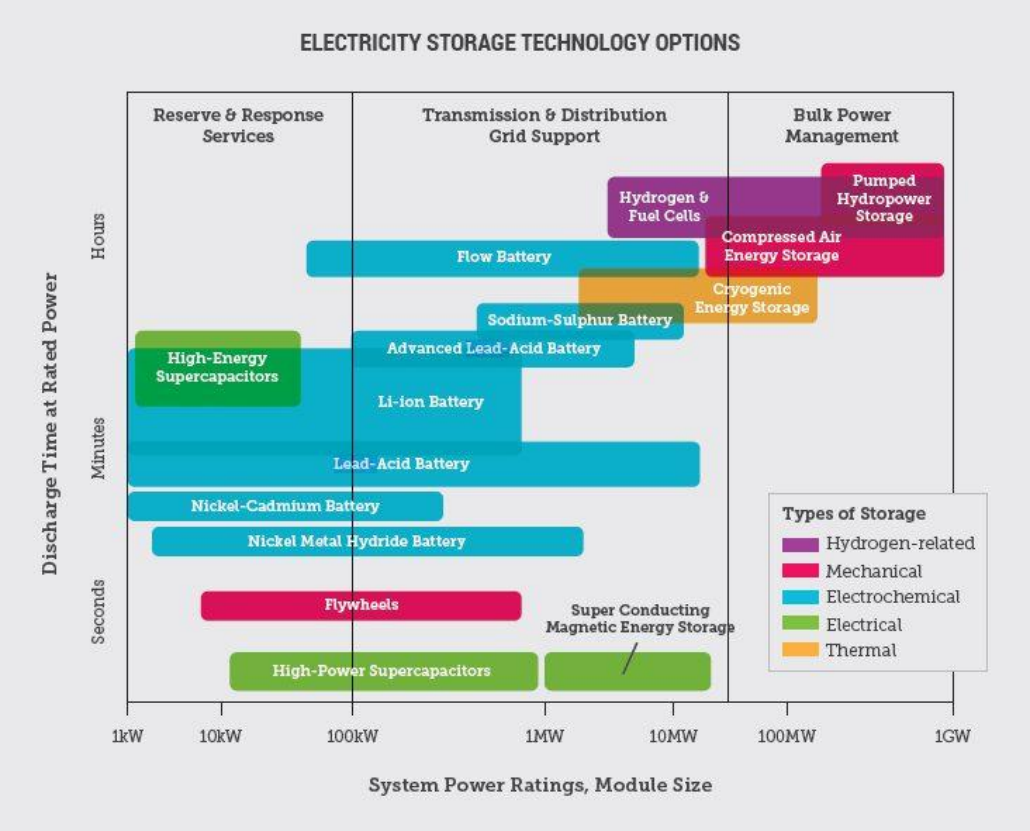


BAN Toxics joins the International Lead Poisoning Prevention Week of Action, Manila, October 2023. Photo: BAN Toxics

If no freshly-mined lead were used to make new lead acid batteries, and all the lead ever spread about the planet were collected and recycled, there would be more than enough lead, without mining more, to fulfil the small role for lead acid batteries in the renewable energy transition, as the Climate Council's battery storage graphs illustrate.



Estimated installed global battery capacity by type for the electricity sector. Source: Navigant Research 2014; IRENA 2015, in Climate Council (2015) Powerful Potential



Characteristics of different energy storage technologies. Source: Centre for Low Carbon Futures 2012, in Climate Council (2015) Powerful Potential

Lead is only still in use because it's cheap, and lead is only cheap because its real costs, the

externalities of worker health, community health, monitoring, remediation, water pollution and loss of biodiversity, are never paid by mining companies. A true accounting of the societal damage indicates the true value of recycling lead instead of mining new lead. There's enough lead, zinc, silver and gold already dug out of the earth. Let's leave the rest in the ground, to honour Indigenous heritage, protect waterways, biodiversity, good jobs and the serenity of local residents.

The full 42-page submission, including all references (apart from the ATO 2026 reference listed above under the Figure about foreign ownership of Australian mining) and the complete responses to the Inquiry's Terms of Reference, is published by the IPC at https://www.ipcn.nsw.gov.au/sites/default/files/2026-10/87376%20-%20Elizabeth%20O%27Brien%20Redacted.pdf

Nov 11th 2026 LEAD Group objection to Bowdens lead mine

All the good that will flow when the Panel says "no"

Submission including a Response to the NSW Planning Department's Answers of Nov 4th 2026 - Bowdens Silver Project (SSD-5765)

This article is based on the Submission to the Independent Planning Commission of NSW by The LEAD Group Inc, 11th November 2026, with photos taken by Elizabeth O'Brien on 16th October 2026, at Lue, NSW where the community has been fighting against a proposed lead mine since it was first proposed in 2012.

The LEAD Group Inc's Objection to the Bowdens Silver Project (SSD-5765)
Submission to IPC NSW, 11 Nov 2026

Submission by: The LEAD Group Inc (previously The Lead Education and Abatement Design (LEAD) Group Incorporated), a not-for-profit lead-safety charity established in Australia in 1991.

Author: Elizabeth O'Brien, Lead Scientist and Lead Advisor, The LEAD Group Inc. with assistance from Ian Smith, Systems Analyst using OpenClaw AI (standing on Claude and multiple Ollama local models. *Note on AI use: The LEAD Group is conscious that AI carries its own environmental cost in data-centre electricity and water, a cost an environmental organisation must take seriously. We mitigate this by constructing and using our own local tools wherever possible, including locally run AI models. Our document management, reference checking and searchable LEAD Action News archive all operate on a solar-powered hi-spec office computer, leaving data-centre located AI only for the research and drafting tasks that genuinely require it.*)

Position: OBJECT. The LEAD Group Inc objects to the Bowdens Silver Project in its entirety and asks the Commission to REFUSE the application.

Key matters of concern: Human health; Water resources; Biodiversity; Aboriginal cultural heritage; Greenhouse gas emissions; Amenity; Economics; Social impacts; Traffic and transport; Rehabilitation; and, under "Other", the lack of demonstrated need for a new lead, zinc or silver mine and the apparent capture by industry of governing bodies, demonstrated by the failure of the Australian and NSW regulatory framework relied upon to protect the community from the toxic metal lead.

1. **All the good that will flow when the Panel says "no" to Bowdens Silver Project (SSD-5765)**

I've always been the vision-holder of The LEAD Group so I can't help but list all the good outcomes that will eventuate when the IPC Panel rejects Bowdens lead mine proposal:

- Thousands of objectors and all the folk they represent will be rejoicing in the community, with lifetimes of gratitude (also from your own children and grandchildren) to the IPC 2026 Panel members who said "no" to Bowdens
- The community that has borne all their own costs of making their objections, will be free to spend more time with their families and friends and working in their

agriculture, tourism, etc businesses, potentially enabling them to grow their businesses thus increasing local jobs without necessarily over-taxing local worker accommodation, but certainly giving back a more secure future to those children who have always been destined to carry on the family business

- Parents will no longer have to choose to either avoid blood lead testing and thus suffer the consequences of not knowing whether their own or their children's blood lead levels are rising due to mine works, or to subject their children to regular blood lead monitoring, with no guarantee that even if their child's blood lead level is rising and is most likely due to mine works, that there is any hope of the blood lead level falling again unless they leave the district
- Bowdens will likely have the sense to sell the properties back to farmers or for other more sustainable and acceptable-to-the-community operations such as solar or wind farming in order to future-proof the community and meet net zero targets



- A grateful NSW government will not have to bear the costs of monitoring, prosecuting, cleaning up, remediating or managing acid mine drainage and all the other disbenefits of another Broken Hill
- With the heightened lead-awareness this process has caused, the Mudgee community might even start the ball rolling on a regional circular economy for lead by instigating collection, transport and lead-safe recycling within Australia of all the lead flashing and dampcoursing on buildings, and a deposit scheme on all lead acid battery purchases so no one ever leaves a battery out in a paddock to lead poison cows ever again
- A grateful world will not have to deal with managing another 95,000 tonnes of lead in perpetuity
- When we both turn 85 in 2041, Jayne Bentivoglio and I will be celebrating together, in her beautiful olive grove, marking 15 years since the IPC Panel said "no" for the first time to a new Australian lead mine, and celebrating however many new lead mine proposals have been rejected since that landmark decision based on the knowledge that the Panel indeed has a duty of care to the NSW government to protect it from the multiple forever liabilities inherent in lead mining



2. **Response to the NSW Planning Department's Answers of Nov 4th 2026**

We make this further submission within the extended period the Commission has allowed, including in response to the Department of Planning, Housing and Infrastructure's (the Department's) letter of 4 November 2026 (2026b) answering the Commission's Questions on

Notice, together with its attachments from the Applicant and the NSW Environment Protection Authority (EPA).

Summary

The Department's response was an opportunity to show the Commission that lead from this mine would be controlled by enforceable, health-based limits. Instead, read carefully, the response concedes the opposite. There is no enforceable lead limit in the consent and the EPA will not put one in the licence. Blood lead monitoring is explicitly disavowed as a regulatory tool and reframed as management of "community anxiety". The proposed lead-deposition trigger is the proponent's own model prediction, so the model would mark its own homework. Real-time lead monitoring is admitted to be unproven for regulation and useful only as "information for the community". And the assessment framework, by the EPA's own statement, excludes long-term accumulation, which is precisely the pathway by which lead harms children. Each of these concessions is examined below, in the Department's and the EPA's own words.

3. There is still no enforceable limit on lead

The Commission asked (Question 1c) whether the Department considered specific enforceable limits on lead concentrations and deposition. The answer is that none exists and none is coming. The Department suggests the Commission "could consider" adding the 0.5 micrograms per cubic metre (µg/m³) annual average criterion to the consent, but immediately notes that the EPA "does not set ambient air quality compliance limits and as such it would not be regulated as a strict compliance limit in an environment protection licence under the Protection of the Environment Operations Act 1997".

The EPA's attachment confirms that lead control under this consent is incidental, resting on a conditional sentence:

"The AQIA predicted lead impacts at receptors to be well below the criterion (0.5 µg/m3 annual average). Therefore, based on the information provided in the AQIA, if PM10 impacts are adequately controlled, then ambient lead in air concentrations will incidentally be controlled if assumptions about their sources and composition are adequate."



Two conditions sit inside that sentence: that particulate matter under 10 micrometres (PM10) control succeeds, and that the model's assumptions about the sources and composition of the dust are adequate. If either fails, there is no lead-specific backstop, because no lead limit is enforceable anywhere in the regulatory architecture. For a mine whose defining public-health hazard is lead, this is not a control framework. It is a hope attached to a dust plan.

The World Health Organization advises there is no level of lead exposure known to be without harmful effects. A consent for a lead-bearing mine that contains no enforceable lead

limit is not consistent with that advice, and the Commission should not grant one.

4. Blood lead monitoring reduced to anxiety management

The Department's answer on blood lead monitoring deserves to be quoted in full, because it tells the community what the condition was actually for:

"the Department had recommended a condition giving effect to this commitment to mitigate social impacts (being primarily community anxiety about lead impacts). However, it was not the Department's intention to use blood lead levels to regulate the mine..."

The Applicant goes further, stating that its consultants' assessments "indicate that blood lead monitoring is not necessary" and that the program's purpose is to "provide an additional level of assurance to the community". The EPA's attachment completes the picture: "It is beyond the scope of the AQIA to address blood lead levels."



So the only measurement in the entire framework that directly observes what matters - lead in the bodies of children and pregnant women near the mine - has no trigger attached to it, no response protocol, no regulatory consequence, and was recommended to soothe the community rather than protect it. The Department's stated reason, that blood lead indicates "exposure has already happened", is true and is exactly why the rest of the framework must be preventive and enforceable. It is not a reason to strip the one human measurement of all regulatory meaning. The National Health and Medical Research Council recommended in 2015 that any Australian with a blood lead level above 5 micrograms per decilitre have the source of exposure investigated and reduced. Put another way, that's a "blood lead action level" of above 5 micrograms per decilitre. A blood lead program worthy of the name would be run independently of the Applicant, by NSW Health, with defined participation targets, defined investigation triggers consistent with the NHMRC recommendation, and defined consequences for the mine, up to and including suspension of operations. It is also vital for the Panel to know that since 2012, three Professors from The LEAD Group's Technical Advisory Board (Mark Taylor, Bruce Lanphear and Chris Winder) advised me to write all my comments and recommendations about the results of LEAD Group lab-analysis test Kits, to accommodate a blood lead action level of above 1 microgram per decilitre. Being more lead-aware than most Australians, the Mudgee community would likely expect a blood lead action level of above 1 microgram per decilitre, and the consequently far more stringent surface dust wipe lead, soil lead and drinking water lead criteria that are necessary for achieving blood lead levels below 1 microgram per decilitre.

5. A trigger that marks its own homework

Because, in the EPA's words, "NSW does not have a lead in deposited dust criteria", the Applicant proposes that the trigger for lead dust deposition "could be linked to the maximum predicted lead dust deposition rate adopted in the human health risk assessment". The Department presents this as providing "a means of assessing whether environmental lead dust deposition levels remain consistent with those assessed in the human health risk

assessment".



The circularity should be named plainly. The health risk assessment's conclusions depend on the deposition modelling. The proposed compliance trigger is that same modelling's maximum prediction. If the model understates deposition, it understates the health risk and sets the trigger too loose by the same error, in the same direction, at the same time. Nothing independent checks either. The deposited-dust pathway is the one the Department itself identifies as the main chronic exposure route, and it is the pathway with no external criterion at all.

6. Real-time monitoring admitted to be a display, not a control

The consent conditions require real-time monitoring of metal concentrations including lead. The EPA's attachment says what that monitoring is for:

"The real time monitoring of metal concentrations is not yet proven for regulatory purposes and further development in the approach is needed. The real time monitoring of metal concentrations will provide important information for the community rather than a compliance tool."

The Department adds that because the lead criterion is an annual average, real-time monitoring "is not particularly useful" for compliance, and the EPA notes that trigger-action-response protocols manage short-term dust, whereas "any measurement and management of lead impacts is over a longer time scale and not useful for reactive management at the mine". Taken together: the real-time lead numbers cannot demonstrate compliance, cannot drive reactive management, and exist to inform a community that has been given no enforceable standard against which to read them.

7. The framework excludes exactly the harm lead causes

Asked about modelling sensitivity to "long-term accumulation", the EPA's air technical reviewers answered in one line: "Long term accumulation is not part of an AQIA."

That single sentence should weigh heavily with the Commission's 2026 Panel. Lead does not disperse and disappear; it accumulates in soils, roof-collected rainwater, household dust and locally grown produce, and in the skeletons of the people exposed, over the full 21-year life of this project and beyond. The Department concedes "the main risk is from chronic exposure rather than acute exposure". Yet the assessment instrument on which approval rests is, by its own custodian's description, structurally incapable of assessing accumulation, and the human health risk assessment that layers on top of it adopts the same modelling. An assessment framework that excludes the mechanism of harm cannot support a finding that the harm is acceptable. If the mine is approved, a condition must be that 100% of the drinking and cooking water for all staff and contractors be collected on site.

8. Coal-mine assumptions for a lead mine

The dust control suite and its assumed effectiveness rest on the NSW Coal Mining Benchmarking Study (Katestone Environmental, 2011), a study of coal mines commissioned fifteen years ago. The EPA's attachment further records that "site specific material properties were not available for the AQIA", so silt and moisture inputs were taken from coal-industry research (ACARP Project C22027), and that the Applicant assumed an 80% control factor for haul-road watering where the National Pollutant Inventory manual supports 75%. Coal dust is a nuisance and respiratory hazard; dust from this orebody carries lead. Borrowed coal benchmarks, generic material properties and a control factor more generous than the published manual are a thin foundation for the claim that impacts are "more likely... overstated rather than understated".

9. The water contradiction

Dust control at this mine, the EPA notes, "relies predominantly on water", with no chemical suppressants proposed. The Department assures the Commission that dust suppression water supply has a modelled reliability of 99.5% even under low-runoff conditions. Yet the same water management system, under the Applicant's own sensitivity case of halved groundwater availability, meets as little as 65% of processing water demand, a shortfall the Applicant proposes to manage by scaling back operations, a risk it "considers... commercially sustainable".



The Commission should note what is being traded. The circumstances that reduce water availability - extended drought - are the same circumstances that maximise dust generation and wind erosion. The EPA itself raised during exhibition "whether there was sufficient water available to reduce emissions to the control level adopted in the model". A dust control strategy that depends predominantly on water, at a lead mine, in a drought-prone catchment, with the proponent's own modelling showing deep supply shortfalls in dry scenarios, is a strategy that fails exactly when the hazard peaks. Commercial sustainability for the Applicant is not health sustainability for Lue and surrounds.

10. The climate answers confirm the project sits outside NSW's net-zero accounting

The Net Zero Emissions Modelling team advised that the project "was not explicitly included" in NSW's greenhouse gas emissions projections, being captured only indirectly through industry revenue growth forecasts. The project's own assessment puts life-of-mine emissions at approximately 1.135 million tonnes of carbon dioxide equivalent, with around 79% of Scope 3 emissions arising from smelting at Port Pirie and overseas. The Department proposes no conditions on Scope 3, and the entirety of the committed Scope 1 mitigation amounts to a single battery-electric loader.



The LEAD Group's position, set out in our earlier submissions, follows the reasoning of the NSW Land and Environment Court in Gloucester Resources Limited v Minister for Planning [2019] NSWLEC 7: a mine's greenhouse contribution is a legitimate and sometimes decisive reason to refuse it. If the Commission is nonetheless minded to approve, the minimum condition consistent with that reasoning is that the operation generate 100% of its energy from renewable sources on the mine site, including for all vehicles which must be electric vehicles including all the way to the port or smelter. The Department's response demonstrates that nothing approaching this is currently proposed or conditioned.

11. The shrinking circle of protected receivers

The Applicant advises that since consent was originally granted it has acquired, or reached agreement with, properties 3, 6, 12, 26, 27, 28, 76 and R86, and that these should accordingly be removed from Tables 2 and 3 of the consent as "Project-related receivers". Each acquisition converts a household with enforceable air and noise protections into a property with none. The Commission should recognise this dynamic for what it is: the zone of acceptable impact is being enlarged not by reducing emissions but by purchasing the properties of the people who would otherwise need to be protected from them. The residents who remain, in Lue and surrounds, are the ones who could not or would not sell.

12. Cadia is an argument for refusal, not co-existence

To reassure the Commission that mining and a wine-and-tourism economy co-exist, the Applicant offers the example of Cadia Valley Operations near Orange. The example is instructive, though not in the way intended. Cadia is the gold mine against which the NSW EPA commenced multiple prosecutions in the Land and Environment Court for alleged air pollution and solid particle exceedances (EPA, 2023), following sustained community complaints about dust from its vents and community concern about heavy metals in rainwater tanks. If Cadia is the best available illustration of harmonious co-existence between a large metalliferous mine and its neighbours, the Commission should draw the opposite conclusion, and should note that Cadia's ore is less leaded than Bowdens' so does not carry as great a capacity for permanent neurological injury to children.

13. Requests including Conditions

The LEAD Group's primary submission remains that consent should be refused. The Department's 4 November 2026 response strengthens that submission, because it confirms in plain terms that: no enforceable lead limit exists in the consent or will exist in the licence; lead control is incidental to PM10 control and conditional on untested assumptions; the deposition trigger would be self-referential; real-time lead monitoring is not a compliance instrument; long-term accumulation, the central mechanism of lead harm, sits outside the

assessment framework; and the dust strategy depends on water that the proponent's own modelling shows may not be there in drought.



If, despite this, the Commission is minded to approve, we submit that the consent must at minimum include: a blood lead action level of greater than 1 microgram per decilitre; an enforceable annual average lead-in-air limit at all privately owned receivers; an independently derived lead dust deposition criterion, not one linked to the proponent's model predictions; an independent blood lead monitoring program administered by NSW Health with NHMRC-consistent investigation triggers and defined operational consequences including suspension; completion of the Maloneys Road diversion before any construction traffic passes through Lue; and a requirement that the operation generate 100% of its energy from renewable sources on site, including for 100% electric vehicles on and off-site; and 100% of the drinking and cooking water for all staff and contractors be collected on site.

Lead poisoning is permanent. Approval conditions are not a substitute for prevention, and the Department's own answers show the conditions on offer do not even attempt enforceable prevention of lead exposure.

The LEAD Group has already set out, in its Objection of 30 September 2026, why the Bowdens Silver Project should be refused on grounds of human health, the absence of any need for a new lead mine, and the failure of the regulatory framework the previous approval relied upon. We do not repeat that material here.

14. Economic Externalities

Aside from laying out a vision of the good that will flow when the Panel says “no”, and responding to Planning’s 4th Nov 2026 response, this submission takes up a single further point. The proponent's updated economic assessment now claims a net social benefit to New South Wales of $341 million, revised up from $44 million (Gillespie Economics 2026). That figure is the centrepiece of the case for approval. We ask the Commission to examine how it was produced, because when examined it does not support approval. It is reached by valuing nearly every harm the Project imposes on the community at zero. The benefit is privatised to the company and its shareholders. The matching costs are socialised, that is, pushed onto the local community, then the people of New South Wales, then the wider world. A cost of production that the producer does not pay, and that falls instead on others, is what economists call an externality. This submission itemises the Project's externalities and asks the Commission to apply the ordinary principle that the polluter should pay.

15. The economic claim, and how it is manufactured

The proponent's economic consultant values the Project using a cost-benefit analysis (CBA), the standard method for judging whether a project is in the public interest (Gillespie Economics 2026). The CBA reports:

- revenue, in present-value terms, of $2,050 million

- total costs of $1,228 million

- a global net production benefit of $823 million



- a net social benefit to New South Wales of $341 million, comprising royalties to the NSW Government of $58 million, company tax of $90 million, third-party royalties of $7 million, and a residual producer surplus of $186 million (Gillespie Economics 2026, Table 2.3).

The consultant then argues that for the Project to be questionable on economic grounds, the value of all residual environmental, cultural and social harms would have to exceed $341 million, and states that this is "highly improbable" (Gillespie Economics 2026). The difficulty is that the harms were not measured and found to be small. They were defined out of the analysis. Five devices do the work.

First, the perfect-mitigation assumption. The CBA's externality table lists agriculture, air quality, noise, groundwater, surface water, biodiversity, Aboriginal heritage, historic heritage, visual amenity, and transport, and assigns to each the same conclusion: "no material residual impact", because the cost is "included in development costs" (Gillespie Economics 2026, Tables 2.2 to 2.4). In plain terms, the CBA assumes that every mitigation, offset and compensation measure works perfectly, so that nothing is left over to count. The consultant's own footnote concedes the real position: the table "identifies who bears residual impacts where mitigation, offset and compensation is imperfect" (Gillespie Economics 2026, Table 2.4 note). Mitigation is never perfect. Where it falls short, the table itself says who pays, and it is not the company. It is "local residents and adjoining landholders" who "primarily bear any residual environmental impacts associated with noise, air quality, visual amenity and transport and traffic" (Gillespie Economics 2026).

Second, the climate cost is apportioned away. The Project's greenhouse gas emissions over its life are about 1.135 million tonnes of carbon dioxide equivalent (Scope 1 and 2 of 567,559 tonnes, Scope 3 of 567,470 tonnes) (Department of Planning, Housing and Infrastructure 2026b). The proponent's own earlier assessment put the global damage from the Project's emissions at about $20 million (Gillespie Economics 2020). The CBA then multiplies that global damage by the share of the world's population that lives in New South Wales, roughly one in a thousand, and books the cost to the State at $0.08 million (Gillespie

Economics 2026). A real and global harm is reduced, by a population fraction, to eighty thousand dollars.



Third, the largest slice of those emissions is excluded entirely. The Scope 3 emissions, which include the smelting of the concentrate overseas and account for about half the total, are placed "outside the scope" of the cost analysis (Gillespie Economics 2020; Department of Planning, Housing and Infrastructure 2026b). The Project also emits, on average, 21,542 tonnes of Scope 1 carbon dioxide equivalent a year, below the 100,000-tonne threshold of the Commonwealth Safeguard Mechanism, so it carries no obligation to offset or surrender carbon units and pays no carbon price at all (Bowdens Silver 2026).

Fourth, the analysis stops when the mine does. The CBA runs for 19 years, being the mine life of about 16.5 years plus one year before and one year after (Gillespie Economics 2026). Yet the Lue Action Group's expert advised that the final pit void may require "continuous water treatment into the future", a liability with no end date and, once the company is gone, no responsible party (Noller 2023). A cost that begins after the analysis ends is simply not in the model.

Fifth, the discount rate erases what is left. The CBA discounts future costs and benefits at 7 per cent a year (Gillespie Economics 2026). At that rate a cost falling a century from now is worth less than one-thousandth of its face value today. Any long-lived or intergenerational harm, perpetual water treatment, the slow loss of a critically endangered woodland, the climate, is discounted to almost nothing before it is even apportioned away.

The combined result is stark. Human health and lead exposure, the gravest concern in this whole matter, do not appear as a line in the CBA at all. Air quality is "resolved" by the company having purchased the single nearest house (Gillespie Economics 2026). The loss of 487 hectares of land in a premium food and wine district is valued only as if it grew Merino wool, at about $0.3 million a year, and called "negligible" (Gillespie Economics 2026). The total the proponent spends to internalise every environmental, social and cultural harm the Project creates is $47 million, against revenue of $2,050 million (Gillespie Economics 2026, Table 1.1).

16. The proponent's own answer to this submission

The proponent has, in advance, supplied the Commission with the answer to its own case. The CBA's sensitivity testing reports that because mitigation, offset and compensation are "a small component of the capital costs of the Project, large changes in these cost levels would not have any significant impact on the CBA results" (Gillespie Economics 2026).



That is the whole of our argument, stated by the proponent. If the cost of properly internalising the Project's harms is so small that even doubling it barely moves a $341 million benefit, then there is no economic reason whatever to leave any harm socialised. The company can well afford to carry every cost it now passes to the community, and the project would remain, on its own figures, profitable. The only question is whether the Commission's Panel will require it to.

17. The socialised losses, itemised

The following harms are identified in the Project's own documents, yet are left unfunded, under-funded, or booked at zero in the economic case. In each, the party that bears the loss is named.

Borne by the local community (Lue and the Mudgee region)

Childhood lead exposure. There is no safe level of lead for a developing child. The previous consent funded a program to monitor blood lead, which counts exposure after it has happened, not a fund to prevent it or to meet the lifetime health costs that follow. Families and the health system carry those costs.

Off-site dust and soil contamination. Lead and other metals deposited on homes, gardens and rainwater tanks. Detection relies on monitoring run by the proponent. There is no pre-funded guarantee to remediate contaminated properties.

Loss of property value. The company has bought the nearest house and the two worst-affected by noise properties. Every other owner near the mine absorbs any loss in value with no compensation mechanism.

Agricultural and regional-brand harm. Risk to vineyards, olives and livestock, and to the reputation of a premium district, carried by producers. The CBA values the land only as sheep pasture.

Water security. A demand of 1,092 to 1,303 megalitres a year in a drought-prone catchment, with groundwater drawdown affecting neighbouring users and high-priority groundwater-dependent ecosystems (Department of Planning and Environment 2022; Department of Planning, Housing and Infrastructure 2026b).

Catastrophic tailings-dam failure. A store of about 30 million tonnes of tailings behind an embankment designed only to the one-in-one-hundred-year storm. Downstream residents and farmers carry the tail risk, and the public carries it entirely if the company is insolvent when it matters.

Road damage and the transport corridor. Concentrate hauled by B-double, up to about 18 loads a week, over local roads. Councils and the State fund the wear through a traffic

management plan, not a maintenance levy (Department of Planning and Environment 2022; Bowdens Silver 2026).

Borne by the people of New South Wales

Perpetual acid drainage and pit-void treatment. More than half of the 46.3 million tonnes of waste rock is potentially acid-forming, and the final void becomes a groundwater sink that may need treatment indefinitely (Department of Planning and Environment 2022; Noller 2023). The only money set aside is a rehabilitation security deposit that the proponent states covers rehabilitation and closure works only, with the amount set by the regulator and not disclosed (Bowdens Silver 2026). Perpetual treatment has no funded home, and falls to the taxpayer.



Rehabilitation shortfall. Closure costs routinely exceed the bond. The bond here is based on the cost to government of finishing the works, not the full social cost, and its figure is not public (Bowdens Silver 2026).

Biodiversity loss. The Project would clear about 435.84 hectares of native vegetation, including about 216.82 hectares of the critically endangered Box-Gum Woodland, a serious and irreversible impact. The proposed answer is to revegetate 100 hectares, with the Department's own adviser noting a "substantial lag" before any restored woodland functions as habitat (Department of Planning, Housing and Infrastructure 2026b). The public loses the woodland now and may recover a fraction of it in decades.

The burden on the health and regulatory system. At Broken Hill, after a decade of a publicly funded lead program, about 35 per cent of children aged one to five, and 68 per cent of Aboriginal children, still carry blood lead above the national guideline (Far West Local Health District 2025). The oversight a lead mine makes necessary is paid for by the public, not the miner.

Borne by the wider world

Unpriced greenhouse emissions. About 1.135 million tonnes of carbon dioxide equivalent, carrying no carbon price and booked to New South Wales at $0.08 million (Gillespie Economics 2026; Department of Planning, Housing and Infrastructure 2026a).

Lead exported to jurisdictions with weaker controls. Australia is the world's largest exporter of lead, and the global cost of lead exposure is estimated at about US$6 trillion a year (O'Brien 2024). Downstream harm is carried by communities overseas.

The forgone circular economy. As The LEAD Group's Sept 30th 2026 Objection sets out, Australia's used-battery stream alone carries more than ten times the lead this mine would produce. Opening a new primary lead mine while that material goes under-collected forecloses the cleaner path, and the public bears the difference (O'Brien 2024; The LEAD

Group Inc 2026).

18. The test we ask the Commission to apply

The economic case for this Project rests on the claim that it delivers a net benefit. That claim is true only if the costs are borne by the company that profits. Where the costs are instead pushed onto the community, the "benefit" is not value created, it is value transferred, from the public to the shareholder.



We therefore ask the Commission to apply the polluter-pays principle in full, and to treat it as a test. If the Project is approved, it should be approved only on condition that every externality set out above is internalised, funded by the proponent, secured by assurance that is independently held and, where the liability is perpetual, held in perpetuity. One of two things will then follow. Either the community is genuinely protected, at a cost the proponent's own figures show it can easily bear, or the Project ceases to be viable, which would prove that its profitability always depended on the public subsidy of absorbed harm. A regulator applying the public interest should accept either outcome. The proponent will resist the condition, and that resistance is itself the evidence that the benefit was never what it was presented to be.

19. Conditions, if the Project is approved

The LEAD Group asks the Commission to refuse the Project. If, contrary to our submissions, it is minded to approve, we urge the following economic conditions, in addition to those in our Objection of 30 September 2026, and those in Section 13. above.

1. **A lifetime community health fund**, proponent-funded and independently held, to meet the health costs of any lead exposure, with baseline and ongoing blood-lead testing of residents by an independent laboratory beginning before any disturbance.

2. **A no-off-site-increase guarantee** for lead in air, dust, soil and water, monitored independently and publicly reported, with automatic suspension of operations on any statistically significant off-site increase and pre-funded remediation.

3. **A property-value make-good or buy-out scheme** on independent valuation for all materially affected owners, not only those the company chooses to purchase.

4. **Full make-good for every affected water user**, funded in advance, and independent monitoring of groundwater-dependent ecosystems.

5. **Tailings to an extreme-event standard** (the probable maximum flood), with full third-party catastrophe insurance held for the benefit of the downstream community.

6. **A perpetual-care trust**, independently held and sized to treat acid drainage and the pit void in perpetuity, entirely separate from the rehabilitation bond, and a rehabilitation bond set to the independently audited full closure cost, indexed and publicly disclosed.

7. **Delivered-first biodiversity offsets**, with the value of the time-lag between clearing and functional restoration funded, and the critically endangered woodland revegetation secured as a stewardship site before any clearing.



8. **A binding net-zero condition** for the operation, or a full offset of all emissions, including Scope 3, priced at a sourced social cost of carbon rather than at a population-apportioned fraction.

9. **A circular-economy offset**, funding the collection and recycling of at least an equal weight of lead, so that no net new lead enters circulation.

10. **A haulage-road maintenance levy** meeting the full cost of road wear, and sealed, covered and monitored concentrate transport.

We stress, as in our Sept 30th 2026 Objection, that even all of these together cannot make a new lead mine either safe or necessary. They would, however, end the subsidy the current proposal asks the community to pay.

20. Conclusion

The Project's economic case is not evidence that it is in the public interest. It is an accounting in which the company keeps the benefit and the community keeps the harm. The proponent's own consultant has shown that internalising that harm would cost little against the Project's revenue and would not undermine its viability. There is therefore no economic obstacle to requiring full internalisation, and every reason in the public interest to require it. The LEAD Group Inc asks the Commission to refuse the application, and failing refusal, to approve it only on condition that the Bowdens Silver Project pays, in full and in perpetuity, for the losses it would otherwise socialise.

References

Bowdens Silver Pty Limited (2026) *Response to Questions Raised at IPC Applicant Meeting*, letter to the Independent Planning Commission of NSW, 8 October 2026, https://www.ipcn.nsw.gov.au/sites/default/files/2026-10/Response%20to%20questions%20on%20notice%20from%20the%20Applicant%20redacted.pdf [LID 30099]

Department of Planning and Environment (NSW) (2022) *Bowdens Silver Project (SSD-5765): Assessment Report*, December 2022, https://www.ipcn.nsw.gov.au/sites/default/files/pac/projects/2022/12/bowdens-silver/referral-from-dpe/bowdens-silver-assessment-report.pdf [LID 30100]

Department of Planning, Housing and Infrastructure (NSW) (2026a) *Bowdens Silver Project: Supplementary Advice*, 15 September 2026, https://www.ipcn.nsw.gov.au/sites/default/files/2026-09/Supplementary%20Advice%20redacted.pdf [LID 30080]

Department of Planning, Housing and Infrastructure (NSW) (2026b), IPC - Questions on Notice and Request for Information 22 October 2026, response letter with attachments from Bowdens Silver Pty Limited and the NSW EPA, 4 November 2026, https://www.ipcn.nsw.gov.au/sites/default/files/2026-11/Response%20to%20questions%20on%20notice%20to%20DPHI%20and%20request%20for%20information%20redacted.pdf [LID 30101]

Far West Local Health District (2025) *Broken Hill Lead Surveillance Program 2024 Annual Report*, NSW Health, released 16 July 2025, https://www.nsw.gov.au/departments-and-agencies/fwlhd/media-releases/broken-hill-lead-surveillance-program-2024-annual-report [LID 30102]

Gillespie Economics (2020) *Bowdens Silver Project Economic Assessment*, Environmental Impact Statement Volume 5 Part 15, May 2020, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-5765%2120200514T074723.375+GMT [LID 30103]

Gillespie Economics (2026) *Updated Economic Assessment of the Bowdens Silver Project*, Attachment 1 to the Request for Information Response, Appendix E, 18 June 2026, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=RFI-95830957%2120260630T084150.833+GMT [LID 30104]

Gloucester Resources Limited v Minister for Planning (2019) NSWLEC 7 (NSW Land and Environment Court, 8 February 2019), https://www.caselaw.nsw.gov.au/decision/5c59012ce4b02a5a800be47f [LID 30085]

Katestone Environmental Pty Ltd (2011), NSW Coal Mining Benchmarking Study: International Best Practice Measures to Prevent and/or Minimise Emissions of Particulate Matter from Coal Mining, prepared for the NSW Office of Environment and Heritage, June 2011, https://www.epa.nsw.gov.au/sites/default/files/ke1006953volumei.pdf [LID 30105]

National Health and Medical Research Council (2015), NHMRC Statement: Evidence on the Effects of Lead on Human Health, NHMRC, Canberra, https://www.nhmrc.gov.au/about-us/publications/nhmrc-statement-lead-effects-human-health [LID 18097]

Noller, B N (2023) *Statement on behalf of the Lue Action Group regarding the proposed Bowdens silver mine at Lue: Human Health and AMD Risk*, submission to the Independent Planning Commission, 23 February 2023, https://www.ipcn.nsw.gov.au/sites/default/files/pac/projects/2022/12/bowdens-silver/email-and-postal-public-submissions/lue-action-group/06_human-health-amd-risk_barry-noller_february-2023.pdf [LID 30075]

NSW Environment Protection Authority (2023), EPA commences four additional prosecutions against Cadia gold mine for air pollution, media release, 13 October 2023, https://www.epa.nsw.gov.au/News/Media-Releases/2023/EPAMedia231013-EPA-commences-four-additional-prosecutions-against-Cadia-gold-mine-for-air-pollution [LID 30106]

NSW Government (2015) *Guidelines for the Economic Assessment of Mining and Coal Seam Gas Proposals*, December 2015, https://www.planning.nsw.gov.au/sites/default/files/2023-

03/guidelines-for-the-economic-assessment-of-mining-and-coal-seam-gas-proposals.pdf [LID 30067]

NSW Treasury (2024) TPG24-34 Carbon Emissions in the Investment Framework, 20 December 2024, https://www.nsw.gov.au/sites/default/files/noindex/2025-03/tpg24-34-carbon-emissions-in-the-investment-framework.pdf [LID 30107]

O'Brien, E (2024) 'Circular Economy for Lead Petition to the Australian House of Representatives' (Petition EN6714), *LEAD Action News*, vol. 22, no. 4, The LEAD Group Inc, https://leadsafeworld.com/wp-content/uploads/2025/02/LANv22n4-18.html [LID 28314]

The LEAD Group Inc (2026), Objection to Bowdens Silver Project SSD-5765, submission to the Independent Planning Commission of NSW, 30 September 2026, https://www.ipcn.nsw.gov.au/sites/default/files/webform/make_a_submission_bowdens_silver/81836/The%20LEAD%20Group%20Inc%27s%20Objection%20to%20Bowdens%20Silver%20SSD-5765%20Submission%20to%20IPC%2020260930.pdf [LID 29961]

World Health Organization (2024), Lead poisoning, fact sheet, WHO, Geneva, https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health [LID 30069]

A Climate Test for Lead Mines

By Elizabeth O'Brien, Lead Scientist and Lead Advisor, orchestrated by Ian Smith, Systems Analyst, using OpenClaw on top of Claude AI and Ollama local AI models where possible, on solar-powered infrastructure. © The LEAD Group Inc. November 2026

In 2019 an Australian court refused a coal mine partly because of what it would do to the climate. The reasoning that stopped the Rocky Hill coal project applies, with equal force, to a new lead mine. A mine approved today should carry a condition that was unthinkable a decade ago and is ordinary now: that it run on renewable energy generated on its own site. The Bowdens silver, lead and zinc project near Lue in central-western New South Wales (NSW) is the test case, and the way its climate impact and its power line have been handled shows why the principle matters.

The precedent: Rocky Hill

In *Gloucester Resources Limited v Minister for Planning* [2019] NSWLEC 7, Chief Justice Brian Preston of the NSW Land and Environment Court refused consent for the Rocky Hill open-cut coal mine near Gloucester. It was the first time an Australian court had refused a coal mine on grounds that expressly included its contribution to greenhouse gas (GHG) emissions and climate change. Preston CJ found that the project would be "a material source of GHG emissions and contribute to climate change", and that it was the wrong development in the wrong place at the wrong time, given the need for a rapid and deep decrease in emissions (*Gloucester Resources Limited v Minister for Planning* 2019).



The case was run for the community group Groundswell Gloucester by the Environmental Defenders Office (EDO). The solicitor and legal strategist who led it was Elaine Johnson*, then the EDO's Director of Legal Strategy. Climate scientist Professor Will Steffen gave expert evidence on the carbon budget and the significance of the mine's emissions. Johnson has since left the EDO, departing in 2024 after some thirteen years leading much of its climate litigation (EDO 2024). Her work on Rocky Hill established, in an Australian court, that a mine's GHG emissions are a legitimate and sometimes decisive reason to refuse it. *Elaine Johnson (pictured) is now Director, Johnson Legal – Australian Environmental Lawyers.



2026 Volcano Art Prize (VAP) Entry. Artist: Liam Paune. Title: The Climate Multiplier. Lead-Safety Message: "Extreme Weather, Extreme Risks. They all make lead poisoning more likely and worse for the individual. Ask your government to act now for a safer tomorrow." Description of Work: Crayons. https://volcanoartprize.com/portfolio-item/the-climate-multiplier/ [LID 29413]

The extension: run the mine on its own renewables

If climate harm can defeat a coal mine, it can shape the conditions on a lead mine. Lead mining and smelting are energy-intensive, and the emissions are not trivial. The Bowdens project's own updated assessment puts its life-of-mine emissions at about 1.135 million tonnes of carbon dioxide equivalent (CO_2-e): roughly 567,559 tonnes of direct and purchased-electricity emissions (Scope 1 and Scope 2) and a further 567,470 tonnes from the wider supply chain (Scope 3), with no condition requiring the operation to reach net zero (Bowdens Silver Project 2026).

The Rocky Hill logic suggests a clear remedy. A new lead mine should be refused unless it generates 100 per cent of its energy from renewable sources on the mine site itself. This is not a radical ask. On-site solar generation and battery storage are proven and, increasingly, cheaper than the alternatives. A proponent that cannot or will not power its own operation cleanly is asking the public to absorb a climate cost that the Rocky Hill reasoning says need not be accepted. There is a further irony worth naming: much new lead demand is justified by the energy transition itself, yet the lead for batteries and renewable infrastructure can come from recycling rather than from new mines. A climate condition on the mine keeps that logic honest, by refusing to let a clean-energy label excuse a dirty operation.



2026 Volcano Art Prize (VAP) Entry. Artist: Grandma Lead. Title: Solar Panels at Sunset. Lead-Safety Message: "Every day that you have solar panels for the sun to shine on, is a day you can feel good knowing that you're causing less lead in the air from burning fossil fuels and you're helping avert a climate crisis." Description of Work: iPhone 13 panorama. https://volcanoartprize.com/portfolio-item/solar-panels-at-sunset/ [LID 30002]

The split: carving off the power line

The second problem at Bowdens is structural. A mine needs power, and Bowdens requires a 66 kilovolt (kV) transmission line to reach it. In August 2024 the NSW Court of Appeal declared the project's original development consent void, precisely because the Independent Planning Commission had granted it without considering the transmission line, which the Court found was an integral part of the mine (*Bingman Catchment Landcare Group Incorporated v Bowdens Silver Pty Ltd* 2024).

Rather than assess the whole project together, the response was to separate the two. On 23 May 2025 the NSW Planning Secretary determined, under section 4.38(4A) of the *Environmental Planning and Assessment Act 1979*, that the 66 kV line is not part of the single proposed development (Silver Mines Limited 2025). The mine and the power line it cannot operate without are now to be assessed as if they were unrelated.

This is project-splitting, the practice also known as salami-slicing, and it runs against settled international environmental-impact-assessment (EIA) standards. The Espoo Convention requires that assessment be undertaken at the level of the whole proposed activity (United Nations Economic Commission for Europe 1991). The International Finance Corporation's (IFC's) Performance Standard 1 extends assessment beyond the primary site to "associated facilities", infrastructure that would not be built but for the project and without which the project cannot function (IFC 2012). A transmission line built solely to energise a mine is the textbook associated facility. For a proposal of state significance, whole-of-project assessment is not an optional nicety; it is the baseline that stops a large impact being approved in pieces, each too small to refuse on its own.



2023 Volcano Art Prize (VAP) Entry. Artist: Elizabeth O'Brien. Title: Stop New NSW Lead Mines. Lead-Safety Message: "I have a vision that the 2023 NSW Parliamentary Inquiry into whether the NSW regulatory framework for heavy metals and critical minerals mining is fit for purpose, will not only stop Bowdens and other proposed lead mines, but will find that no new lead mines in NSW can be justified! Let's use recycled lead (eg using government rebates to remove and recycle lead roof flashing so lead-safe rainwater can be collected) instead for our renewable energy projects!" Description of Work: Powerpoint collage of screenshots from Communities anxious as NSW government spruiks mining, The 7.30 Report, 20 Sept 2023, ABC TV (on Youtube). https://volcanoartprize.com/portfolio-item/stop-new-nsw-lead-mines/ [LID 27682]

A single test

Put the three points together and the test for any new lead mine is simple:

- assess the whole project, power line included, as one proposal;
- count all of its emissions; then
- approve it only if it carries its own climate cost by generating its renewable energy on site.

Rocky Hill already supplies the principle. Bowdens shows what happens when the principle is set aside.

References

Bingman Catchment Landcare Group Incorporated v Bowdens Silver Pty Ltd [2024] NSWCA 205 (NSW Court of Appeal, 16 August 2024) https://www.austlii.edu.au/cgi-bin/viewdoc/au/cases/nsw/NSWCA/2024/205.html [LID 30083]

Bowdens Silver Project (2026) Supplementary advice and updated environmental assessment (greenhouse gas assessment), NSW Department of Planning, Housing and Infrastructure, https://www.planningportal.nsw.gov.au/major-projects/projects/bowdens-silver [LID 30109]

Environmental Defenders Office (EDO) (2024) Farewell to legendary EDO litigator and legal strategist Elaine Johnson, https://www.edo.org.au/2024/03/08/farewell-to-legendary-edo-litigator-and-legal-strategist-elaine-johnson/ [LID 30110]

Gloucester Resources Limited v Minister for Planning [2019] NSWLEC 7 (NSW Land and Environment Court, 8 February 2019) https://www.austlii.edu.au/cgi-bin/viewdoc/au/cases/nsw/NSWLEC/2019/7.html [LID 30085]

International Finance Corporation (IFC) (2012) Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts, https://www.ifc.org/en/insights-reports/2012/ifc-performance-standard-1 [LID 30111]

Johnson Legal (2026) [About] Elaine Johnson, Director, Johnson Legal – Australian Environmental Lawyers, accessed 16th Nov 2026. https://www.johnsonlegal.au/elaine-johnson [LID 30084]

Silver Mines Limited (2025) Planning clarification on the Bowdens Silver Project (Planning Secretary determination under section 4.38(4A) of the Environmental Planning and Assessment Act 1979, 23 May 2025), https://www.globalminingreview.com/mining/28052025/silver-mines-receives-planning-clarification-on-bowdens-project [LID 30112]

United Nations Economic Commission for Europe (1991) Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention), https://unece.org/environment-policy/environmental-assessment [LID 30113]

UK DEFRA Blood Lead and Soil Lead Levels

By Elizabeth O'Brien, Lead Scientist and Lead Advisor, orchestrated by Ian Smith, Systems Analyst, using OpenClaw on top of Claude AI and Ollama local AI models where possible, on solar-powered infrastructure. © The LEAD Group Inc. November 2026

Two numbers have done a great deal of work in the assessment for the proposal by Bowdens Silver for new lead mine at Lue, New South Wales (NSW). The human health risk assessment (HHRA) prepared by Environmental Risk Sciences Pty Ltd (EnRisks) benchmarks lead against blood lead levels of 3.5 micrograms per decilitre (µg/dL) for children and 1.6 µg/dL for adults, and the NSW Department of Planning, Housing and Infrastructure (the Department) has told the Independent Planning Commission (IPC) NSW that this choice makes the assessment conservative. Both blood lead numbers come from the United Kingdom Department for Environment, Food and Rural Affairs (UK DEFRA).

The obvious question is why is the UK DEFRA low blood lead level for adults lower than the one for children? Adults are bigger, and lead's worst effects are on the developing brain, so why would the adult number be the lower of the two? The answer is in DEFRA's own documents, and it is not what the pairing implies. Once you read them, two further things follow: the pair was never DEFRA's pair, and the purpose those numbers were built for is close to the opposite of the purpose they are being used for at Lue.



2022 Volcano Art Prize (VAP) Entry. Artist: Max Taylor (Age 11). Title: Max's Chickens. Lead-Safety Message: "Lead in the dirt contaminates our eggs." Description of Work: Photograph. https://volcanoartprize.com/portfolio-item/maxs-chickens/ [LID 22909]

What DEFRA actually built

DEFRA research project SP1010, run by the consortium Contaminated Land: Applications in Real Environments (CL:AIRE) between 2012 and 2013 at a cost of £181,111, produced Category 4 Screening Levels (C4SLs) for six substances. Lead is Appendix H.

The project exists because of Part 2A of the UK Environmental Protection Act 1990, the regime for land already contaminated, mostly by industries that closed decades ago. Revised statutory guidance in 2012 sorted such land into four categories, Category 1 being clearly unacceptable risk and Category 4 being acceptably low risk. A C4SL is the line below which a regulator can stop: land under it is "suitable for use and definitely not contaminated land", so the regulator can turn to the sites that matter.

DEFRA is explicit about why it wanted that line drawn in a more relaxed place than the old Soil Guideline Values (SGVs). Over-cautious screening values cause "property blight, anxiety over possible health risks and the effects on house prices", and there is "growing evidence that stress-related health impacts of regulatory intervention could outweigh any health

benefits of investigating and remediating land where there is only a low/hypothetical risk" (Welsh Government 2014). The C4SLs were to be "more pragmatic (but still strongly precautionary)" than the values they replaced.

That is the design brief. It is a tool for releasing historic land from unnecessary remediation, written by a department balancing health against property blight and public money. **UK DEFRA's SP1010 is not a tool for deciding how much fresh lead a new mine should be allowed to add to a community that does not have a lead problem today.**

The three options, and where each number came from

Appendix H does not produce one blood lead level. It produces a menu, and it says so: "Given that there are some significant risk management choices to make in the evaluation of lead, a range of options are provided, rather than make a single LLTC recommendation."

LLTC is DEFRA's term, Low Level of Toxicological Concern, and the word "low" is doing careful work. An LLTC is deliberately not a minimal-risk value. It is the level DEFRA judged, in 2014, before the past dozen years of research into lead's harms at lower and lower blood lead levels, to be of low enough concern to stop looking. In UK DEFRA (and Environment Agency) toxicology and chemical risk assessment documents, BMD stands for Benchmark Dose and BMDL stands for Benchmark Dose Lower Confidence Limit. The number after the letters is the size of the effect being modelled: a BMD01 is the blood lead level estimated to cause a 1 per cent effect (for IQ, the loss of one IQ point; for blood pressure, a 1 per cent rise), and a BMD10 is the level estimated to cause a 10 per cent effect.

Three of lead's health effects had usable dose-response data, drawn from the European Food Safety Authority's (EFSA's) 2010 opinion on lead in food:

- Loss of intelligence quotient (IQ) in children, from the pooled analysis of seven cohorts by Lanphear et al (2005), including Port Pirie. Benchmark dose modelling put the lower confidence limit for a one-point IQ loss (the BMDL01) at 1.2 µg/dL, and the central estimate (the BMD01) at 1.8 µg/dL on one model and 5.6 µg/dL on another. The median of those two central estimates, 3.7 µg/dL (with only two models, the median is simply their average), is the children's figure DEFRA later used to justify its 3.5 µg/dL option.
- Chronic kidney disease in adults, measured as a reduced estimated glomerular filtration rate (eGFR) in 14,778 American adults (Navas-Acien et al 2009). The blood lead "dose" for a 10 per cent increase in disease prevalence (the BMD10) was 1.6 µg/dL.
- A 1% increase in systolic blood pressure in adults, pooled from four studies, giving an average BMDL01 of 3.6 µg/dL and an average BMD01 of 6.1 µg/dL.

From that spread, Appendix H offers three LLTC options: 1.6 µg/dL, 3.5 µg/dL and 5 µg/dL.

Here is the heart of the matter. **Each option is a single number meant to cover everybody: children and adults.**

DEFRA sets out:

- Option (a), 1.6 µg/dL, as the adult kidney figure chosen precisely because it also protects children: it "is slightly lower than the BMD01 for neurobehavioural effects in children and is protective of all effects". A footnote repeats the point: 1.6 µg/dL is below the children's BMD01 (decrease of one IQ point) blood lead level of 1.8 µg/dL, and "the value is chosen to be protective of both effects".
- Option (b), 3.5 µg/dL, is likewise justified against all three endpoints at once. It sits slightly below the adult blood pressure BMDL01 of 3.6 µg/dL; it sits below 3.7 µg/dL, the median BMD01 for a one-point IQ loss in children across the two models (1.8 µg/dL on the piecewise linear model and 5.6 µg/dL on the linear model); and it approximates the BMD20 for adult kidney effects, a figure Appendix H says is of questionable accuracy because the model fit is poor, and which it would be "a risk management decision" to accept. This is the option DEFRA finally adopted (see below), and it is the reason EnRisks used 3.5 µg/dL for children.
- Option (c), 5 µg/dL, is the then United States Centers for Disease Control and Prevention blood lead reference level (or “action level”), included "for illustration".

So the answer to the question is this: The adult number is lower than the children's number because it is measuring a different disease, by a different method, at a different severity. The children's figures come from a one-point IQ shift downwards, the most sensitive flicker the data can detect. The adult kidney figure comes from a 10 per cent rise in the prevalence of chronic kidney disease, which is a far grosser injury. According to CL:AIRE, it takes more lead to nudge a child's IQ down by one point than it takes to give 10 per cent more adults kidney disease, and the arithmetic that follows is an artefact of what each study was looking for. In numbers: on the central estimates, a one-point IQ loss appears at a blood lead level of 1.8 µg/dL, while a 10 per cent rise in adult kidney disease appears at 1.6 µg/dL, so the adult figure comes out lower; had CL:AIRE compared the lower confidence limit for IQ loss (1.2 µg/dL) instead, the order would have reversed. The ranking depends on which statistic and which size of effect is picked. It says nothing whatever about adults being more vulnerable than children. DEFRA treats a number below 1.8 µg/dL as the one that protects children, and chooses 1.6 µg/dL for that reason.

There is a further caution DEFRA states plainly and nobody since has repeated: there are no quantitative data at all for blood pressure or kidney disease in children, and on both adult endpoints the appendix notes "these effects could also occur in children at lower levels".



2024 Volcano Art Prize (VAP) Entry. Artist: Aidan Hannigan. Title: Chicken Feed Lead. Lead-Safety Message: "Tell the humans there is lead in some commercial chicken feed that can get into our eggs along with the soil lead from our backyard chicken run!" Description of Work: Watercolour and graphite pencil. https://volcanoartprize.com/portfolio-item/chicken-feed-lead/ [LID 28156]

What DEFRA chose, and the soil levels that followed

The menu was resolved by government, not by the consultants at CL:AIRE. The Welsh Government's Policy Companion Document of December 2014 records the decision: the LLTC for lead is 3.5 µg/dL. The 1.6 µg/dL option was rejected as "considered to be too close to minimal risk to support its use in the derivation of the more pragmatic C4SLs". The 5 µg/dL option was rejected as "not considered suitably precautionary".

DEFRA's own Policy Companion Document for England, also dated December 2014, records the same decision in almost the same words: "It is Defra's view that a Low Level of Toxicological Concern of 3.5µg/dL should be chosen to derive Category 4 Screening Levels for lead" (DEFRA 2014b). For commercial land, where an adult is the critical receptor, DEFRA recommends the United States Environmental Protection Agency Adult Lead Methodology to convert that blood lead level into a soil screening level (DEFRA 2014b), so DEFRA's blood lead level for adults is 3.5 µg/dL as well, not 1.6 µg/dL.

Read that twice. In DEFRA's framework, 1.6 µg/dL was turned down for being too protective to serve a screening tool whose purpose was to release land for sale. It was not adopted as an adult standard, because the whole framework has no adult standard separate from a child one.

The 3.5 µg/dL figure was then converted into daily lead intakes, using the Integrated Exposure Uptake Biokinetic (IEUBK) model where a child is the critical receptor and the United States Environmental Protection Agency Adult Lead Methodology where an adult is the critical receptor, and run through the Contaminated Land Exposure Assessment (CLEA) model to produce soil concentrations. The final C4SLs for lead are:

- **200** milligrams per kilogram (mg/kg) for residential land where home-grown produce is eaten,
- **310** mg/kg for residential land without produce,
- **80** mg/kg for allotments*,
- **2,300** mg/kg for commercial land, and
- **630** and **1,300** mg/kg for the two public open space scenarios: green space close to housing, from which soil is tracked back into the home, and a park far enough from

housing that negligible soil is tracked back, respectively.

*An allotment in the UK is a small plot of land that individuals rent, usually annually from a local council, parish council, community group, or private landlord, to grow fruit, vegetables, flowers, and other plants.

Those are the numbers the whole exercise was built to deliver. The blood lead levels are an intermediate step on the way to a soil figure. They were never published as health goals for individuals (either for children or adults), and the soil lead levels themselves are low: **200** mg/kg in a suburban backyard with vegetables is stricter than the Australian residential soil guideline (Health Investigation Level A, or HIL A) of 300 mg/kg, and DEFRA notes that for several land uses (residential with home-grown produce, residential without home-grown produce, allotments, and public open space close to housing) the C4SL sits below the normal background concentration of lead in English and Welsh urban soils (820 mg/kg in England and 890 to 1,300 mg/kg in Wales).

Two features of those soil levels deserve attention from anyone quoting them in Australia.

First, DEFRA's own probabilistic modelling shows what sitting at a C4SL means. At the residential soil lead screening level with home-grown produce (**200** mg/kg), the probability that a randomly chosen person in the critical receptor group exceeds the Low Level of Toxicological Concern (LLTC) is about 30 per cent. For allotments (soil lead above **80** mg/kg) the probability of a person exceeding the LLTC is 44 to 46 per cent. A C4SL is not a level at which exposure stays below the health benchmark. It is a level at which a large minority of people exceed the benchmark and DEFRA has decided, for the sake of proportionate regulation of historic land, that this is tolerable.

Second, DEFRA says the screening level is never the end of the obligation:

"Since the adverse effects of lead are thought to have no threshold, it might be necessary to apply the 'As Low As Reasonably Practicable' (ALARP) principle in relation to its remediation at specific sites. The principle of ALARP automatically applies to the regulation and management of non-threshold chemicals in the UK. It is important to note that ALARP remains the overriding principle even when a margin of exposure or minimal risk level or LLTC suggests there is a minimal/low concern for human health."

ALARP is the thing DEFRA says overrides the number. It has not survived the trip to Lue.

Did EnRisks use the DEFRA approach as DEFRA intended?

Partly, and partly not and the departures all run the same way.

The pairing is not DEFRA's. EnRisks took the children's benchmark from option (b) and the adult benchmark from option (a), producing a combination that appears nowhere in Appendix H. On the adult side this is stricter than DEFRA's final choice, and the Department is entitled to say so. On the children's side it is the figure DEFRA explicitly declined to call protective of children on its own terms, since DEFRA's own reasoning puts the protective line for children below 1.8 µg/dL.

The purpose is inverted. Every word of SP1010 is about land already contaminated, where the lead is in the ground, the cost of removing it is large, and the alternative to a pragmatic screening level is property blight.

Bowdens is the opposite case: lead that is not yet in the soil of Lue, which no one need pay to remove, and which can be prevented at no cost to any resident by not creating it.

A tool calibrated to tolerate a 30 to 46 per cent exceedance rate for the sake of not digging up old gardens has no business setting the acceptable dose from a new lead contamination source.

ALARP is absent. DEFRA says the principle overrides the screening value even where the value suggests low concern. The Bowdens framework contains no equivalent duty, and as The LEAD Group set out to the Commission in our Objection dated 11 November 2026, it contains no enforceable lead limit of any kind.

The percentages conceal their own base. EnRisks reports that total lead intake at the worst affected property is less than 40 per cent of the adult toxicity reference value (TRV) and less than 31 per cent of the children's. Those fractions are fractions of an intake that DEFRA designed to be exceeded by a large minority of the exposed population. A third of a number that a third of people exceed is not the reassurance it sounds like.

Neither the Bowdens proposal nor its HHRA sets any soil lead level not to be exceeded, whether based on the DEFRA blood lead levels or on anything else. EnRisks used the DEFRA blood lead levels only to derive daily lead intake limits: 1.4 micrograms per kilogram of body weight per day (µg/kg/day) for children, from 3.5 µg/dL, and 0.6 µg/kg/day for adults, from 1.6 µg/dL (EnRisks 2020). When the peer reviewer raised DEFRA's purpose, EnRisks replied that "The end use of the LLTCs determined by DEFRA (i.e. in the derivation of soil guidelines that may be used for remediation) is not considered relevant" (EnRisks 2021). The only soil criterion in the HHRA is the Australian HIL A of 300 mg/kg, which rests on a blood lead level of 10 µg/dL and is used only to screen existing soil and dust data. The HHRA predicts that 70 years of dust deposition from the mine would add 3.2 to 3.8 mg/kg of lead to the surface soil at the worst affected residence, but compares that increase with no soil criterion at all. For comparison, the soil level DEFRA itself derived from 3.5 µg/dL for a backyard with home-grown produce is 200 mg/kg, and at that level DEFRA's modelling still puts about 30 per cent of the critical receptor group above the LLTC.

And the UK model does not cover everything that can be found in an Australian backyard. CLEA's home-grown produce pathway covers green vegetables, root vegetables, tuber vegetables and three classes of fruit. There are no chickens in it, and therefore no eggs. In lead-affected Australian communities, including lead-mining and smelting towns, every inner-city area and even older rural areas including farm houses and other buildings built prior to 1997, backyard eggs are a well-recognised exposure route, because hens forage in surface soil all day and pass the lead they swallow into their eggs (Yazdanparast et al 2022). A

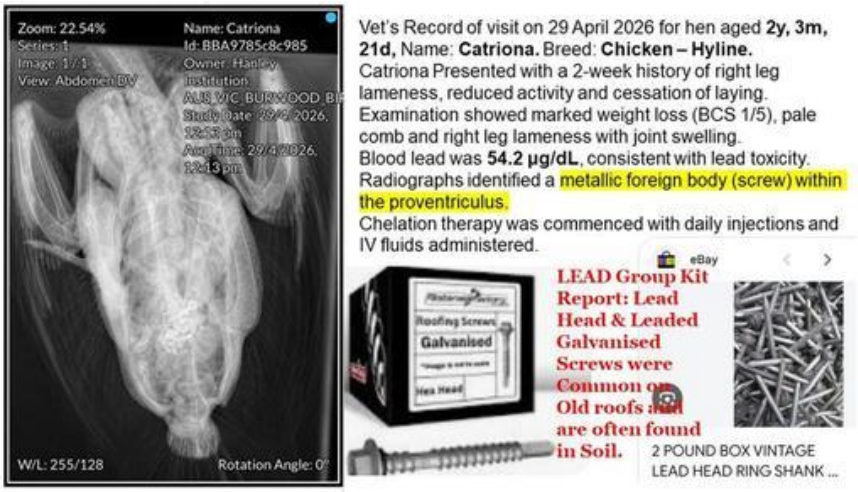
screening tool written for English allotments simply has no term for it.

Yazdanparast et al (2022) sampled 69 backyard chickens from 55 Sydney urban gardens, found that soil lead was a strong predictor of both chicken blood lead and egg lead, and concluded in “Lead poisoning of backyard chickens: Implications for urban gardening and food production” that:

- almost one in two of the chickens (31 of 69) had a blood lead level above 20 µg/dL;
- for chicken blood lead (PbB) to be less than 20 µg/dL, soil lead (SPb) needs to be less than 166 mg/kg;
- for egg lead (EPb) to be less than 100 micrograms per kilogram (µg/kg), a food safety benchmark, SPb needs to be less than 117 mg/kg, well below the Australian residential soil guideline of 300 mg/kg; thus
- a large number of inner-city homes may not be suitable for keeping chickens.

Port Pirie, the South Australian lead smelter town, gives a picture of what this means for a lead industry community. Zariff et al (2019) found that locally produced eggs from Port Pirie had a median lead concentration of 90 µg/kg (range 30 to 190 µg/kg), against 2 µg/kg in eggs from a control area, and estimated that for a two-year-old “a diet rich in eggs could more than double the child's daily lead exposure from dietary sources”. We have not found a published study of backyard eggs in Broken Hill.

Indeed, through having to write comments and make recommendations about actions to reduce egg lead lab results that I report to purchasers of LEAD Group Kits, and by researching previous Australian and US and New Zealand backyard egg lead studies, I had, at least 9 years prior to reading Yazdanparast et al in July 2022, decided that backyard poultry is one of the most sensitive populations to try to protect from soil lead contamination, and had advised every backyard poultry-keeper who tested an egg via a LEAD Group Kit to ensure their chickens’ / ducks’ / quails’ soil lead (SPb) level never exceeded 30 mg/kg.



2026 Volcano Art Prize (VAP) Entry. Artist: Poultry Keeper. Title: Leaded Chicken. Lead-Safety Message: "Despite being the smartest chicken I’ve ever had, my Catriona found a screw in the yard and swallowed it and had to be treated for lead poisoning. To warn others, LEAD Group Kit comments on egg lead results reports are from now on going to include the warning: Lead head and leaded galvanised screws were common on old roofs and are often found in soil so be sure to run a fine rake over your backyard and remove all metal items found, before letting poultry use your chicken run and free range area." Description of Work: Collage of x-ray, vet and LEAD Group Kit reports and Google results. https://volcanoartprize.com/portfolio-item/leaded-chicken/ [LID 29956]

Did the Department understand what it was relying on?

The Department's Supplementary Advice of 15 September 2026 describes the DEFRA approach to the Commission in a single sentence. The benchmarks were selected, it says, "based on an approach developed by the UK Department for Environment, Food and Rural Affairs (DEFRA), which was based on a review of studies that informed the lowest blood lead levels that have been associated with the most sensitive health effects".

That sentence is not right, and the error matters. The lowest blood lead level associated with the most sensitive health effect, in DEFRA's own tables, is 1.2 µg/dL, the BMDL01 for IQ loss in children. The figure used for children at Bowdens is 3.5 µg/dL, which DEFRA reached by weighing three endpoints together, accepting an approximate benchmark dose for a 20 per cent effect on adult kidney function whose model fit the appendix itself describes as poor, and making what the appendix calls "a risk management decision". The Welsh Government then adopted 3.5 µg/dL while recording that stakeholders had raised concerns about whether it was sufficiently precautionary. A description that converts a negotiated, deliberately pragmatic screening value into a finding about the lowest level at which harm has been seen is not a small slip. It presents a ceiling as though it were a floor.

The Department's second move is to compare the DEFRA values with Australian ones:

- the National Health and Medical Research Council's (NHMRC's) 2015 investigation level of 5 µg/dL,
- the Australian Drinking Water Guidelines' blood lead goal not to be exceeded of 5 µg/dL, and
- the Australian soil contamination guideline built on a blood lead ceiling of 10 µg/dL.

Against those, it concludes, "the selection of TRVs [toxicity reference values] based on the DEFRA approach results in a more conservative assessment than the use of screening values in other Australian guidelines."

The comparison is accurate but almost beside the point. It establishes that Australian guidance is older and weaker, which is an argument about Australian guidance, not a demonstration that the chosen benchmark is protective. The relevant comparators are the ones the Department does not mention:

- the United States Centers for Disease Control and Prevention (CDC) blood lead reference value of 3.5 µg/dL for children, which is a population surveillance threshold (97.5% of US pre-schoolers had a blood lead level less than 3.5 µg/dL at the time the CDC chose the level) rather than a safe level and is intended to fall as exposure to lead falls;
- the Australian NHMRC's own position, that no safe blood lead level (apart from zero) has been identified;
- and the World Health Organization's statement that there is no known safe level of lead exposure (WHO 2026).

Measured against those, a benchmark of 3.5 µg/dL for a child is not conservative. It is the

number at which the United States starts investigating.

A third criticism is one of omission. Having relied on DEFRA, the Department does not tell the Commission what DEFRA's levels are for, that DEFRA rejected 1.6 µg/dL as too protective for the job, that the resulting soil levels carry a 30 to 46 per cent exceedance probability by DEFRA's own modelling, or that DEFRA treats ALARP as overriding. Each of those facts is in the documents the Department is citing. Each of them cuts against the use being made of them.



2025 Volcano Art Prize (VAP) Entry. Artist: Tony Lennon. Title: Growing Garlic. Lead-Safety Message: "Grow your own garlic for maximum health benefits and minimum food travel miles! Near the winter solstice, plant good organic (not imported bleached Chinese) garlic cloves tip-upwards just below the surface 10 cm apart in deep rich well-drained elevated soil and water in well." Description of Work: Smart phone photos collaged together. https://volcanoartprize.com/portfolio-item/growing-garlic/ [LID 28958]

What follows for the Commission

None of this requires a view about whether the EnRisks modelling is arithmetically sound. Take its numbers as given. The question is what they are being compared against, and the comparison has been built out of a British instrument for releasing old industrial land, pointed at a new Australian lead source, with the half of the instrument that says "and keep reducing the soil lead screening level anyway" left behind.

The LEAD Group's position to the Commission is that consent should be refused, and that if it is not, the consent must carry a blood lead action level of greater than 1 µg/dL, the level three professors of our Technical Advisory Board have advised us to use since 2012, together with the surface dust, soil and drinking water criteria that achieving it requires. The gap between that figure and 3.5 µg/dL is not a quibble between experts. It is the difference between a standard designed to prevent exposure and a standard designed to decide when an authority may stop worrying about exposure that has already happened.

Lead in a child does not know which document authorised it.



2026 Volcano Art Prize (VAP) Entry. Artist: Grandma Lead. Title: Farm Produce. Lead-Safety Message: "There's nothing quite like harvesting your own organic leafy greens, herbs and lemons, and making beans and greens soup plus lemon delicious for lunch while watching Landline on ABC TV on Sunday to see how real farmers adapt to climate change and take care of

country while making a living from farming. So grateful!!" Description of Work: Selfies and photo collaged in Powerpoint and Paint. https://volcanoartprize.com/portfolio-item/farm-produce/ [LID 30001]

References

Budtz-Jorgensen, E (2010) An international pooled analysis for obtaining a benchmark dose for environmental lead exposure in children, scientific report submitted to the European Food Safety Authority, https://efsa.onlinelibrary.wiley.com/doi/10.2903/sp.efsa.2010.EN-47 [LID 30077]

CL:AIRE (Contaminated Land: Applications in Real Environments) UK (2014) SP1010 Appendix H: Provisional C4SLs for Lead, including Appendix H1 Human Toxicological Data Sheet for Lead, prepared for the Department for Environment, Food and Rural Affairs (DEFRA), accessible via https://randd.defra.gov.uk/ProjectDetails?ProjectId=18341 [LID 30078]

DEFRA (Department for Environment, Food and Rural Affairs) UK (2014) Development of Category 4 Screening Levels for assessment of land affected by contamination, research project SP1010, final report and appendices, https://randd.defra.gov.uk/ProjectDetails?ProjectId=18341 [LID 30079]

DEFRA (Department for Environment, Food and Rural Affairs) UK (2014b) SP1010, Development of Category 4 Screening Levels for assessment of land affected by contamination, policy companion document, December 2014, https://www.claire.co.uk/phoca-download/1-publications-library/87-c4sls-phase-1.html?download=783:sp1010-policy-companion-document [LID 30089]

Department of Planning, Housing and Infrastructure (NSW) (2026) Bowdens Silver Project Supplementary Advice, 15 September 2026, https://www.ipcn.nsw.gov.au/sites/default/files/2026-09/Supplementary%20Advice%20redacted.pdf [LID 30080]

Environmental Risk Sciences Pty Ltd (EnRisks) (2020) Bowdens Silver Project Human Health Risk Assessment, Environmental Impact Statement Volume 3 Part 7, May 2020, prepared for Bowdens Silver Pty Limited, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=SSD-5765%2120200514T074715.843+GMT [LID 30090]

Environmental Risk Sciences Pty Ltd (EnRisks) (2021) Response to Drew Toxicology Consulting's peer review of the Bowdens Silver Project Human Health Risk Assessment, letter to RW Corkery and Co, 12 April 2021, https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=RFI-10065344%2120210630T065829.497+GMT [LID 30091]

European Food Safety Authority (2010) Scientific opinion on lead in food, EFSA Panel on Contaminants in the Food Chain, EFSA Journal 8(4):1570, https://www.efsa.europa.eu/en/efsajournal/pub/1570 [LID 25616]

Lanphear, B P, Hornung, R, Khoury, J, Yolton, K, Baghurst, P, Bellinger, D C, Canfield, R L, Dietrich, K N, Bornschein, R, Greene, T, Rothenberg, S J, Needleman, H L, Schnaas, L, Wasserman, G, Graziano, J and Roberts, R (2005) Low-level environmental lead exposure and children's intellectual function, an international pooled analysis, Environmental Health Perspectives 113(7):894-899, https://pubs.acs.org/evhpaz/article/113/7/894/5243786/Low-Level-Environmental-Lead-Exposure-and-Children [LID 22210]

National Health and Medical Research Council (2015) NHMRC statement, evidence on the effects of

lead on human health, NHMRC, Canberra, https://www.nhmrc.gov.au/about-us/publications/nhmrc-statement-lead-effects-human-health [LID 18097]

Navas-Acien, A, Tellez-Plaza, M, Guallar, E, Muntner, P, Silbergeld, E, Jaar, B and Weaver, V (2009) Blood cadmium and lead and chronic kidney disease in US adults, a joint analysis, American Journal of Epidemiology 170:1156-1164, https://academic.oup.com/aje/article/170/9/1156/145586 [LID 13493]

The LEAD Group Inc (2026) The LEAD Group Inc's objection to the Bowdens Silver Project SSD-5765, submission to the Independent Planning Commission of NSW, including: All the good that will flow when the Panel says "no" to Bowdens Silver Project, 11 November 2026, Search for Elizabeth at Public Submissions box at https://www.ipcn.nsw.gov.au/cases/2022/12/bowdens-silver [LID 30066]

Welsh Government (2014) Development of Category 4 Screening Levels for assessment of land affected by contamination, policy companion document, December 2014, https://www.llyw.cymru/sites/default/files/publications/2019-08/lefelau-sgrinio-am-assesiad-o-dir-halogedig.pdf [LID 30081]

WHO (World Health Organization) (2026) Lead poisoning, fact sheet, WHO, Geneva, 10 June 2026, https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health [LID 30069]

Yazdanparast, T, Strezov, V, Wieland, P, Lai, Y-J, Jacob, D E and Taylor, M P (2022) Lead poisoning of backyard chickens, implications for urban gardening and food production, Environmental Pollution 310:119798, https://doi.org/10.1016/j.envpol.2022.119798 [LID 1878]

Zariff, R Z, Pumpa, L, Simon, D L and Lewis, C (2019) Locally produced chicken eggs, a source of dietary lead for an Australian community living with an active lead smelter?, Journal of Exposure Science and Environmental Epidemiology 29(5):688-696, https://doi.org/10.1038/s41370-018-0082-5 [LID 30092]

Why Bowdens Silver Mine Proposal Would Fail in the US

A Lead Mine by Any Other Name: The Bowdens Silver Proposal, Community Resistance, and Why Australia Lacks the Protections that Have Stopped New Lead Mines in the United States

By Elizabeth O'Brien, Lead Scientist and Lead Advisor, orchestrated by Ian Smith, Systems Analyst, using OpenClaw on top of Claude AI and Ollama local AI models where possible, on solar-powered infrastructure. *© The LEAD Group Inc. November 2026*

Since 2016, Bowdens Silver Pty Ltd, a subsidiary of the Australian Securities Exchange (ASX)-listed Silver Mines Ltd, has been seeking approval to develop what it consistently describes as a silver mine at Lue, near Mudgee in the Central Tablelands of New South Wales (NSW). The framing is deliberate and, critics argue, deeply misleading. By tonnes of metal produced and by the weight of environmental risk, Bowdens would be a lead and zinc mine, and one of the largest new open-cut lead mines proposed in Australia in decades. The community of Lue and the surrounding Mudgee region has fought the proposal vigorously and with remarkable persistence. That fight has found a powerful parliamentary ally in the Greens spokesperson on mining in the NSW Parliament, Cate Faehrmann MLC. Yet despite that opposition, both the NSW and federal governments have, in their various ways, allowed the project to keep progressing toward approval.



2025 Volcano Art Prize (VAP) Entry, **Artist:** Khangai Davaasuren, **Title:** Australian Koala, **Lead-Safety Message:** They say that there are no Koalas in Lue because they [Bowdens Silver who've proposed a lead mine at Lue, near Mudgee, NSW Australia] want to destroy 400 hectares of prime Koala habitat [if the mine is approved/viable]. Tell that to this guy., **Description of Work:** Lead pencil drawing using a lead-free graphite pencil. Message from Mudgee Region Action Group FB page, 25th March 2025. https://volcanoartprize.com/portfolio-item/australian-koala/ [LID 28925]

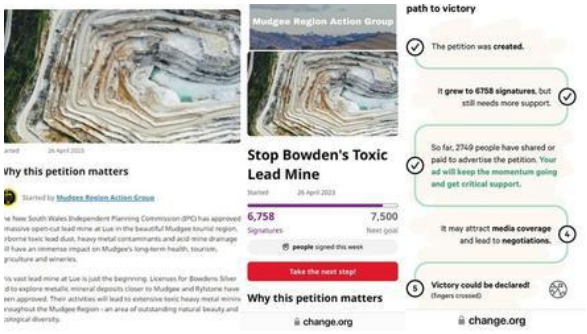
This article examines what Bowdens Silver is actually proposing, why the community opposes it, what governments have done (and not done), and how the entire Australian context compares with the United States, where a combination of tightened environmental law, the loss of domestic primary lead smelting capacity, hostile capital markets, and structural economic forces has meant that no new primary lead mine has been approved for decades, a contrast that illuminates just how much protection Australian communities are not receiving.

What Bowdens Silver is actually proposing

The Bowdens Silver deposit is located about 26 kilometres east of Mudgee and about 2 kilometres north of the village of Lue, in the Central Tablelands of NSW (NSW DPE 2022). The project has been owned since 2016 by Silver Mines Ltd, which is listed on the ASX (ASX: SVL).

The proposed mine is an open-cut operation. According to the Environmental Impact Statement (EIS) submitted to the NSW Department of Planning, Industry and Environment (now the NSW Department of Planning, Housing and Infrastructure, or DPHI), the ore body contains silver, lead and zinc (R.W. Corkery & Co. 2020). The company's own figures, as summarised in the Department's 2022 assessment report, indicate that the mine would produce about 95,000 tonnes of lead and 130,000 tonnes of zinc, but only about 66.3 million ounces (roughly 2,060 tonnes) of silver (NSW DPE 2022). By weight of metal produced, lead and zinc together outweigh silver by more than 100 to one, although the Department notes that silver is the metal with the highest economic value in the ore body.

The proposed mine would extract about 30 million tonnes of ore (up to 2 million tonnes a year) over about 16.5 years of mining and processing, within a total project life of about 23 years, producing a silver/lead concentrate and a zinc concentrate (NSW DPE 2022). The concentrates would be trucked in containers, via intermodal terminals at Parkes or Kelso (Bathurst) or directly to Port Botany, for export from Newcastle or Port Botany or for smelting at Port Pirie in South Australia (NSW DPE 2022). The Port Pirie smelter is operated by Nyrstar, whose operating business is wholly owned by the commodity trader Trafigura, and it is Australia's only lead refiner. Since August 2025 the Port Pirie and Hobart smelters have been kept running with $240 million in Commonwealth, South Australian and Tasmanian government support (Nyrstar 2026).



2023 Volcano Art Prize (VAP) Entry, **Artist:** Mudgee Region Action Group, **Title:** Stop Bowdens Toxic Lead Mine, **Lead-Safety Message:** It's time for you dear readers to take action and sign the petition at https://www.change.org/p/help-stop-bowden-s-toxic-lead-mine! This could be the first of many lead mine and lead mine expansions to be stopped by wonderful people like you who are creating a lead-safe world for our children!, **Description of Work:** Screenshots from Petition - Stop Bowden's Toxic Lead Mine - Change.org collaged together in PowerPoint., https://volcanoartprize.com/portfolio-item/stop-bowdens-toxic-lead-mine/ [LID 27704]

The open-cut nature of the proposed mine is significant. Open-cut lead-zinc mining generates very large volumes of waste rock and tailings, which can leach lead, zinc, and associated heavy metals into surface and groundwater over decades or centuries. The Lue site sits within a farming district known for merino wool, cattle, and viticulture (the Mudgee wine region begins nearby), and is within the upper catchment of the Cudgegong River, a tributary of the Macquarie River system, which is part of the Murray-Darling Basin.

Why calling it a 'silver mine' matters

The naming of the Bowdens project as a 'silver mine' is not a trivial matter of marketing. It has substantive regulatory and political consequences.

Under the NSW Mining Act 1992 and the Environmental Planning and Assessment Act 1979 (EP&A Act), the characterisation of a mine determines, in part, how it is assessed, what agency has primary jurisdiction, and how it is perceived by the public and by decision-

makers. 'Silver' carries no public health stigma. 'Lead' carries enormous public health stigma, and for good reason, given the well-documented history of lead contamination in Australian mining towns, most notably Broken Hill.

The characterisation also matters for community engagement. Members of the Lue community and surrounding districts who attended early public consultation sessions have reported being told they were being consulted about a silver mine. The dominant health risk from a silver mine is negligible compared to the dominant health risk from a lead mine, namely, the well-established pathway by which fine lead dust and lead-contaminated water enter human bodies, particularly the bodies of children, causing irreversible neurological damage at blood lead levels for which no safe level has been identified (CDC n.d.). The National Health and Medical Research Council (NHMRC) recommends that any blood lead level above 5 µg/dL be investigated and the source of exposure reduced (NHMRC 2015).

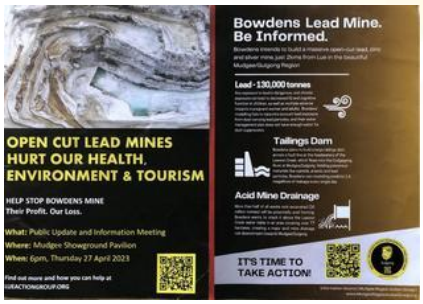
Elizabeth O'Brien of The LEAD Group Inc. and other lead health advocates have consistently argued that the project should be assessed, described, and debated as what it is: a lead mine. This is not a semantic preference. It is a public health imperative.

The community fights back: Lue and the lessons of Broken Hill

The community opposition to Bowdens Silver has been substantial, sustained and increasingly sophisticated. Local landholders, farmers, the Mudgee wine industry, tourism operators and environmental groups have organised through groups including the Lue Action Group, the Mudgee Region Action Group, the Mudgee Region Health Alliance, the Mudgee District Environment Group and the Bingman Catchment Landcare Group (which brought the successful court challenge), lodging hundreds of objections to the EIS and its various iterations, commissioning independent expert reports, and engaging media. At the Independent Planning Commission (IPC) in 2023, 53 per cent of the 1,916 submissions objected to the project.

The Broken Hill warning

The community's opposition is not abstract. Australians have only to look at Broken Hill, 900 kilometres to the west, to understand what more than a century of lead mining and smelting does to a community's health. Broken Hill is the birthplace of BHP, of the modern Australian union movement, and of some of the most comprehensive occupational health and safety reforms in Australian history. It is also a city with a documented legacy of elevated blood lead levels in children that has persisted for decades, contaminated residential soil across much of the city, and a population that has carried the neurological and health burden of that contamination across generations (Tariq 2026).



2023 Volcano Art Prize (VAP) Entry, **Artist:** Mudgee Region Action Group, **Title:** Stop Bowdens Lead Mine, **Lead-Safety Message:** Open cut lead mines hurt our health, environment and tourism. Help stop Bowdens mine. Bowdens intends to mine 130,000 tonnes of lead and build a large tailings dam across a fault line potentially creating a major acid mine drainage risk downstream. It's time to take action!, **Description of Work:** Scanned flyers collaged together in Powerpoint., https://volcanoartprize.com/portfolio-item/stop-bowdens-lead-mine/ [LID 27699]

NSW Health, through the Far West Local Health District, runs an ongoing blood lead screening program for Broken Hill children under five, while the NSW Environment Protection Authority (NSW EPA) runs the separate Broken Hill Environmental Lead Program on remediation. In 2025, 56 per cent of Aboriginal children and 28 per cent of non-Aboriginal children screened had blood lead levels above the 5 µg/dL national guideline (Far West and Western NSW LHD Public Health Unit 2026). Studies have repeatedly found elevated blood lead levels in Broken Hill children, with the contamination pathway being primarily ingestion of lead-contaminated household dust and soil, which in turn derives from historical and ongoing mining emissions that have deposited lead across the city (Dong, Taylor and Gulson 2020).

Port Pirie, South Australia, one of the possible destinations for the Bowdens concentrate, has its own and similarly troubling lead contamination history. Port Pirie children have long had among the highest blood lead levels in Australia; in 2025, 79.8 per cent of two-year-olds tested were above 5 µg/dL (SA Health 2026). The Nyrstar smelter (formerly owned by Zinifex, Pasminco and, from 1915, Broken Hill Associated Smelters) has been the subject of decades of regulatory action, community health programs and political controversy. The South Australian Environment Protection Authority has repeatedly recorded the smelter exceeding its licence limit for lead in air (SA EPA 2026; SA EPA n.d.). A major redevelopment, costing about $660 million and underwritten by the South Australian Government to the tune of $291 million, was undertaken from 2014 to convert the plant from a sinter-based primary lead smelter into an enclosed poly-metallic processing facility, promising dramatic reductions in lead emissions, but community health advocates and independent researchers have questioned whether the promised improvements have been fully realised (Taylor, Isley and Glover 2019; SA Health 2026).

Cate Faehrmann and the parliamentary campaign

The community's fight found a powerful parliamentary voice in Cate Faehrmann, the NSW Greens Member of the Legislative Council and the party's Mining Spokesperson. Faehrmann has been one of the most persistent and effective parliamentary critics of the Bowdens Silver proposal, and of the broader framework under which it has been assessed.

In the NSW Legislative Council, Faehrmann has raised the Bowdens proposal through questions to the Environment and Agriculture Ministers in November 2023 (Faehrmann 2023a; Faehrmann 2023b) and in an adjournment speech in March 2026 alleging that the

company lobbied the Government to change planning law after the Court of Appeal voided the mine's approval (Faehrmann 2026).

Faehrmann has challenged the framing of the project as a silver mine, telling the Legislative Council that Lue faces “a toxic lead mine” (Faehrmann 2023c). Speaking at the IPC's public hearing in October 2026, she described “glaring inadequacies” in Bowdens' human health risk assessment, which mentions Broken Hill only once, and said it would be “highly reckless and irresponsible to approve Bowdens open cut lead mine in Lue” (IPC 2026a).

At the same hearing, Faehrmann criticised the NSW planning framework for assessing the health impacts of lead mining proposals, pointing out that NSW has no legislated trigger value for lead in deposited dust (IPC 2026a).

Government responses: supporting the mine

Despite the volume and quality of community opposition, the overall trajectory of government decision-making, at both state and federal levels, has been toward facilitating the Bowdens project's progress rather than blocking it.

NSW state government

The NSW Department of Planning, Housing and Infrastructure (DPHI) has processed the Bowdens EIS through multiple rounds of submissions and responses. The IPC, which replaced the Planning Assessment Commission in 2018, approved the mine on 3 April 2023 after a public hearing in February 2023. On 16 August 2024 the NSW Court of Appeal declared that consent void (Bingman Catchment Landcare Group Inc v Bowdens Silver Pty Ltd [2024] NSWCA 205). The NSW Parliament then amended the planning Act, the Planning Secretary ruled on 23 May 2025 that the mine's transmission line was not part of the project, and on 15 September 2026 DPHI referred the project back to the IPC for re-determination (DPHI 2026). A new IPC panel held a public hearing on 14 to 16 October 2026, and written submissions closed on 11 November 2026 (IPC 2026b). The project has not been refused.

Successive NSW governments, Labor and Coalition alike, have treated the Bowdens project as a legitimate major development proposal proceeding through the normal statutory process. Neither the former Coalition government under Dominic Perrottet nor the current Labor government under Chris Minns has moved to stop the project on public health or environmental grounds, notwithstanding the volume of community opposition and the specific concerns raised by Faehrmann and others. After the Court of Appeal voided the consent, the Minns Government amended the Environmental Planning and Assessment Act 1979 (EP&A Act) in late 2024 to let the Planning Secretary decide whether off-site infrastructure forms part of a project, and the Secretary then ruled that Bowdens' transmission line did not (DPHI 2026). Faehrmann has told Parliament that freedom of information documents show the company lobbied for this change (Faehrmann 2026).

Mining lease applications are handled by NSW Resources, a division of the Department of Primary Industries and Regional Development (the Resources Regulator is the division's safety and compliance arm). Under section 4.42 of the EP&A Act, a mining lease for a State significant development must be granted substantially consistent with any development

consent, so the lease cannot be refused once planning consent is given. This reflects the dual-track nature of NSW mining approvals, under which a planning approval and a mining lease are separate instruments, a structure that community groups have criticised as creating regulatory and political momentum that makes ultimate refusal more difficult.

Federal government

At the federal level, the project (EPBC 2018/8372) was declared a controlled action under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) on 5 April 2019 because of its potential impact on listed threatened species and communities. It is being assessed by NSW under the bilateral agreement, with the final EPBC approval decision resting with the federal Environment Minister after NSW decides. The EPBC Act protects matters of national environmental significance, such as threatened species, migratory species and World Heritage areas, but it does not directly assess human health impacts from lead exposure, a significant gap that critics of the federal environmental assessment framework have highlighted.



2024 Volcano Art Prize (VAP) Entry, **Artist:** Jayne Bentivoglio, **Title:** Protesting against the Lead mine at Lue, **Lead-Safety Message:** My community has spent the last 12 years protesting against the proposed Bowden lead mine at Lue yet, as things stand, any new lead mine proposal on your home or farm or waterways is practically 100% likely to be approved no matter how unjustifiable the destruction of aboriginal heritage, water, wildlife, agriculture, tourism or cost of infrastructure and drain on non-renewable energy and dwindling clean water. Sign the Circular Economy for Lead petition at https://www.aph.gov.au/e-petitions/petition/EN6714 before it closes on Wed 04 Dec 2024 11:59 PM (AEDT) to keep lead safely in the ground, and start instead, collecting and recycling existing lead to meet future needs., **Description of Work:** Photo of protest in mid Oct 2024 with Mudgee Region Health Alliance and Mudgee Region Action Group and Sen Cate Faehrmann NSW Greens MLC., https://volcanoartprize.com/portfolio-item/protesting-against-the-lead-mine-at-lue/ [LID 28216]

The federal Labor government under Anthony Albanese, like the previous Coalition government, has not, to our knowledge, taken any steps specifically targeted at the Bowdens proposal beyond the standard EPBC assessment process. The reforms to the EPBC Act that followed the 2020 Samuel Review were finally passed as the Environment Protection Reform Act 2025, which received Royal Assent on 1 December 2025 and is commencing in stages through 2026, along with a new National Environmental Protection Agency from 1 July 2026 (Commonwealth of Australia 2025). They reform environmental assessment processes but do not create a specific requirement to assess lead contamination health risks.

The US contrast: why no new lead mine would get this far in America

To understand just how inadequate Australian protections are for communities facing new lead mine proposals, it is instructive to examine the United States, a country with its own deeply troubled lead mining history, but one where a convergence of regulatory, economic,

and financial forces has made new primary lead mining effectively impossible for the past two decades. The comparison is not flattering to Australia.

The lead air quality standard: a tenfold difference in ambition

The single most consequential regulatory difference is the ambient air quality standard for lead. In 2008, the US Environmental Protection Agency (EPA) revised its National Ambient Air Quality Standard (NAAQS) for lead from 1.5 micrograms per cubic metre (µg/m³), the standard that had been in place since 1978, to 0.15 µg/m³, a tenfold tightening (EPA 2008). This standard was retained after the next review in 2016 (EPA 2016).

Australia's national ambient air quality standard for lead, set by the National Environment Protection (Ambient Air Quality) Measure (AAQ NEPM) and administered through state and territory environment protection authorities, is 0.5 µg/m³ as an annual average (NEPC 2021). This is more than three times higher than the US standard, and averaged over a longer period. And unlike the US NAAQS, which is a legally enforceable federal standard backed by the Clean Air Act, Australia's AAQ NEPM standard has historically been more of an aspiration than a hard legal requirement, with enforcement left to state EPAs that have been slow to act against major industrial polluters.



2024 Volcano Art Prize (VAP) Entry, Artist: Phoenix Jewson, Age 5, Home-school, Title: Phoenix Makes a Volcano, Lead-Safety Message: No one can stop lead fumes spewing out of a volcano, but people who can vote, can sign Grandma Lead's Petition EN6714, Circular Economy for Lead. Then we might just be able to stop new lead mines sending Australian lead out in to the world. Please sign the petition at https://www.aph.gov.au/e-petitions/petition/EN6714 before it closes on Wed 04 Dec 2024 11:59 PM (AEDT)., Description of Work: Mummy and my magpie Chough helped me make a volcano out of clay, food dye, vinegar and bicarb soda while the video was recording on her iPhone and mummy edited it., https://volcanoartprize.com/portfolio-item/phoenix-makes-a-volcano/ [LID 28159]

The practical consequence is stark. In the US, the 0.15 µg/m³ standard means that any new lead mine or smelter must demonstrate it can operate without pushing local ambient lead concentrations above that threshold, and the modelling required to demonstrate compliance is stringent and publicly scrutinised. Facing Clean Air Act enforcement, Doe Run, owner of the only remaining US primary lead smelter at Herculaneum, Missouri, agreed in 2010 to shut it down by 31 December 2013 (EPA 2010). Without a domestic primary smelter, new US lead mines have no domestic outlet for their ore, a fatal commercial constraint. In Australia, Port Pirie's smelter continues to operate under conditions that would not be tolerated under US law.

Clean Water Act versus Australian water protection frameworks

The US Clean Water Act imposes rigorous permitting requirements on mine water discharge, including the requirement for a National Pollutant Discharge Elimination System (NPDES) permit, issued by the EPA or an authorised state, and technology-based effluent limits for lead from lead-zinc mines and mills under 40 CFR Part 440 Subpart J (EPA 2026). Any new lead mine must demonstrate that it can meet these limits.

In NSW, the Bowdens proposal sits within the upper Cudgegong River catchment, which flows into the Macquarie River and ultimately into the Murray-Darling Basin. The Murray-Darling Basin Plan sets water quality targets, including for heavy metals by reference to the ANZECC (2000) guidelines, but these are targets that agencies must "have regard to", not enforceable discharge limits of the kind written into US Clean Water Act permits (Commonwealth of Australia 2026). The NSW EPA can impose conditions through the Environment Protection Licence (EPL) process, but those conditions depend on what the licence sets and how vigorously it is enforced.

CERCLA, Superfund, and liability that makes investors think twice

Perhaps the most powerful deterrent to new lead mine investment in the US is the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), popularly known as Superfund. Under CERCLA, any company that contributed to contamination at a Superfund site, even if its operation was legal at the time, can be held jointly and severally liable for the entire cost of remediation where the harm caused by multiple parties cannot be separated (EPA n.d.). The US has numerous major lead mining Superfund sites, the Tar Creek site in Picher, Oklahoma; the Bunker Hill complex in Idaho's Coeur d'Alene basin; the Jasper County site in Missouri, where remediation costs have run to hundreds of millions of dollars and where responsible parties have been pursued through the courts for decades (EPA 2023a; EPA 2023b).

This liability regime fundamentally changes the risk calculus for investors. Any company proposing a new lead mine in the US knows that it is potentially assuming open-ended environmental liability that could exceed the value of the mine itself. No amount of insurance can fully cover CERCLA liability, and major institutional investors, who must account for this risk in their portfolio analysis, are accordingly unwilling to finance new primary lead mining.



2024 Volcano Art Prize (VAP) Entry, **Artist:** Elizabeth O'Brien, **Title:** Lue Water Protection Ceremony, **Lead-Safety Message:** Grandma Lead was inspired by this first nations protection of the waters ceremony at Lue, the site of Bowdens proposed lead mine on a very rainy day on 4th Oct 2023, to create the Petition EN6714 - Circular Economy for Lead to stop new lead mines being approved. Please Sign the petition at https://www.aph.gov.au/e-petitions/petition/EN6714 before it closes on Wed 04 Dec 2024 11:59 PM (AEDT)., **Description of Work:** Collage of selfie & iphone 13 photos from Lue, near Mudgee, NSW., https://volcanoartprize.com/portfolio-item/lue-water-protection-ceremony/ [LID 28183]

Australia has no equivalent of CERCLA. The contaminated land framework in NSW is primarily the Contaminated Land Management Act 1997, which gives the NSW EPA powers to require investigation and remediation of contaminated sites, but which does not impose the same strict, retroactive, joint-and-several liability that makes CERCLA so powerful a deterrent. At Broken Hill, more than a century of lead contamination is still being remediated with public money, with $4.2 million allocated to the NSW EPA's Broken Hill Environmental Lead Program for 2025 to 2027 (Faehrmann 2025).

ESG finance and the global capital market shift

The global shift toward Environmental, Social and Governance (ESG) investment criteria has made financing new lead mines in the United States more difficult. Project finance banks applying the Equator Principles must comply with the International Finance Corporation (IFC) Performance Standards, which impose requirements on pollution prevention and community health and safety (IFC 2012).

The Bowdens Silver project has been able to attract and retain investor support, at least from its ASX-listed parent, Silver Mines Ltd, in part because Australian capital markets and Australian regulatory frameworks do not impose equivalent ESG constraints. The ASX Corporate Governance Council's Principles and Recommendations (4th edition, 2019) ask listed entities to disclose any material exposure to environmental or social risks and how they manage them (Recommendation 7.4), but these are "if not, why not" disclosure principles, not rules (ASX Corporate Governance Council 2019), and the ASX has no mechanism to refuse or delist a company on the grounds that its proposed mine would contaminate a regional community with lead.

This reflects a broader asymmetry: Australian institutional investors, superannuation funds and banks have been slow to adopt hard exclusions around lead mining. Some Australian super funds apply ESG screens, but we found none that explicitly excludes lead mining, and the framework remains voluntary and inconsistent.

The Port Pirie factor: a smelter that keeps the lead economy alive

The most fundamental structural difference between the US and Australian contexts is the continued existence of the Port Pirie lead smelter in South Australia. When Doe Run shut down the Herculaneum, Missouri smelter at the end of 2013, the last US primary lead smelter, it severed the domestic supply chain that any new US lead mine would depend on (EPA 2010). Without a domestic smelter, new US lead mines have no economically viable domestic outlet for their concentrate.



2023 Volcano Art Prize (VAP) Entry, **Artist:** The LEAD Group, **Title:** Orange Mudgee Mine News, **Lead-Safety Message:** ABC News reporters Joanna Woodburn and Micaela Hambrett have done an awesome job in 2023 reporting on acid mine drainage from the former Sunny Corner mine, lead contamination and potential future lead hazards from Cadia Lead Mine near Orange, and the proposed Bowdens Silver Mine at Mudgee., **Description of Work:** Collaged screenshots from four ABC News articles covering lead mining concerns in NSW, including reports on export risks, community anxiety, parliamentary inquiry integrity issues, and mining health impact warnings., https://volcanoartprize.com/portfolio-item/orange-mudgee-mine-news/ [LID 27705]

Port Pirie changes the Australian equation entirely. A new mine at Lue could truck containerised concentrate via intermodal terminals at Parkes or Kelso to Port Pirie, completing a supply chain that already exists and that the Port Pirie smelter's operator, Nyrstar (owned by Trafigura), has a commercial interest in keeping supplied with fresh ore

concentrate. The Bowdens assessment documents list Port Pirie as one of three possible destinations for the concentrate, alongside Newcastle and Port Botany (NSW DPE 2022).

Port Pirie's continued operation is thus not merely a fact about South Australian industry. It is a structural enabler of new lead mining proposals in eastern Australia in a way that has no US equivalent. The smelter's existence means that the economic case for Bowdens, while tight, is at least arguable, whereas in the US, the equivalent economic case collapsed with the Herculaneum closure.

This creates a disturbing circularity. Port Pirie needs ore to process; Bowdens would provide ore; therefore Bowdens has a commercial rationale. But Port Pirie has itself been a source of severe lead contamination in the Port Pirie community for over a century (Baghurst et al 1992; SA Health 2026). The supply chain that makes Bowdens commercially viable is itself a public health problem of the first order. The question that governments and regulators have consistently failed to ask with sufficient rigour is: why should Australia facilitate new lead mining in order to feed a smelter whose continued operation is itself an ongoing public health burden?

Legislative and regulatory gaps: what Australia needs but does not have

The comparison with the US reveals several specific legislative and regulatory gaps in the Australian framework that, if addressed, would substantially reduce the likelihood of a proposal like Bowdens Silver being approved:

A tightened national ambient air quality standard for lead

Australia should revise its AAQ NEPM lead standard from 0.5 µg/m³ to at least 0.15 µg/m³, consistent with the US standard and with the scientific evidence on lead toxicity, which, as the US Centers for Disease Control and Prevention (CDC) states, has identified no safe blood lead level in children (CDC n.d.), and with the NHMRC's recommendation that any blood lead level above 5 µg/dL be investigated (NHMRC 2015). A standard set at 0.15 µg/m³ and backed by genuine enforcement mechanisms would make the Bowdens proposal, and the continued operation of Port Pirie at its current emission levels, legally untenable.

A national lead contamination liability regime

Australia needs a CERCLA-equivalent: a national framework that imposes strict, retroactive, joint-and-several liability on the operators of lead mines and smelters for the full cost of contamination remediation, including health costs borne by affected communities. Such a framework would fundamentally change the risk calculus for investors and lenders financing lead mining proposals, as it has in the United States.

Integration of health risk assessment into environmental assessment

The NSW EP&A Act and the federal EPBC Act assessment processes do not adequately integrate quantitative health risk assessment, particularly for lead exposure pathways

affecting children, into the environmental impact assessment process. A reformed framework would require any new lead mine EIS to include an independent, peer-reviewed child blood lead level modelling study for surrounding communities, using recognised pharmacokinetic models (such as the Integrated Exposure Uptake Biokinetic (IEUBK) model that the US EPA uses) (EPA 2021), and would require that the modelled outcomes meet a specified health standard before planning approval could be granted.

Addressing the 'silver mine' framing in regulatory guidance

The NSW DPHI and the federal DCCEEW should issue regulatory guidance making clear that mining proposals are to be assessed and described according to their primary metal by economic value and by public health risk, not by the metal that the proponent finds most commercially convenient to name. A mine that produces more lead than silver, and whose primary environmental and public health risk arises from lead, is a lead mine. Calling it a silver mine for assessment purposes is not just inaccurate; it is a public health risk.

Conclusion: two countries, two outcomes

The story of Bowdens Silver is, at its core, a story about regulatory arbitrage, about a mining proposal that would almost certainly not be approvable in the United States being pursued in Australia because Australian law, Australian institutions, and Australian capital markets are less protective of community health than their US equivalents.



2023 Volcano Art Prize (VAP) Entry, **Artist:** Elizabeth O'Brien, **Title:** Stop New NSW Lead Mines, **Lead-Safety Message:** I have a vision that the 2023 NSW Parliamentary Inquiry into whether the NSW regulatory framework for heavy metals and critical minerals mining is fit for purpose, will not only stop Bowdens and other proposed lead mines, but will find that no new lead mines in NSW can be justified! Let's use recycled lead (eg using government rebates to remove and recycle lead roof flashing so lead-safe rainwater can be collected) instead for our renewable energy projects!, **Description of Work:** Powerpoint collage of screenshots from Communities anxious as NSW government spruiks mining, The 7.30 Report, 20 Sept 2023, ABC TV (on Youtube), https://volcanoartprize.com/portfolio-item/stop-new-nsw-lead-mines/ [LID 27682]

This is not a comfortable conclusion for Australians who like to think of our environmental and public health standards as world-class. In the specific domain of lead mining regulation, they are not. The US tenfold tightening of the lead air quality standard; the closure of the last primary smelter; the CERCLA liability framework; the ESG capital market shift; and the decade-long permitting gauntlet have together created a regulatory and economic environment in which new primary lead mining is essentially impossible. None of these protections, in equivalent form, exist in Australia.

The community of Lue and the Mudgee region, Cate Faehrmann and the NSW Greens, The LEAD Group Inc., and the many organisations and individuals who have fought the Bowdens Silver proposal deserve better than the protection they are currently being offered. They deserve a regulatory framework that names the risk accurately, assesses it rigorously, and holds those who would create it fully liable for the consequences. Until that framework exists, proposals like Bowdens Silver will continue to advance, and communities will continue to

fight the battles that stronger law should be fighting for them.

References

ASX Corporate Governance Council (2019) Corporate Governance Principles and Recommendations, 4th edn, ASX, Sydney, https://www.asx.com.au/content/dam/asx/about/corporate-governance-council/cgc-principles-and-recommendations-fourth-edn.pdf [LID 30114]

Baghurst, P A; McMichael, A J; Wigg, N R; Vimpani, G V; Robertson, E F; Roberts, R J; and Tong, S L (1992) Environmental exposure to lead and children's intelligence at the age of seven years: the Port Pirie Cohort Study, New England Journal of Medicine, 327(18): 1279-1284, https://doi.org/10.1056/NEJM199210293271805 [LID 3641]

Bingman Catchment Landcare Group Incorporated v Bowdens Silver Pty Ltd [2024] NSWCA 205 (16 August 2024), https://www.austlii.edu.au/cgi-bin/viewdoc/au/cases/nsw/NSWCA/2024/205.html [LID 30083]

CDC (Centers for Disease Control and Prevention) (n.d.) About Childhood Lead Poisoning Prevention, CDC, accessed 17 November 2026, https://www.cdc.gov/lead-prevention/about/index.html [LID 30115]

Commonwealth of Australia (2025) Environment Protection Reform Act 2025 (Cth), Federal Register of Legislation, https://www.legislation.gov.au/C2025A00068/asmade/text [LID 30116]

Commonwealth of Australia (2026) Basin Plan 2012 (Cth), compilation no. 11, 1 July 2026, F2026C00862, Federal Register of Legislation, https://www.legislation.gov.au/F2012L02240/latest/text [LID 30117]

Dong, C; Taylor, M P; and Gulson, B (2020) A 25-year record of childhood blood lead exposure and its relationship to environmental sources, Environmental Research, 186: 109357, https://doi.org/10.1016/j.envres.2020.109357 [LID 22505]

DPHI (NSW Department of Planning, Housing and Infrastructure) (2026) Bowdens Silver Project (SSD-5765): Supplementary Advice to the Independent Planning Commission, 15 September 2026, https://www.ipcn.nsw.gov.au/sites/default/files/2026-09/Supplementary%20Advice%20redacted.pdf [LID 30080]

EPA (U.S. Environmental Protection Agency) (2008) National Ambient Air Quality Standards for Lead; Final Rule, Federal Register, Vol. 73, No. 219, 12 November 2008, https://www.federalregister.gov/documents/2008/11/12/E8-25654/national-ambient-air-quality-standards-for-lead [LID 11377]

EPA (U.S. Environmental Protection Agency) (2010) Doe Run Resources Corporation Settlement, https://www.epa.gov/enforcement/doe-run-resources-corporation-settlement [LID 30118]

EPA (U.S. Environmental Protection Agency) (2016) Review of the National Ambient Air Quality Standards for Lead; Final Action, Federal Register, 18 October 2016, 81 FR 71906, https://www.federalregister.gov/documents/2016/10/18/2016-23153/review-of-the-national-ambient-air-quality-standards-for-lead [LID 30119]

EPA (U.S. Environmental Protection Agency) (2021) Integrated Exposure Uptake Biokinetic Model for Lead in Children, Windows version (IEUBKwin v2), https://www.epa.gov/superfund/lead-superfund-sites-software-and-users-manuals [LID 30120]

EPA (U.S. Environmental Protection Agency) (2023a) Superfund Site: Tar Creek, Ottawa County,

Oklahoma, EPA Superfund Program, https://www.epa.gov/superfund/tar-creek [LID 30121]

EPA (U.S. Environmental Protection Agency) (2023b) Superfund Site: Bunker Hill Mining and Metallurgical Complex, Idaho, EPA Superfund Program, https://www.epa.gov/superfund/bunker-hill [LID 30122]

EPA (U.S. Environmental Protection Agency) (2026) 40 CFR Part 440 Subpart J: Copper, Lead, Zinc, Gold, Silver, and Molybdenum Ores Subcategory, Electronic Code of Federal Regulations, https://www.ecfr.gov/current/title-40/chapter-I/subchapter-N/part-440/subpart-J [LID 30123]

EPA (U.S. Environmental Protection Agency) (n.d.) Superfund Liability, accessed 17 November 2026, https://www.epa.gov/enforcement/superfund-liability [LID 30124]

Faehrmann, C (2023a) Questions Without Notice: Bowdens Silver Project, NSW Legislative Council Hansard, 21 November 2023, https://api.parliament.nsw.gov.au/api/hansard/search/daily/fragment/HANSARD-1820781676-93943 [30125]

Faehrmann, C (2023b) Questions Without Notice: Bowdens Silver Project, NSW Legislative Council Hansard, 23 November 2023, pp 13-14, https://api.parliament.nsw.gov.au/api/hansard/search/daily/pdf/HANSARD-1820781676-94173 [LID 30126]

Faehrmann, C (2023c) Questions Without Notice: Take Note: Bowdens Silver Project, NSW Legislative Council Hansard, 21 November 2023, https://api.parliament.nsw.gov.au/api/hansard/search/daily/fragment/HANSARD-1820781676-93964 [LID 30127]

Faehrmann, C (2025) Questions Without Notice: Broken Hill Lead Contamination, NSW Legislative Council Hansard, 18 November 2025, https://api.parliament.nsw.gov.au/api/hansard/search/daily/fragment/HANSARD-1820781676-102066 [LID 30128]

Faehrmann, C (2026) Adjournment: Bowdens Silver Project, NSW Legislative Council Hansard, 25 March 2026, https://api.parliament.nsw.gov.au/api/hansard/search/daily/fragment/HANSARD-1820781676-103549 [LID 30129]

Far West and Western NSW LHD Public Health Unit (2026) Lead Program Annual Report 2025: Broken Hill children less than 5 years old, NSW Ministry of Health, https://www.nsw.gov.au/sites/default/files/noindex/2026-07/lead-program-annual-report-2025-accessible.pdf [LID 30130]

IFC (International Finance Corporation) (2012) IFC Performance Standards on Environmental and Social Sustainability, International Finance Corporation, World Bank Group, 1 January 2012, https://www.ifc.org/en/insights-reports/2012/ifc-performance-standards [LID 30132]

IPC (Independent Planning Commission NSW) (2026a) Transcript of Public Hearing (Day 1): Bowdens Silver Mine (SSD-5765), 14 October 2026, https://www.ipcn.nsw.gov.au/sites/default/files/2026-10/Bowdens%20Silver%20Public%20Hearing%20Day%201%20Transcript%20.pdf [LID 29967]

IPC (Independent Planning Commission NSW) (2026b) Factsheet: Bowdens Silver determination process (SSD-5765), last updated 13 October 2026, https://www.ipcn.nsw.gov.au/sites/default/files/2026-09/Factsheet%20Bowdens%20Silver.pdf [LID 30133]

NEPC (National Environment Protection Council) (2021) National Environment Protection (Ambient Air Quality) Measure, compilation no. 3, 18 May 2021, F2021C00475, Federal Register of Legislation, https://www.legislation.gov.au/F2007B01142/latest/text [LID 30134]

NHMRC (National Health and Medical Research Council) (2015) NHMRC Statement: Evidence on the Effects of Lead on Human Health, ref. EH58, NHMRC, Canberra, https://www.nhmrc.gov.au/sites/default/files/documents/reports/statement-lead-human-health-eh58.pdf [LID 18097]

NSW DPE (NSW Department of Planning and Environment) (2022) Bowdens Silver Project: State Significant Development Assessment (SSD 5765), Assessment Report, December 2022, NSW Government, https://www.planningportal.nsw.gov.au/major-projects/projects/bowdens-silver [LID 30135]

Nyrstar (2026) Next phase of transitionary funding for Nyrstar's Australian metals modernisation agreed, media release, 10 June 2026, https://www.nyrstar.com/resource-center/press-releases/next-phase-of-transitionary-funding-for-nyrstars-australian-metals-modernisation-agreed [LID 30136]

R.W. Corkery & Co. (2020) Bowdens Silver Project Environmental Impact Statement, State Significant Development No. 5765, prepared for Bowdens Silver Pty Limited, NSW Department of Planning, Industry and Environment, https://www.planningportal.nsw.gov.au/major-projects/projects/bowdens-silver [LID 30137]

SA EPA (South Australia Environment Protection Authority) (2026) Port Pirie Nyrstar Smelter: Environment Protection Licence, SA EPA, updated 1 May 2026, https://www.epa.sa.gov.au/public_register/search-public-register [LID 28584]

SA EPA (South Australia Environment Protection Authority) (n.d.) Nyrstar Port Pirie, SA EPA, accessed 17 November 2026, https://www.epa.sa.gov.au/community/stay-informed/nyrstar-port-pirie [LID 30138]

SA Health (2026) Port Pirie Lead Levels 2025 Annual Report, media release, 20 February 2026, https://www.sahealth.sa.gov.au/wps/wcm/connect/public+content/sa+health+internet/about+us/news+and+media/all+media+releases/port+pirie+lead+levels+2025+annual+report [LID 29127]

Tariq, S (2026) Broken Hill mother exposed to lead as a child fights same battle with her children, ABC News, 11 July 2026, https://www.abc.net.au/news/2026-07-11/aboriginal-children-broken-hill-lead-exposure-blood-levels/106898130 [LID 29666]

Taylor, M P; Isley, C F; and Glover, J (2019) Prevalence of childhood lead poisoning and respiratory disease associated with lead smelter emissions, Environment International, 127: 340-352, https://doi.org/10.1016/j.envint.2019.01.062 [LID 26254]

PREVENT Technical Package Feedback Sessions 2026

Partnership for a Lead-Free Future (PLF)'s Post

Partnership for a Lead-Free Future (PLF)
893 followers

Editor's Note: It's too late for you to participate but The LEAD Group wanted to let you know some of the PLF's activities for International Lead Poisoning Prevention Week of Action (ILPPWA) 2026. URL: https://lnkd.in/p/gp7QSHyH [LID 30006] - 21st October 2026

📢 Join **World Health Organization** and **Resolve To Save Lives** for the PREVENT Technical Package Feedback Sessions! The **World Health Organization** and **Resolve To Save Lives** invite stakeholders to participate in a series of four webinars to provide feedback on the PREVENT Technical Package on Lead Poisoning Prevention. The package will offer practical guidance across four key areas: prioritizing sources of exposure, responding to lead exposure, lead-related industries, and consumer products.



🗓️ Feedback sessions:

October 22, 2026: Prioritize Sources

October 27, 2026 Respond to Exposures

November 3, 2026: Lead-related Industries

November 12, 2026: Consumer Products

These sessions offer an opportunity to contribute to the development of country-specific approaches to lead poisoning prevention. The final technical package is expected to launch at the World Health Assembly in 2027. 🔗 Learn more: **https://lnkd.in/gXTEsjbt #LeadPoisoningPrevention #LeadFreeFuture #ILPPW**

In the Prioritize Sources Session, Elizabeth O'Brien asked: Can a fundamental change be considered? My feedback is that new lead sources such as new lead mines have not been covered. Could you change the whole Prioritize section focus to Prevent new sources and Prioritize existing sources?

I'm really asking does WHO and Resolve to Save Lives support NOT approving or opening or starting up new mines which will produce tonnes of lead, and if in a lead exporting country like Australia, new lead coming in to the global economy adds decades of management of that extra lead when the world is already struggling to manage the lead that has been dug up already? Can you please answer this question in writing?

Lead poisoning is 100% preventable and if you leave the lead in the ground, that is a guarantee of total prevention. Should be the first priority control of lead sources!

A from Lesley Onyon: this is a much higher political question than the current technical guidance is focused on. we understand the issue.

Katherine Wolf: preventing new lead sources is outside of the package but your point is well-taken.



The PREVENT Technical Package on Lead Poisoning Prevention, currently in development, consists of four technical modules (Prioritize, Respond, Lead-related Industries, Consumer Products).

These webinars are an **opportunity for feedback towards its development**. The finalized Technical Package will be launched during World Health Assembly 2027.

Participants are welcome to attend as many of the webinars in this series as are relevant or of interest.

Module 1- Prioritize Sources: Identify priority sources for intervention | October 22, 2026 at 8:00am EDT/ 2:00pm CEST (Geneva)

- The PRIORITIZE module aims to identify priority lead exposure sources for intervention based on existing data, policies and legal authorities, capacities for environmental health action, and impact.
- **Register**: https://us02web.zoom.us/meeting/register/HiqdBH29S8yZBY-F9giosw

Module 2- Respond to Exposures: Ensure efficient and country-appropriate systems exist to detect and respond to lead exposure | October 27, 2026 at 9:00am EDT/ 2:00pm CET (Geneva)

- The RESPOND module aims to ensure efficient and country-appropriate systems exist to detect and respond to elevated blood lead levels or other lead exposure of public health concern.
- **Register**: https://us02web.zoom.us/meeting/register/TpmrGygXT6SrkKctbyl2Aw

Module 3- Lead-related Industries: Identify and advance policies, regulations, interventions, and enforcement in lead-related industries | November 3, 2026 at 8:00am EST/ 2:00pm CET (Geneva)

- The Lead-related Industries module aims to identify and advance context-appropriate policies, regulations, interventions, and enforcement to ensure environmentally-sound management of lead in industrial processes and the protection of workers.
- **Register**: https://us02web.zoom.us/meeting/register/-Bla2J8qQ2ir7j2N-WKcdA

Module 4- Consumer Products: Advance policies, regulations, interventions, and enforcement to remove lead from everyday goods | November 12, 2026 at 8:00am EST/ 2:00pm CET (Geneva)

- The Consumer Products module aims to identify and advance context-appropriate policies, regulations, interventions, and enforcement to reduce or eliminate the use of lead in non-essential processes, especially sources of exposure to consumer products.
- **Register**: https://us02web.zoom.us/meeting/register/G2eneXQHQ1Sryz3zYOZ8-Q

VAP 2026 Prize Winning and Highly Commended Entries

Among All Entries

Many thanks to our sponsor Pictureproducts, all our entrants and the VAP 2026 Judges, Musician, Geoffrey Collins and his assistant, Belinda Mericourt!

Note: this list shows the Volcano Art Prize (VAP) 2026 entries, in the approximate order that they appeared on the website **https://volcanoartprize.com/** when the **VAP 2026 Judges, Geoffrey and Belinda**, judged them.

The Judges' most high commendation went to Photographer Dennis Leight who very generously decided to hand on the Cash prize of $400 to the Judges' Joint First Prize winners ($200 each): Kevina Malhotra and Ronen Reuben. The winners of the 30 Pictureproducts mugs or tote bags printed with the winning image from our sponsor , have been marked on this list, according to the Judges ranking and the entries of all adults (and some of the children) who kindly passed on their Pictureproducts prize to the next child in the Judges' ranking, have been marked as Highly Commended. Congratulations to all the winners but particularly to Joint First Prize cash winners: Ronen Reuben, age 6 from the USA and Kevina Malhotra, age 12 from Australia!

After people had clicked the thumbs-up buttons on their favourite 2026 VAP entries at www.volcanoartprize.com prior to the voting deadline of 22nd Sept 2026, the winner of the People's Choice cash prize of $200 was determined to be Zainab Bibi, Age: 18, from Pakistan. Congratulations Zainab for winning the People's Choice prize!

Note that the LID or LEAD Group Library Identification number preceding each image below, can be searched, along with the name of the Artist (Author), Title of the artwork (which includes the Lead-Safety Message) and keywords, or you can search eg 2026 VAP in the Title field to find all 92 entries this year, etc, at https://www.lead.org.au/library/ ACCESSIBLE VIA https://lead.org.au/fs-index.html

Let's make 2027 VAP our biggest year yet! Over 100 entries is the goal!

Did you know 2027 Volcano Art Prize (VAP) is already open for entries? When you enter our annual lead-awareness-raising art competition you are helping The LEAD Group raise awareness globally about lead-safety. Open to all age groups of humans though AI bots can neither enter nor vote! Entry deadline is 26th July 2027. You can enter photos, film, poetry, plays, sculptures... Find out more here. See this VAP 2026 prizes list as a Blog post here.

1. LID 29426 - **Highly Commended**



Artist: Kevina Malhotra, Age 11, School: Creative Einstein

Title: Coconut Palms

Lead-Safety Message: Richard Turnbull's case study says healthy food choices like coconut oil instead of meat fat, likely contributed to the steady fall in his blood lead level while taking daily lemon, garlic and greens.

Description of Work: Coloured pencil drawing. Lead-Safety Message from *Deleading with healthy lifestyle interventions Lead detox with saunas, lemon, garlic, greens, etc after eradicating potential current lead exposure*, at https://lead.org.au/lanv19n4/LANv19n4-28.pdf

https://volcanoartprize.com/portfolio-item/coconut-palms/

2. LID 29427 - **Highly Commended**



Artist: Mavis Zhou, Age: 9, School Name: Creative Einstein

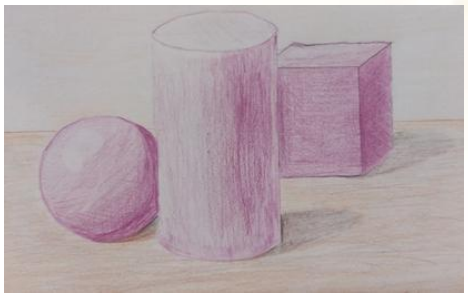
Title: Three Islands

Lead-Safety Message: If humans continue to burn Australia's coal and gas as if there's no tomorrow and we all keep burning petrol/oil until all fossil fuels are burned, small islands like these will be underwater due to global warming melting ice caps and raising sea levels.

Description of Work: Coloured pencil drawing.

https://volcanoartprize.com/portfolio-item/three-islands/

3. LID 29428



Artist: Leah Du, Age: 9, School Name: Creative Einstein

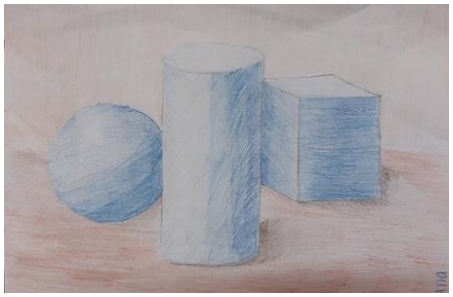
Title: Light and Dark Sides

Lead-Safety Message: Being the most common heavy metal, lead is most often associated today with the dark side of life... a cause of a lowering of population IQ and of early death from all causes. But in the past, people loved the bright yellow, orange, red and green lead pigments in paints that still lead poison unwary DIY renovators today.

Description of Work: Coloured pencil drawing. References for Message: Model National Lead Safety Policy by The LEAD Group Inc charity, and Use of Lead in Paint in NSW - When and Where it was Used by John Hartley.

URL: https://volcanoartprize.com/portfolio-item/light-and-dark-sides/

4. LID 29429



Artist: Yuna Marquez, Age: 8, School Name: Creative Einstein,

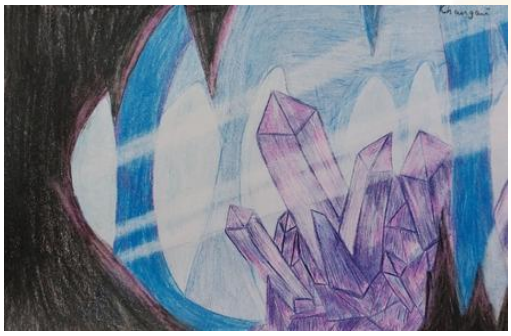
Title: Lead Free Blue

Lead-Safety Message: In the old days, the pigments in white, yellow, orange, red, green and brown pencil cores were lead pigments and only blue pencil cores were lead-free. With lead paint on the outside of pencils, people who chewed pencils were often lead poisoned. Now all coloured pencils in Australia are lead free inside and out.

Description of Work: Colouring pencils on paper.

https://volcanoartprize.com/portfolio-item/lead-free-blue/

5. LID 29430 - **Highly Commended**



Artist: Khangai Davaasuren, Age: 9, School Name: Creative Einstein

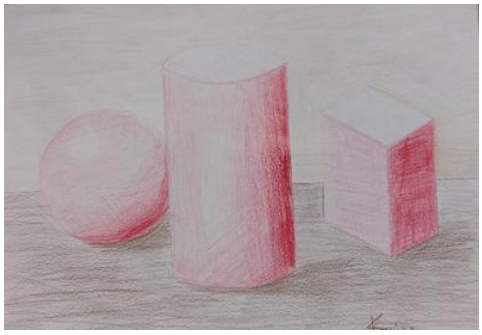
Title: Cave Crystals

Lead-Safety Message: The most famous example of a cave system containing crystals associated with lead mining is the Cave of the Crystals (Cueva de los Cristales) in the active Naica Mine in Chihuahua, Mexico. While the massive crystals themselves are made of selenite (gypsum), the surrounding mine is a primary source of lead, zinc, and silver.

Description of work: Coloured pencil drawing. Message from Google AI Overview.

https://volcanoartprize.com/portfolio-item/cave-crystals/

6. LID 29431



Artist's Name: Kevina Malhotra, Age: 11, School Name: Creative Einstein

Title: Red Shaded Shapes

Lead-Safety Message: Shading shapes to make them look 3-dimensional is challenging. Getting lead out of people to give them a better chance of a smart healthy future is even more challenging. Its possible everyone alive today could be deleaded by oral EDTA, but many obstacles must first be overcome.

Description of Work: Colouring pencils on paper. Lead Safety Message from www.leadtox.blog of Dr Ulrich Mack, BSc PhD (UQ Medicine).

URL: https://volcanoartprize.com/portfolio-item/red-shaded-shapes/

7. LID 29432 - **prize winner**



Artist: Khangai Davaasuren, Age: 8, School Name: Creative Einstein

Title: Kookaburras

Lead-Safety Message: Kookaburras can ingest lead particles from soil contaminated by old paint, discarded ammunition, or fishing weights, often mistaking these materials for grit.

Description of Work: Coloured pencil drawying.

Lead Safety Message from Google AI Assistant.

URL: https://volcanoartprize.com/portfolio-item/kookaburras/

8. LID 29433 - **prize winner**



Artist: David Suh, Age: 11, School Name: Creative Einstein

Title: Bright Shark.

Lead-Safety Message: Great White sharks have been found to have alarmingly high concentrations of lead, mercury, and arsenic, enough to kill other species, but researchers don't yet know how they survive. "There's a possibility that sharks have potentially important metal binding proteins, that … [move]… these metals …from the blood to the tissues."

Description of Work: Lead Safety Message from **Sharks cope with levels of heavy metals in their blood that would kill other animals**, CBC Radio Canada (April 19, 2019). Coloured pencil drawing.

https://volcanoartprize.com/portfolio-item/bright-shark/

9. LID 29434 - **prize winner**



Artist: Mavis Zhou, Age: 9, School Name: Creative Einstein

Title: Seahorses

Lead-Safety Message: Because Seahorses are generally poor swimmers and inhabit coastal areas, they are highly vulnerable to pollutants like lead which causes deformities and population decline. Don't let lead enter stormwater, rivers or the ocean.

Description of Work: Coloured pencil drawing, mirrored in Paint and Powerpoint. Lead-Safety Message from Google AI Assistant.

https://volcanoartprize.com/portfolio-item/seahorses/

10. LID 29363 - **prize winner**



Artist: Devrim Yasar, Age: 11, School Name: Creative Einstein

Title: Elephants, Droughts and Lead

Lead-Safety Message: Another global warming and lead connection: During droughts, shrinking water holes can concentrate heavy metals like lead. As water levels fall, elephants are forced to consume sediment, mud, and water with high concentrations of contaminants.

Description of Work: Coloured pencil drawing, side panels added in Paint and Powerpoint. Lead-Safety Message from Google AI Assistant.

https://volcanoartprize.com/portfolio-item/elephants-droughts-and-lead/

11. LID 29410 - **Highly Commended**



Artist: Kevina Malhotra, Age: 11, School Name: Creative Einstein

Title: Lead Bioindicators

Lead-Safety Message: Both Hummingbird feathers and Seahorses are good lead bioindicators because both live in limited moving ranges and bioaccumulate local lead pollution. Hummingbirds get lead from nectar and small insects, whereas Seahorses get lead from crustacea like shrimps. Microplastics in the ocean might also increase the bioaccumulation of heavy metals by Seahorses.

Description of Work: Colouring pencils on paper. Collaged in Paint and Powerpoint. Lead Safety Message from Bioaccumulation of contaminants in wild seahorses collected from coastal China, 17 October 2022; Toxic metals and associated sporulated bacteria on Andean hummingbird feathers, 31 August 2016.

https://volcanoartprize.com/portfolio-item/lead-bioindicators/

12. LID 29917 - **prize winner**



Artist: Yuna Marquez, Age: 8, School Name: Creative Einstein

Title: Cattails

Lead-Safety Message: Cattails (reeds) act as bio-sorbents that absorb lead from contaminated wastewater and soil, with higher concentrations accumulating in the roots compared to leaves. This capacity makes them effective for phytoremediation in wetlands, though it means they can accumulate heavy metals, posing a potential environmental contamination source.

Description of Work: Colouring pencils on paper, collaged in Paint and Powerpoint. Lead-Safety Message from Google AI Assistant.

https://volcanoartprize.com/portfolio-item/cattails/

13. LID 29119



Artist: Green Range and Lead Pro Aus

Title: Green Range and Lead Pro Aus

Lead-Safety Message: Green Range and Lead Pro Aus operate as complimentary companies focused on protecting shooting range environments across Australia. Green Range specialises in environmental infrastructure and range management solutions. Lead Pro Aus works alongside these systems by providing specialist lead recovery and environmental remediation services.

Description of Work: Video showing ShotStop Shooting Curtain System and Lead Pro Aus "Lead Miner" machine collecting spent lead ammunition (for later recycling) from shooting range soil, at https://www.youtube.com/watch?v=Jd_UVjq0Pjc ; accessible via https://www.greenrange.com.au/government

URL: https://volcanoartprize.com/portfolio-item/green-range-and-lead-pro-aus/

14. LID 29918



Artists: Elizabeth O'Brien and Kerry O'Donnell

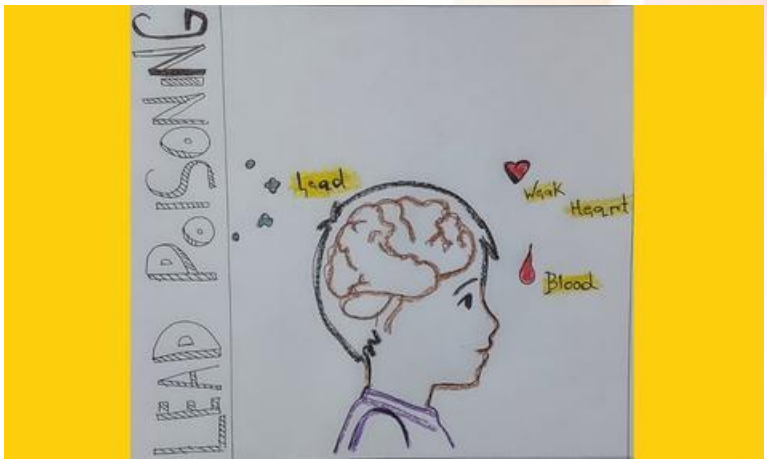
Title: Lead Safe World in the Frame

Lead-Safety Message: With the reframing of the huge health and environmental impacts of lead, and audacious funding support, a Lead Safe World is truly "in the frame" to happen in time to also save the world from climate disaster!

Description of Work: Lead Safe World logo by Kerry O'Donnell, inside a frame collaged from three photos by Elizabeth O'Brien, two co-founders of The LEAD Group Inc.

https://volcanoartprize.com/portfolio-item/lead-safe-world-in-the-frame/

15. LID 29411

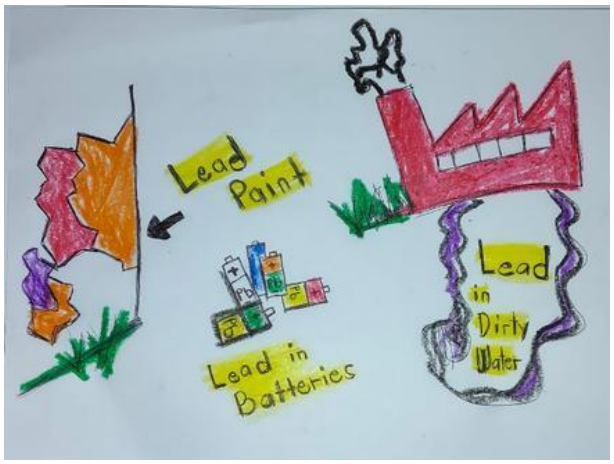


Artist: Paula Jacobe, Age: 11, School in the Philippines
Title: How Lead Harms
Lead-Safety Message: Lead replaces Iron in the blood causing anemia, reduces IQ making it harder to learn, and increases the risk of early death from stroke and heart attack. Protect Their Future: Keep Kids Safe from Lead Poisoning.

Description of Work: Pen and colouring pencils on paper

https://volcanoartprize.com/portfolio-item/how-lead-harms/

16. LID 29412



Artist: Paula Jacobe, Age: 11, School in the Philippines

Title: No Safe Level
Lead-Safety Message: There's no safe level of lead in the body except zero so adults need to protect us kids from lead in paint, lead acid battery recycling emissions and lead-contaminated water. Prevention starts with awareness.

Description of Work: Coloured pencil drawing.

https://volcanoartprize.com/portfolio-item/no-safe-level/

17. LID 29413 - Picture products **prize winner**



Artist: Liam Paune, Age 12, School in the Philippines

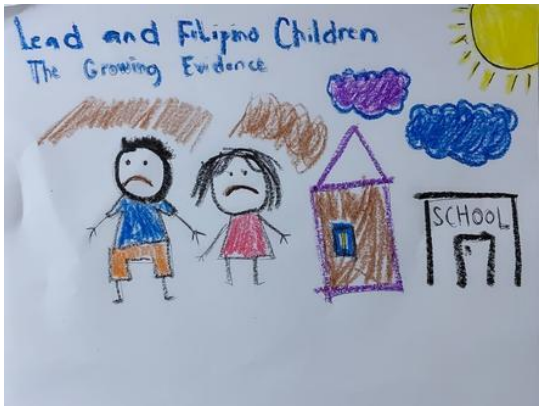
Title: The Climate Multiplier

Lead-Safety Message: Extreme Weather, Extreme Risks. They all make lead poisoning more likely and worse for the individual. Ask your government to act now for a safer tomorrow.

Description of Work: Crayons

https://volcanoartprize.com/portfolio-item/the-climate-multiplier

18. LID 29414



Artist: Khai, Age 8, School in the Philippines

Title: Lead and Filipino Children

Lead-Safety Message: Me and my brother want to know the importance of the growing evidence about how toxic lead is and how to prevent lead poisoning and become lead safe.

Description of Work: Coloring pencil on pen drawing

https://volcanoartprize.com/portfolio-item/lead-and filipino children/

19. LID 29415 - Picture products **prize winner**



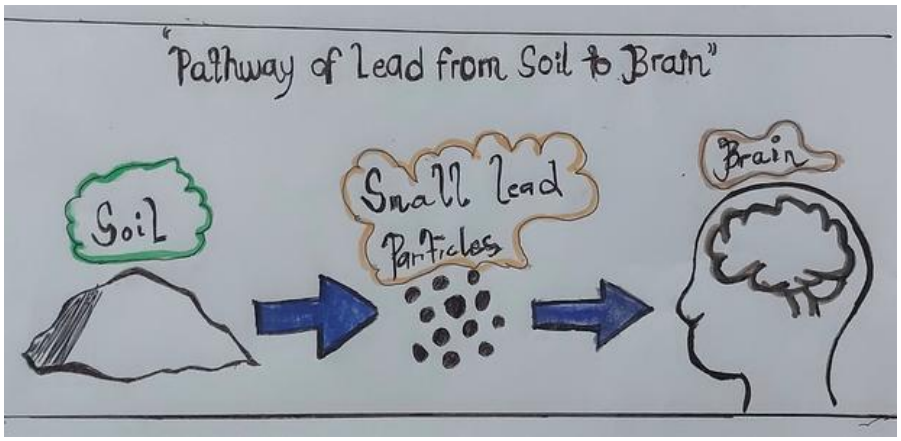
Artist: Clyde Evans, Age 13, School in the Philippines
Title: Philippines Lead Action

Lead-Safety Message: Take action, choose safety, advocate for health. Together, let's eliminate lead hazards from our daily lives.

Description of Work: Pencil, pen and coloring pencils on paper

https://volcanoartprize.com/portfolio-item/philippines-lead-action/

20. LID 29416



Artist: Mark Antonio, Age 12, School in the Philippines

Title: Filipino Lead Studies

Lead-Safety Message: As in every other country, Filipino Lead Studies have found that tiny lead particles in dust and soil are inhaled and ingested then absorbed and affect brain development of children.

Description of Work: Pen and coloured pencil drawing on paper

https://volcanoartprize.com/portfolio-item/filipino-lead-studies

21. LID 29417 - **prize winner**



Artists: Paulo & Ella Mae Castro Age 7 & 5, School in the Philippines

Title: Lead Safe Philippines

Lead Safety Message: Filipino and overseas researchers and NGOs are building the case for a Lead Safe Philippines, for cleaner air, safer spaces, and healthier lives.

Description of Work: Coloring pencils and pen drawing

https://volcanoartprize.com/portfolio-item/lead-safe philippines/

22. LID 29418



Artist: Alexa, Age 4, Pre-School in the Philippines

Title: My Happy Family

Lead-Safety Message: My family fights for lead-safety in the Philippines

Description of Work: Crayon drawing on paper

https://volcanoartprize.com/portfolio-item/my-happy-family/

23. LID 29419 - Picture products **prize winner**



Artist: Hailey, Age 6, School in the Philippines

Title: A Sunflower

Lead-Safety Message: A Sunflower reminds me of clearer Air but the seeds also store lead that the roots have absorbed from lead-contaminated Soil.

Description of Work: Colouring pencils on paper

https://volcanoartprize.com/portfolio-item/a-sunflower/

24. LID 29420 - Picture products **prize winner**



Artist: Martin, Age 6, School in the Philippines

Title: The Road of Dreams

Lead-safety Message: The road to our dreams is built on a sustainable future. Respect Nature.

Description of Work: Pen and coloring pencils on paper

https://volcanoartprize.com/portfolio-item/the-road of-dreams/

25. LID 29435 - **prize winner**



Artist: Phoenix Jewson, Age: 6, School in Australia

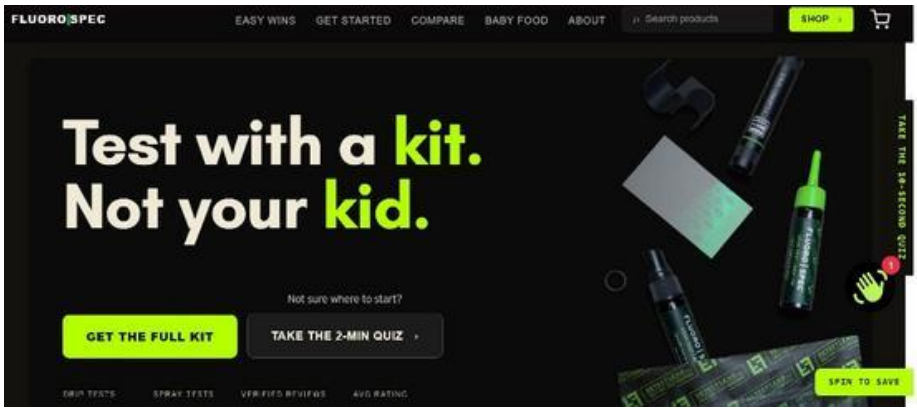
Title: Phoenix's hand painted toucan

Lead-Safety Message: “I painted this with lead free paint because lead is very bad for kids.”

Description of Work: Non-lead paint on paper.

https://volcanoartprize.com/portfolio-item/phoenixs-hand-painted-toucan/

26. LID 29626



Artist: Eric Ritter, Fluoro-Spec Inc. USA

Title: Fluoro Spec Lead Test Kit

Lead-Safety Message: Test with a kit, not your kid: every American home built before 1978 has lead somewhere inside it, and the same is true of every Australian home built before 1997 when the allowable new paint lead-paint limit got close to the US 1978 concentration.

Description of Work: Screenshot from www.detectlead.com

https://volcanoartprize.com/portfolio-item/fluoro-spec-lead-test-kit/

27. LID 29919 - **Highly Commended**



Artist: Grandma Lead

Title: FY2026 Sunset

Lead-Safety Message: In this Financial Year (FY2026) I celebrated my 70th birthday and saw my blood lead level finally fall below 1 microgram per decilitre for the first time in 35 years of testing.

Description of Work: Iphone 13 photo collage made in Powerpoint and Paint.

https://volcanoartprize.com/portfolio-item/FY2026-sunset/

28. LID 29920 - Picture products **prize winner**



Artist: Siobhan Hannigan

Title: Lead the Future

Lead Safety Message: Lead the future… with no lead.

Description of Work: Mixed media.

https://volcanoartprize.com/portfolio-item/lead-the-future/

29. LID 29925



Artist: Siobhan Hannigan
Title: Smoke Fish Not Cigarettes

Lead Safety Message: There's lead in cigarettes.

Description of Work: Media mixed.

https://volcanoartprize.com/portfolio-item/smoke-fish-not-cigarettes/

30. LID 29926



Artist: Grandma Lead
Title: Flat Dust

Lead Safety Message: A truck-mounted industrial HEPA vac like this Insulvac one can lead-safely remove and bag up for waste disposal, 100m² of ceiling void dust per day from a block of flats. Every building should be professionally detoxed of toxic cavity dust by an Australian Dust Removalists Association (ADRA) member company.

Description of Work: Photo and logo collage made in Powerpoint and Paint. Lead-safety message 100m² factoid courtesy of Gavin Clarke, ADRA President.

https://volcanoartprize.com/portfolio-item/flat-dust/

31. LID 29927 - **Highly Commended**



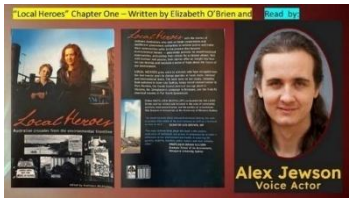
Artist: Tim Pye
Title: Don't dry-sand old paint

Lead Safety Message: According to Niamh O'Regan and Aveek Bhattacharya in the New Statesman article Revealed: Britain's lead poisoning legacy could still be affecting children: "The UK has some of the oldest housing stock in the world." Old paint is invariably lead paint so don't dry-sand it!

Description of Work: Gif.

https://volcanoartprize.com/portfolio-item/dont-dry-sand-old-paint/

32. LID 29857



Click on this image or here to listen to the 52 minute chapter

Artists: Elizabeth O'Brien (author) and Alex Jewson (voice actor)

Title: Local Heroes Ch1

Lead Safety Message: Chapter 1 - *The LEAD Group: Responding to the Problem of Lead Contamination*, from the book "LOCAL HEROES: Australian crusades from the environmental frontline" (2002) tells the history of The LEAD Group's first decade of creating lead safety. Listen to this chapter (and read along at https://lead.org.au/lanv14n2/lanv14n2-11.html) to find out what you can do about lead.

Description of work: Book edited by Kathleen McPhillips; Chapter 1 written by Elizabeth O'Brien; voice mp3 at https://lead.org.au/local-heroes-chapter-1-read-by-Alex-Jewson.mp3 and accessible via: https://lead.org.au/lanv14n2/lanv14n2-11.html read by Alex Jewson (https://alexjewsonvo.com) . The last few copies of "LOCAL HEROES" book are available for purchase from https://www.leadsafeworld.com/product/local-heroes-book/ cover photo of Elizabeth O'Brien and youngest son by Adrian Hill; book cover design by Tracy Baglin; photo of Alex Jewson by Tivy Siripanich; image collaged in Powerpoint & Paint.

URL: https://volcanoartprize.com/portfolio-item/local-heroes-ch1/

33. LID 29928



Click on the image or here to hear the full interview.

Artist: Brian Arndt

Title: Miracle Worker

Lead-Safety Message: It was a momentous occasion in Nov 2025 when Rodney Hide of Reality Check Radio New Zealand asked me (for the 3rd time) to explain to the listeners what a miracle it is I'm still alive (at 86!) after being unprotected by my employer from severe lead exposure while making leaded petrol from 1964-75, considering all my co-workers had died before 2016. All thanks to years of chelation treatments, taking psyllium and lots of supplements daily!

Description of Work: Image from "Unseen Lead - Unheard Warnings": a 63 minute Interview by Rodney Hide (centre) of Brian Arndt, Former Marsden Point Refinery Worker (at right) and Dr Ulrich Mack, Former Medical Researcher (at left).

https://volcanoartprize.com/portfolio-item/miracle-worker/

34. LID 29929 - **People's Choice and** **prize winner**



Artist: Zainab Bibi, Age: 18, Pakistan

Title: Bloom in a Lead Safe World

Lead-Safety Message: This artwork represents the importance of creating healthy, safe spaces where life can bloom. It encourages awareness of lead exposure and the importance of choosing lead-safe paints and materials to protect families, children and communities.

Description of Work: Acrylic on canvas, 30 × 30 cm. The artwork uses a colourful geometric composition surrounding a white vase with flowers. The flowers represent life, health and hope, while the vibrant surrounding forms represent the spaces in which we live.

https://volcanoartprize.com/portfolio-item/bloom-in-a-lead-safe-world/

35. LID 29930 - **prize winner**



Artist: Darcy Jewson, Age: 3, Pre-school in Sydney, Australia

Title: Hoveleart Mountain

Lead-safety Message: I hope there's no lead in this mountain.

Description of work: Pencils on paper.

https://volcanoartprize.com/portfolio-item/hoveleart-mountain/

36. LID 29931 - **prize winner**



Artist: Riley Jewson, Age 7, School in Sydney, Australia

Title: Flower Power

Lead Safety Message: I can pick flowers with my daddy because The LEAD group saved him from lead poisoning.

Description of Work: Paint on paper

https://volcanoartprize.com/portfolio-item/flower-power/

37. LID 29932



Artist: Anne Roberts, Age 93

Title: Sowthistle

Lead-Safety Message: You can eat sowthistles, or so it appears. Don't have to be a sheep or goat. But if lead is there… in the paint or the soil, beware!

Description of Work: Photo

https://volcanoartprize.com/portfolio-item/sowthistle/

38. LID 29933 - **Highly Commended**



Artist: Margaret Roberts

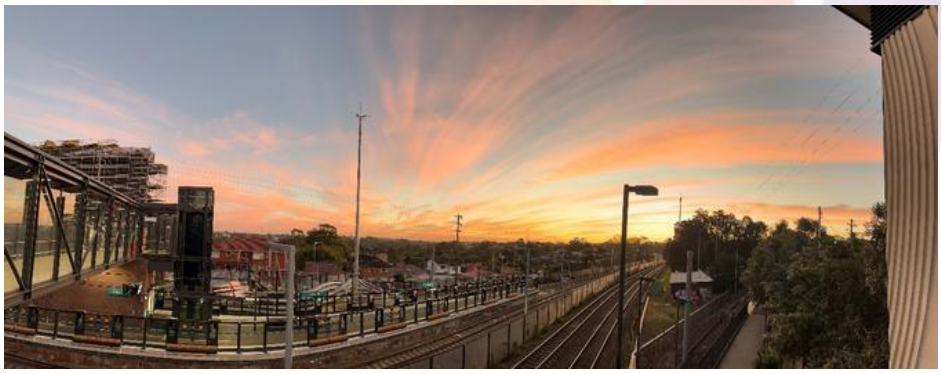
Title: Silly Goat

Lead-Safety Message: Don’t be a silly goat, check your house for lead paint.

Description of Work: Photo

https://volcanoartprize.com/portfolio-item/silly-goat/

39. LID 29934 - **Highly Commended**



Artist: Grandma Lead

Title: Solar Metro

Lead-Safety Message: We need a sunset clause on diesel or gas buses and coal-fired electric public transport. Bring on the day when all the buses are electric and metro trains and light rail in the world run on solar power. Not just a greenhouse gas reduction policy but a lead emissions reduction policy too.

Description of Work: iPhone 13 photo.

https://volcanoartprize.com/portfolio-item/solar-metro/

40. LID 29934



Artist: Grandma Lead

Title: Solar powered house

Lead-Safety Message: Solar panels on the roof and a solar battery on the side of the house plus a heat pump for your hot water! Living the dream of a lead-safe and climate-safe world!

Description of Work: iPhone 13 photos collaged together in Powerpoint and Paint.

https://volcanoartprize.com/portfolio-item/solar-powered-house/

41. LID 29936



Artist: Grandma Lead

Title: Daily Bread

Lead-Safety Message: Between the ages of 35 and 69 when trying every lead detox food and supplement I could buy, I reduced my blood lead level by 72% from 7.5 µg/dL to 2.1 µg/dL when most women's lead typically rises between menopause and death. But from age 69 to 70 when I added FeEDTA daily bread to my breakfast and lunch, I reduced my blood lead level by a further 71% from 2.1 to 0.6 µg/dL, or by 92% from 1991 when I co-founded The LEAD Group. No wonder I want to make it possible for everyone to eat FeEDTA daily baked goods so you too can be enlivened as by water drops from a sprinkler!

Description of Work: Photos collaged in Powerpoint and Paint showing home-made FeEDTA banana bread ingredients and other lead detox foods and supplements.

https://volcanoartprize.com/portfolio-item/daily-bread/

42. LID 29937 - **Highly Commended**



Artist: CWYP - Chemicals and Waste Youth Platform, MGCY - Major Group for Children and Youth - a space for children and youth within the United Nations

Title: Chemicals Action for Children

Lead-Safety Message: The Chemicals and Waste Youth Platform (CWYP) is a global coalition of over 6,000 children, youth and youth-serving organizations focused on bringing the voices of young people to science and policymaking processes to address toxic chemicals and hazardous waste issues such as lead exposure and lead contamination.

Description of Work: Poster inviting NGOs to express their interest in receiving email updates and invitations to meetings of the Chemicals Action for Children's Health Informal Group, convened by the Chemicals and Waste Youth Platform in the lead up to the **Global Framework on Chemicals First International Conference (GFC IC-1),** November 16 to 20, 2026 in Geneva, Switzerland.

https://volcanoartprize.com/portfolio-item/chemicals-action-for-children/

43. LID 29938 - **Highly Commended**



Artist: LEAD Group Inquirer

Title: Testing for Lead

Lead-Safety Message: When I asked how best to test these ceramic items for lead, The LEAD Group's Lead Advisor, Grandma Lead, advised that a DetectLead Kit from Fluoro-Spec Inc in the US would work well or if I drink or eat acidic, hot or alcoholic things from any of them regularly, I could test the liquid for lead with a LEAD Group Posted Kit or I could just ask my GP for a blood lead series to get free testing.

Description of Work: Photos collaged in Powerpoint and Paint.

https://volcanoartprize.com/portfolio-item/testing-for-lead/

44. LID 29939



Artist: Deborah Hackett

Title: Frogs and Water

Lead-Safety Message: On my trip to Vietnam I was absolutely delighted to meet the people, to see the beautiful green water of Halong Bay where many fish are caught, to take a boat ride in caves at Trang An and to find the cooked frogs on sticks (a local delicacy) at Hoi An Night Market. Plentiful fish and fat frogs are good indicators of lead-safe waterways.

Description of Work: Photos collaged in Powerpoint and Paint.

https://volcanoartprize.com/portfolio-item/frogs-and-water/

45. LID 29940



Artist: Deborah Hackett

Title: Cooking Lesson

Lead-Safety Message: In Hanoi, these delightful Vietnamese people showed me how to make Pho and Hanoi Spring Rolls, around the pungent but desirable durian fruits hanging in their courtyard. Even when growing in lead contaminated soil, fruit trees don't put lead in their fruits.

Description of Work: Digital photo.

https://volcanoartprize.com/portfolio-item/cooking-lesson/

46. LID 29869 - **Highly Commended**



Artist: Grandma Lead

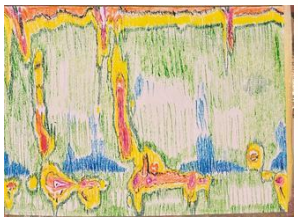
Title: Dream of Electric Planes

Lead-Safety Message: I dreamed a dream that every national leader set a sunset date for the phase-out in their country of leaded AvGas-using propellor planes, and provided incentives for all pilot schools and propellor plane owners to replace their old planes with electric planes powered by solar power.

Description of Work: crayon drawing of an electric plane photographed and saved as a sticker on iPhone 13 then collaged with skyscape photos in Paint and Powerpoint.

https://volcanoartprize.com/portfolio-item/dream-of-electric-planes/

47. LID 29868



Artist: Grandma Lead

Title: Acid Reflux and Lead

Lead-Safety Message: Both acid reflux and a rising blood lead level are very common as we age, but fortunately, eating smaller meals more frequently throughout the day and night, can reduce acid reflux and also reduce absorption of any lead that happens to be in your food. “Gastrointestinal absorption of soluble lead salts in adult humans can be high during fasting (40-50%), but is about 3-15% when ingested with food.”

Description of Work: Crayon drawing of my oesophageal manometry graph from Sydney Heartburn Clinic. Message references: *Why Heartburn Becomes More Common with Age*, by Canadian Digestive Health Foundation (CDHF), 26 Nov 2025; *Interaction Profile for: Lead, Manganese, Zinc, and Copper*. *Appendix A: Background Information for Lead*, by ATSDR May 2004.

https://volcanoartprize.com/portfolio-item/acid-reflux-and-lead/

48. LID 29943



Artist: Manny Calonzo

Title: Adrian Nocum

Lead-Safety Message: Popular Filipino basketball player, Adrian Nocum, pitches for lead-safe paints to protect children's health. Switching to lead-safe paints will protect children's brains, health and future from the pernicious effects of lead exposure.

Description of Work: Basketball player Adrian Nocum holds the lead-safe paint logo, an important symbol indicating a product's compliance to the lead paint ban in the Philippines.

https://volcanoartprize.com/portfolio-item/adrian-nocum/

49. LID 29944 -  **prize winner**



Artist: Tiffany Postrero, the Philipines

Title: Lead safe paints for all schools

Lead-Safety Message: Using lead-safe paints helps in building a healthy school environment. The Filipino watchdog group EcoWaste Coalition advocates purchase and use of lead-safe paints to decorate schools for a child-friendly school environment.

Description of Work: Photo.

https://volcanoartprize.com/portfolio-item/lead-safe-paints-for-all-schools/

50. LID 29945



Artist: Manny Calonzo

Title: Paints with no added lead

Lead-Safety Message: Promoting a healthy school environment through the use of lead-safe paints: the use of paints with no added lead helps in minimizing a preventable source of childhood lead exposure. Choosing only lead-safe paints will help reduce lead exposure sources in schools.

Description of Work: Photo taken at a school cleanup drive.

https://volcanoartprize.com/portfolio-item/paints-with-no-added-lead/

51. LID 29946



Click on the image or here to watch the very short film.

Artist: Nonvignon Joseph Denougbeto

Title: Lead Paints Elimination

Lead-Safety Message: Benin children representing all the children worldwide are calling for lead paints elimination for their health protection and environment protection. Lead paints are generally found at home, at school and in the environment. The lead in paints reduces dangerously their intellectual quotient (IQ) exposing them to saturnism. It is for that they are calling urgently to stop lead paints for their health protection and the environment protection. #StopLeadPaints

Description of Work: Very short film at https://youtu.be/qYVNFJSCPus

https://volcanoartprize.com/portfolio-item/lead-paints-elimination/

52. LID 29947 - 

prize winner



Artist: Nonvignon Joseph Denougbeto

Title: Stop Lead Paints

Lead-Safety Message: Benin children representing all the children worldwide are calling for lead paints elimination for their health protection and environment protection. Children are generally exposed to lead paints at home, at school and in the environment. The lead in paints reduces dangerously their intellectual quotient (IQ) exposing them to saturnism. It is for that they are calling urgently to stop lead paints for their health protection and the environment protection. #StopLeadPaints

Description of Work: Photos collaged together with #StopLeadPaints.

https://volcanoartprize.com/portfolio-item/stop-lead-paints/

53. LID 29867 - **prize winner**



Artist: Farrah Shabestari

Title: Selfie at 66

Lead-Safety Message: I was really glad that I followed The LEAD Group's advice and asked my GP for a blood lead series referral. Grandma Lead then told me that my first blood lead result, at 66 years of age, was already below The LEAD Group's recommended action blood lead level of 1 microgram per decilitre so now I'm celebrating no more blood lead tests until next year!

Description of Work: iPhone selfie.

https://volcanoartprize.com/portfolio-item/selfie-at-66/

54. LID 29866



Artist: Farrah Shabestari

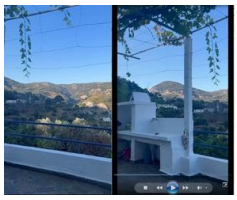
Title: LEAD Group Kit Team

Lead-Safety Message: L to R: Alex Smith, Lance Smith and Elizabeth O'Brien. After 5 years of emailing the Smith boys about LEAD Group Kits, I finally got to meet them in their Sydney Analytical Laboratories this year. The Smiths do the analysis, Elizabeth writes the Kit documentation and I do everything else to run the shop! What a joy to spread all that lead wisdom and help our Kit clients make their environments lead-safe!

Description of Work: iPhone photo. Reference https://leadsafeworld.com/shop

https://volcanoartprize.com/portfolio-item/lead-group-kit-team/

55. LID 29950




Click the left image or here for bells video and then the right image or here for animals video.

Artist: Alyson Kakakios

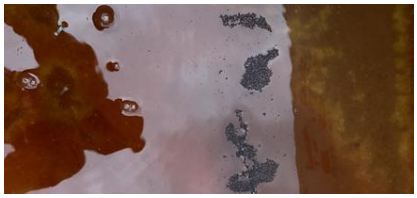
Title: Ikaria Mornings

Lead-Safety Message: Both low lead living and living in Ikaria in Greece have been associated with healthy longevity or longer healthspan. The slow rhythm of the life here in the Greek "Blue Zones" longevity hotspot with its emphasis on fresh foods, a plant-based diet, walking (although that is gradually changing in modern times) and social connectivity (including the "Grandmother Effect"), have all contributed to the longevity of the Ikarians.

Description of Work: Two very short films: one (25 seconds) with bells calling the faithful Ikarians to church; and the other (1 minute) with animals greeting the dawn.

https://volcanoartprize.com/portfolio-item/ikaria-mornings/

56. LID 29890



Click on the image to hear the song while you read the song lyrics in the poem below.

Artist: Joe Schembri

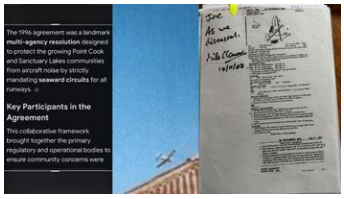
Title: Tin Can with Wings

Lead-Safety Message: For 30 years my neighbours withheld that their aircraft used leaded fuel (AvGas). In the photo, black particles are floating in a concrete pit. The small particles are attracted to each other and join together as shown. These particles came from the exhaust from piston-engine aircraft (PEAs) of the Royal Melbourne Institute of Technology (RMIT) Aviation Academy at Point Cook Airfield, flying circuits over my property.

Description of Work: photo and poem by Joe Schembri with song of the poem composed, arranged and performed by Agentic AI as Orchestrated by Lucas Schembri.

https://volcanoartprize.com/portfolio-item/tin-can-with-wings/

57. LID 29952 - **prize winner**



Click on the image to hear the song while you read the song lyrics in the poem below.

Artist: Joe Schembri

Title: Game they Play

Lead-Safety Message: In 2002, I received a fax from Canberra that clearly indicates pilots from RMIT Aviation Academy at Point Cook Airfield were instructed to fly away from the residential homes. When I sent it to the operational manager of the airfield, within 30 minutes the aircraft that were flying circuits over my property, decided to bombard me with aircraft flying over my home - flying north, south, east or west as if I was in a war zone. Until recently I didn't know their piston-engine aircraft (PEAs) all use leaded AvGas.

Description of Work: photos and poem by Joe Schembri with song of the poem composed, arranged and performed by Agentic AI as Orchestrated by Lucas Schembri.

https://volcanoartprize.com/portfolio-item/game-they-play/

58. LID 29953



Click on the image to hear the song while you read the song lyrics in the poem below.

Artist: Joe Schembri

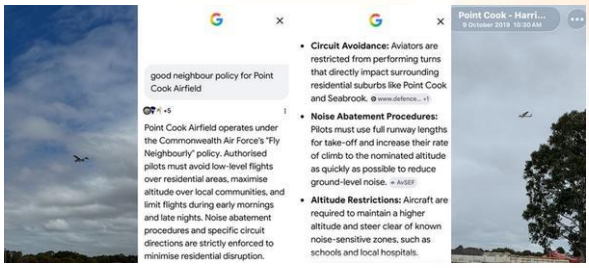
Title: Pilots and Our Leaders

Lead-Safety Message: Piston-engine aircraft (PEAs) of the Royal Melbourne Institute of Technology (RMIT) Aviation Academy were supposed to fly seaward from Point Cook Airfield, but instead they fly over residents, making noise and dropping lead emissions on children, reducing their learning abilities. When RMIT was training Chinese pilots in a circuit, aircraft flew over our home every minute.

Description of Work: Point Cook TV screenshots from "Airfield Anger" news article, Wyndham TV, 5th Nov 2018 showing Joe Schembri and map graphic, from https://www.facebook.com/watch/?v=191993791717795 ; collaged with photo (of leaded AvGas PEA over Joe's home) and poem by Joe Schembri with song of the poem composed, arranged and performed by Agentic AI as Orchestrated by Lucas Schembri.

https://volcanoartprize.com/portfolio-item/pilots-and-our-leaders/

59. LID 29954



Click on the image to hear the song while you read the song lyrics in the poem below.

Artist: Joe Schembri

Title: Metallic Bird Go Away

Lead-Safety Message: Although the noise pollution is obvious, it took me 30 years to find out that the piston-engine aircraft (PEAs) of the Royal Melbourne Institute of Technology (RMIT) Aviation Academy were and still are contaminating my family and the whole Point Cook community with lead. If RMIT could switch their fleet to PEAs certified for non-leaded AvGas or better still, to quiet and non-fossil-fuelled electric planes, then together we can build a better future for all.

Description of Work: photos (of leaded AvGas PEAs over Point Cook farming community) collaged with <good neighbour policy> Google AI Assistant search results; and poem by Joe Schembri with song of the poem composed, arranged and performed by Agentic AI as Orchestrated by Lucas Schembri.

https://volcanoartprize.com/portfolio-item/metallic-bird-go-away/

60. LID 29955 - 

prize winner



Artist: Cody de Jersey, Age: 9, School in Australia

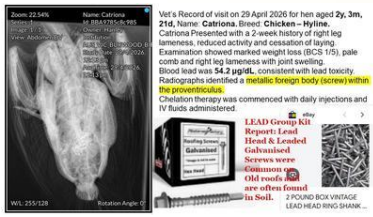
Title: God's Love

Lead-Safety Message: Nothing but God's love can touch us.

Description of Work: Coloured texta drawing.

https://volcanoartprize.com/portfolio-item/gods-love/

61. LID 29956 - **Highly Commended**



Artist: Poultry Keeper

Title: Leaded Chicken

Lead-Safety Message: Despite being the smartest chicken I've ever had, my Catriona found a screw in the yard and swallowed it and had to be treated for lead poisoning. To warn others, LEAD Group Kit comments on egg lead results reports are from now on going to include the warning: Lead head and leaded galvanised screws were common on old roofs and are often found in soil so be sure to run a fine rake over your backyard and remove all metal items found, before letting poultry use your chicken run and free range area.

Description of Work: Collage of x-ray, vet and LEAD Group Kit reports and Google results.

https://volcanoartprize.com/portfolio-item/leaded-chicken/

62. LID 29957



Artist: Howard Jacobs

Title: Lucerne Switzerland

Lead-Safety Message: Lucerne in Switzerland is an afternoon's walk from the village of Malters where Hug AG produced the EDTA biscuits that were eaten by Moroccan pre-schoolers and school-aged children in the study by Bouhouch et al, apparently bringing down their blood lead levels and raising their iron status. Why aren't EDTA biscuits available globally?

Description of Work: Photo of Lucerne in the afternoon. Message from *Effects of wheat-flour biscuits fortified with iron and EDTA, alone and in combination, on blood lead concentration, iron status, and cognition in children: a double-blind randomized controlled trial* (Bouhouch et al 2016).

https://volcanoartprize.com/portfolio-item/lucerne-switzerland/

63. LID 29958 - **Highly Commended**



Artist: Howard Jacobs

Title: Swiss Paradise

Lead-Safety Message: Switzerland ranks among the very highest in the world for longevity, holding one of the top spots globally and regularly leading Europe. Faith community members also have longer health-spans and I am eternally grateful for all that has been created by Divine Mind.

Description of Work: Photos of Engelberg - a hiker's paradise, Swiss alpine flowers and the Four Lakes Train collaged together in Powerpoint and Paint.

https://volcanoartprize.com/portfolio-item/swiss-paradise/

64. LID 29959 - **Highly Commended**



Artist: Marelle Piche

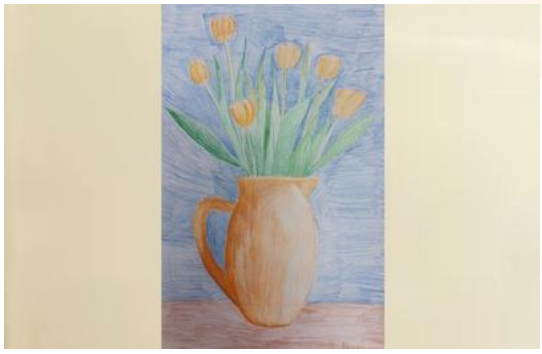
Title: Crochet Giraffes

Lead-Safety Message: Crafting like making amigurumi (Japanese) crochet baby giraffes is quite a challenge but I'm so glad I made one for my sister's granddaughter, even if I did need help from ChatGPT to follow the instructions. It all helps stave off dementia!

Description of Work: Photo collaged in Powerpoint and Paint.

https://volcanoartprize.com/portfolio-item/crochet-giraffes/

65. LID 29960 - **prize winner**



Artist: Danny Wang, Age: 9, Creative Einstein

Title: Jug of Tulips

Lead-Safety Message: If you have a ceramic jug at home that's got cracked or chalking glazing, it's best not to use it for drinks, especially not for acidic fruit juice, but its fine to use it as a vase. Just don't put it in the dishwasher in case the heat further degrades the glaze and releases lead and/or cadmium on to your other crockery and utensils in the load.

Description of Work: Coloured pencil drawing on paper.

https://volcanoartprize.com/portfolio-item/jug-of-tulips/

66. LID 29979 - **prize winner**



Artist: Michael Maratea

Title: Peasants Feast

Lead-Safety Message: Pre-industrial era foods would have been low in lead except for communities near volcanos or forest fires which both emit lead. Pumpkin stew or orange lentil stew would both have helped to reduce lead absorption and remove any lead imbibed in alcoholic drinks, from the body.

Description of Work: Acrylic on paper. Dimensions: 26 cm x 26 cm.

https://volcanoartprize.com/portfolio-item/peasants-feast/

67. LID 29980



Artist: Grandma Lead

Title: Immune Health Yoghurt

Lead-Safety Message: On 17 Feb 2026 I started adding a teaspoon of yoghurt to each of 3 drinks and 3 meals per day in order to improve my immune health, which I know can be negatively impacted by lead. The yoghurt plus pectin-rich prune and dried apricot stewing water made my MCP (modified citrus pectin) powder and sea minerals taste better in rainwater! Also eaten daily are fresh ginger, garlic, red onion and FeEDTA banana bread.

Description of Work: Photos collaged in Powerpoint and Paint.

https://volcanoartprize.com/portfolio-item/immune-health-yoghurt/

68. LID 29981 - **Highly Commended**



Artist: Grandma Lead

Title: Mint Green Frog

Lead-Safety Message: Frogs are a sentinel species signifying a healthy environment and what could be better for you than home grown organic herbs daily for lead detox.

Description of Work: iPhone 13 photo

https://volcanoartprize.com/portfolio-item/mint-green-frog/

69. LID 29982 - **Highly Commended**



Artist: Grandma Lead

Title: Leaded Microplastics

Lead-Safety Message: Protect our oceans from lead and leaded microplastics. Ban the addition of lead to all plastics including PVC, and to printing inks used on all packaging. Don't let chalky lead paint or leaded PVC cladding be washed in to stormwater. Protect waterways and oceans from all toxics and from climate change if its not too late!

Description of Work: iPhone 13 photo.

https://volcanoartprize.com/portfolio-item/leaded-microplastics/

70. LID 29983 - **Highly Commended**



Artist: Grandma Lead

Title: Leadlight Dining

Lead-Safety Message: Children's dining should never be this close to leadlighting. If children can touch leadlighting, collect a dust wipe sample from the sill or floor beneath it with a LEAD Group Kit.

Description of Work: iPhone 13 photo.

https://volcanoartprize.com/portfolio-item/leadlight-dining/

71. LID 29984



Artist: Grandma Lead

Title: Daily Lead Detox

Lead-Safety Message: Food, medicine and supplements I take daily, approximately meal-ordered - with acid reflux meds. My basic approach is to eat healthy foods including nuts/seeds, beans, greens and berries daily and to take every lead detox food like FeEDTA baked foods, psyllium, garlic, ginger, herbs and supplement like Vit C, Vit D and calcium, magnesium, sea minerals and pectin powder, plus the foods and supplements which overcome some of the problems caused by lead, like creatine, sea buckthorn oil and yoghurt.

Description of Work: iPhone 13 photo taken 24 Feb 2026.

https://volcanoartprize.com/portfolio-item/daily-lead-detox/

72. LID29985



Artist: Farrah Shabestari

Title: Home made dips

Lead-Safety Message: I've followed the Persian culinary tradition of using huge bunches of herbs and other greens fresh from the market to make daily salads, yoghurt dip, hummus and garlic dip my entire adult life. Perhaps the leafy greens, herbs, chick peas, sesame seeds, olive oil and all that garlic has helped drag lead out of my bones.

Description of Work: iPhone photo

https://volcanoartprize.com/portfolio-item/home-made-dips/

73. LID 29986



Artist: Grandma Lead

Title: Clean Step Mat

Lead-Safety Message: When children are too young or hurried to take their shoes off at the door or if you have pets that come inside or contractors at your home, it's a really good idea to have a Homezy Clean Step microfibre machine-washable mat on the floor inside the back door and you can even lay it there wet from the washing machine. Hose-able mats are good on the outside too.

Description of Work: iPhone 13 photos and screenshot from www.bigw.com.au/product/homezy-clean-step-mat-assorted-/p/37090 collaged together in Powerpoint and Paint.

https://volcanoartprize.com/portfolio-item/clean-step-mat/

74. LID 29987 - **Most Highly Commended and** **prize winner**



Artist: Dennis Leight

Title: Walk in Water

Lead-Safety Message: Any time you work hard or exercise, there's an opportunity for lead to leave the body via perspiration. Victory over lead is a long walk for us septuagenarians.

Description of Work: Photo of Elizabeth O'Brien walking in water.

https://volcanoartprize.com/portfolio-item/walk-in-water/

75. LID 29988 - **Highly Commended** **prize winner**



Artist: Jane Ferguson

Title: Our Furry Visitor

Lead-Safety Message: Protect koalas and other native wildlife by eliminating your fossil fuel use to reduce bushfire frequency, and always say not to new lead or coal or gas mines in koala country.

Description of Work: Olympus Digital Camera photo.

https://volcanoartprize.com/portfolio-item/our-furry-visitor/

76. LID 29989



Artist: Junjun Cao, Age 9, School: Creative Einstein

Title: Three Pears

Lead-Safety Message: Natural pectin in pears acts locally in your intestines. It binds to lead and other toxins in your food or digestive tract, preventing your body from absorbing them and helping you pass them out through your stool.

Description of Work: Coloured pencil drawing. Lead-Safety Message from *Using Pectin as Heavy Metals Detoxification Agent to Reduce Environmental Contamination and health risks* (Zhexenbay et al 2020).

https://volcanoartprize.com/portfolio-item/three-pears/

77. LID 29990 - **Joint First Prize and prize winner**



Artist: Kevina Malhotra, Age 12, School: Creative Einstein

Title: Lemons

Lead-Safety Message: Both the pectin in regular citrus zest and in modified citrus pectin (MCP) can bind to lead inside your digestive tract and help push it out through your stool. Because regular pectin stays in the gut, it cannot reach lead stored in your tissues and organs, whereas MCP has been shown to enter the bloodstream to detox lead without removing essential minerals.

Description of Work: Coloured pencil drawing. Lead-Safety Message from *The effect of modified citrus pectin on urinary excretion of toxic elements* (Eliaz et al 2006).

https://volcanoartprize.com/portfolio-item/lemons/

78. LID 29991 - **prize winner**



Artist: Tenzin Kuenseo, Age 13, School: Creative Einstein

Title: Lead Free Future

Lead-Safety Message: UNICEF's Partnership for a Lead Free Future (PLF) has a vision to create global lead-safety ASAP because as Drew McCartor of Pure Earth puts it: "Lead poisoning causes more deaths annually than all natural disasters, active wars, traffic accidents, HIV, and malaria combined."

Description of Work: Coloured pencil drawing. Lead-Safety Message from *A Lead Safe World is in the Frame*, at https://lead.org.au/lanv23n2/LANv23n2.pdf

https://volcanoartprize.com/portfolio-item/lead-free-future/

79. LID 29992 - **Highly Commended**



Artist: Grandma Lead

Title: Unleaded Children

Lead-Safety Message: Unleaded children and deleaded children and adults are our hope for a Lead-Safe and Climate-Safe future. Warmer seas must be cooled so jellyfish overpopulation is averted. Smarter adults of the future will have to solve many such problems.

Description of Work: iPhone 13 photo.

https://volcanoartprize.com/portfolio-item/unleaded-children/

80. LID 29993



Artist: Grandma Lead

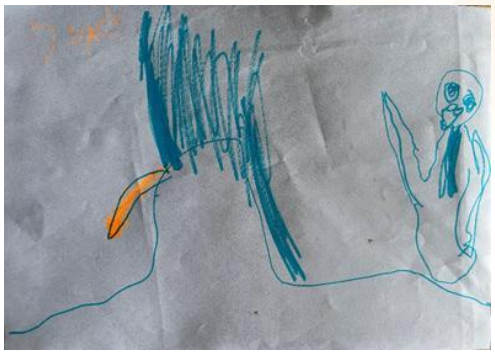
Title: Resilience Training

Lead-Safety Message: “Resilience training is a technique that helps you adapt when experiencing difficult situations. You may learn new behaviors, thoughts and actions to get you through challenges, adversity or trauma.” Every organisation and individual on the planet needs resilience training to adapt to climate change and an aging highly-leaded population born in to the century of leaded petrol on earth: 1921-2021.

Description of Work: Lead-Safety Message definition from Cleveland Clinic website. Smart phone photo.

https://volcanoartprize.com/portfolio-item/resilience-training/

81. LID 29994



Artist: Darcy Jewson, Age: 4, Pre-school in Australia

Title: Volcano and Man

Lead-safety Message: Stay away from volcano fallout zones when they're spewing ash and fumes and stay away from man-made lead dust and fumes at all times!

Description of work: Highlighters on paper.

https://volcanoartprize.com/portfolio-item/volcano-and-man/

82. LID 29995 - **prize winner**



Artist: Uwais Oka, Age 8, School: Creative Einstein

Title: Betta Fish

Lead-Safety Message: Lead toxicity is highly dangerous to betta fish, causing severe structural damage to their gills, blood chemistry alterations, and neurological failure. While bettas possess a specialized labyrinth organ allowing them to breathe atmospheric air, waterborne heavy metal exposure bypasses this defense, leading to systemic organ damage and death.

Description of Work: Coloured pencil drawing. Lead-Safety Message from *Toxic effects of lead exposure on bioaccumulation, oxidative stress, neurotoxicity, and immune responses in fish: A review* (Lee et al 2019).

https://volcanoartprize.com/portfolio-item/betta-fish/

83. LID 29996



Artist: Kevina Malhotra, Age 11, School: Creative Einstein

Title: My Tiger

Lead-Safety Message: I hope my tiger will never eat animals that were shot with lead bullets, or be captured and put in a zoo with lead paint on old animal enclosures.

Description of Work: Coloured pencil drawing, collaged in Powerpoint and Paint.

https://volcanoartprize.com/portfolio-item/my-tiger/

84. LID 29997 - **Highly Commended**



Artist: Grandma Lead

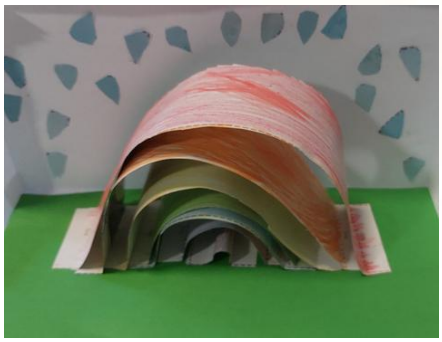
Title: Kookaburra in the Mist

Lead-Safety Message: Mists are fine. Bushfire smoke not so much. Wherever lead is in soil at the surface, such as in exposed ore bodies, trees absorb that lead so when bushfires happen, there will typically be excess lead in the air. Global warming increases bushfire frequency and severity so go solar for the sake of our birdlife and wildlife.

Description of Work: iPhone 13 photo. Lead-Safety Message from *Lead isotopic compositions of ash sourced from Australian bushfires* (Kristensen et al 2012).

https://volcanoartprize.com/portfolio-item/kookaburra-in-the-mist/

85. LID 29998 - **Highly Commended**



Artist: Azalea Manttan, Age 4, Pre-School in Australia

Title: Paper Rainbow

Lead-Safety Message: The LEAD Group works to create a Lead Safe World so that pre-schoolers of today will have a bright future.

Description of Work: Coloured pencil drawing on paper cut and glued in place. Lead-Safety Message from *A Lead Safe World is in the Frame*, at https://lead.org.au/lanv23n2/LANv23n2.pdf

https://volcanoartprize.com/portfolio-item/paper-rainbow/

86. LID 29999 - **Highly Commended**



Artist: Andreas Breitbarth

Title: In the air we breathe

Lead-Safety Message: Lead can often still be found in the paint of old buildings. We were washing our windows and noticed flakes of paint being blown inside into our room. We jokingly wondered if there was lead in the paint. We tested and lo and behold.

Description of Work: Photo collaged in Powerpoint and Paint.

https://volcanoartprize.com/portfolio-item/in-the-air-we-breathe/

File Name: Andreas Breitbarth In the air we breathe.jpg

87. LID 30000 - **prize winner**



Artist: Azalea Manttan, Age 4, Pre-School in Australia

Title: Garden

Lead-Safety Message: A LEAD Group Kit is perfect for testing for lead in your garden soil, your backyard eggs, commercial chicken feed and even your chickens' drinking water. Certainly, test any paint on your house, shed and the chicken coop to be sure it doesn't contain detectable lead.

Description of Work: Paint on textured paper and texta drawing on paper and string cut and glued in place. Lead-Safety Message from *The LEAD Group's Lead Safe World Shop*.

https://volcanoartprize.com/portfolio-item/garden/

88. LID 30001



Artist: Grandma Lead

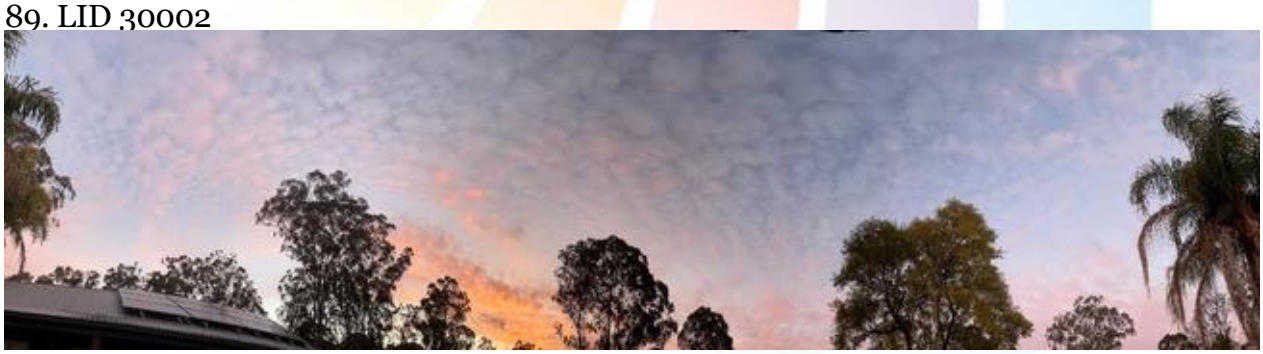
Title: Farm Produce

Lead-Safety Message: There's nothing quite like harvesting your own organic leafy greens, herbs and lemons, and making beans and greens soup plus lemon delicious for lunch while watching Landline on ABC TV on Sunday to see how real farmers adapt to climate change and take care of country while making a living from farming. So grateful!!

Description of Work: Selfies and photo collaged in Powerpoint and Paint.

https://volcanoartprize.com/portfolio-item/farm-produce/

89. LID 30002



Artist: Grandma Lead

Title: Solar Panels at Sunset

Lead-Safety Message: Every day that you have solar panels for the sun to shine on, is a day you can feel good knowing that you're causing less lead in the air from burning fossil fuels and you're helping avert a climate crisis.

Description of Work: iPhone 13 panorama.

https://volcanoartprize.com/portfolio-item/solar-panels-at-sunset/

90. LID 30003 - **prize winner**



Artist: Leo Manttan, Age 7, School in Australia

Title: Starry Night

Lead-Safety Message: Lead atoms form inside aging and dying stars through slow neutron capture, travel across space in gas clouds, and end up on Earth when accretion builds planets.

Description of Work: Crayon and coloured pencil drawing on paper, inspired by *The Starry Night* by Vincent van Gogh. Lead-Safety Message from Google AI Assistant.

https://volcanoartprize.com/portfolio-item/starry-night/

91. LID 30004



Artist: Amy Mack

Title: Kids with Lead Poisoning

Lead-safety Message: My mother Sally Mack bakes great EDTA biscuits and my dad Rick Mack reckons EDTA biscuits eaten daily for months or years will help everyone who has ever been exposed to lead (ie everyone on Earth) to detox their lead and reduce current lead being absorbed from the gut. Dad is searching up easy ways to detox lead from non-human animals too.

Description of work: Screenshot of profile from Dr Ulrich Mack's Kids with Lead Poisoning Facebook Group.

https://volcanoartprize.com/portfolio-item/kids-with-lead-poisoning/

92. LID 30005 - **Joint First Prize and** **prize winner**



Artist: Ronen Reuben, Age: 6, School: Sunrise Elementary, Charlottesville, Virginia, USA

Title: Lily Pads

Lead Safety Message: We want to keep lead out of the environment to help protect the fish and the birds.

Description of Work: Paint on paper.

https://volcanoartprize.com/portfolio-item/lily-pads/

WHO ILPPWA 2025 List of Registered Events

World Health Organization (WHO) International Lead Poisoning Prevention Week of Action (ILPPWA) 2025 List of registered events



Algeria

Central laboratory of BIOTOX ALI AIT IDIR HOSPITAL, ALGIERS

Awareness Day on Lead Poisoning Prevention (As part of the International Lead Poisoning Prevention Week of Action, ILPPWA 2025), 23.10.2025

As part of the 13th International Lead Poisoning Prevention Week of Action (ILPPWA 2025) organized by the World Health Organization (WHO) under the theme “No safe level: act now to end lead exposure”, the Laboratory of Biology and Toxicology, EHS Ali Aït Idir is organizing a scientific awareness day in collaboration with the student clubs PLEC and REVONDERST. Date: October 23, 2025. Venue: University of Sciences of Algiers, Faculty of Pharmacy (Ziania). This event aims to raise awareness among the university community about the health risks associated with lead exposure, explaining its sources, toxic effects on the human body, and prevention strategies. Program highlights: 1. Talks by toxicology residents on lead toxicokinetics and health effects. 2. Case studies and analytical demonstrations from hospital practice. 3. Distribution of educational leaflets and information sheets. 4. Interactive discussions with the audience on exposure reduction and environmental prevention

- Social media activity: student clubs PLEC and REVONDERST, in collaboration with the Laboratory of Biology and Toxicology, EHS Ali Aït Idir, produced a short awareness video shared on social media.
- Advocacy: The event promotes public and institutional awareness on the dangers of lead exposure and encourages preventive actions and policy engagement within the

university and healthcare community.

- Mural, street painting, drawing or other creative arts: Educational awareness leaflets on lead poisoning prevention. These illustrated information sheets use creative graphic design to explain the sources of lead exposure, its toxic effects, and preventive actions to protect health and the environment.

https://www.facebook.com/share/1BRmZr2bUM/

Armenia

Armenian Women for Health and Healthy Environment (AWHHE), Yerevan

Public Awareness About Lead Paint and Lead Poisoning Prevention Using Social Media in Armenia with the focus of 2025 campaign "No safe level: act now to end lead exposure", 01.10.2025 - 31.10.2025

Lead in paint campaign that includes a short video (cartoon on lead paint health effects) and its dissemination; webinar on the Childhood Lead Poisoning (translation of campaign materials into Armenian), development of video, dissemination of materials via AWHHE social media (Facebook) and website.

- Social media activity: translation of campaign materials into Armenian, development of video, dissemination of materials via posts on AWHHE social media (Facebook) and website
- Webinar: and organization of a webinar at the end of the campaign to present the materials and discuss negative impact of lead on child health
- Mural, street painting, drawing or other creative arts: 24/2 Baghramyan Avenue

https://awhhe.am/the-international-lead-poisoning-prevention-week-of-action/; https://www.facebook.com/awhhe/

Australia

The LEAD Group charity [ABN 25819463114], Sydney, NSW and online

LEAD Group AGM and announcement of winners of Volcano Art Prize 2025, 22.10.2025

At The LEAD Group's annual strategy meeting we will announce the winners of our annual art/photo/short film lead-safety and climate-safety competition Volcano Art Prize, and plan for how we can best promote lead testing (including with LEAD Group Kits and by portable bone lead XRF), lead poisoning treatment (including by oral EDTA) and activities organised by LEAPP Alliance UK, Partnership for a Lead Free Future (PLF), and the Lead Paint Alliance.

- Social media activity: Volcano Art Prize 2025 entries have been widely promoted via SM posts and reels
- Roundtable discussion: LEAD Group members and invited experts will develop strategies at an online meeting
- Mural, street painting, drawing or other creative arts: Volcano Art Prize entries can be submitted at www.volcanoartprize.com until 20 Oct 2025

www.volcanoartprize.com

Bangladesh

Environment and Social Development Organization-ESDO, Dhaka

Towards a Lead-Free Future: Safeguarding Children's Health through Awareness, Research & Policy Advocacy, 19.10.2025 - 25.10.2025

ESDO will observe ILPPWA 2025 with activities focused on raising awareness and advocating for stronger lead regulations. Key events include a human chain in Dhaka with 100+ volunteers, a media briefing to share research findings on lead content in decorative paints, and a youth event involving youth groups to highlight the dangers of childhood lead poisoning and increase awareness among the public and media. Additionally, a policy dialogue with stakeholders from government bodies and industries will push for a lead-level standard in industrial paints. Continuous social media and SMS campaigns will also run throughout the week to engage the public and promote lead poisoning prevention.

- Social media activity: Week long social media campaign
- Advocacy: Discussion with youth members and fine arts students to promote lead free paint
- Roundtable discussion: Multi-stakeholder meeting involving policymakers and stakeholders
- Outreach to paint manufacturers: Discussion with paint manufacturers disseminating results from lead contents in decorative paints
- Rally or march: Rally and human chain involving youth groups to increase awareness and generate public attention
- Media engagement: Press briefing disseminating results from Lead contents in products

https://esdo.org/

Benin

Groupe d'Action pour la Promotion et la Protection de la Flore et la Faune (GAPROFFA), Abomey calavi

Accelerate the commitment of the government and political decision-makers to the adoption of the decree on lead in paint in Benin., 08.09.2025 - 05.12.2025

The first activity will be informal advocacy with each Director and the technical advisor, highlighting the urgency of signing this decree, the harmful effects of high-dose lead paint on health, especially that of children, and the benefits of this decree in the fight against lead poisoning. The policy briefs and leaflets on lead poisoning will be shared for more awareness. As for high level meetings, it will be carried out with all cabinet directors of the three ministries, the technical advisor to the ministry of industry and trade, the “Risks” focal person at the ministry of environment and two stakeholders of the ministry of defense.. During the meetings, the doses of lead in paints used by the Beninese population will be presented showing the risks of illness, especially among children and pregnancy women.

- Advocacy: Strengthen the advocacy with the authorities involved for the rapid adoption of the decree on lead in paint in Benin
- Roundtable discussion
- Webinar
- Media engagement

www.gaproffa.org

Groupe d'Action pour la Promotion et la Protection de la Flore et la Faune (GAPROFFA), Abomey calavi

Intensification of advocacy actions in order to boost the commitment of the government and political decision-makers for the rapid adoption of the decree on lead in paint in Benin., 23/10/2025 - 29/10/2025

Two main activities will be carried out in this project: 1- Individual and Informal meetings with each Directors of the Ministry of Industry and Trade, the Ministry of Health and the Ministry of Environment and Sustainable Development, and with the Technical Advisor of the Ministry of Industry and trade. 2- Formal High-level meeting with the Cabinet Directors of the three ministries and the “Risks” focal person at the Ministry of the Living Environment and Sustainable Development

- Social media activity
- Advocacy

Bhutan

Ministry of Health, Thimphu

Community awareness program on Lead and testing of dry chilli powder samples using XRF machine Press release by Honorable Health minister, MoH. Tiktok program on Lead prevention. Pannel discussion on Lead through National Television, 19.10.2025 - 25.10.2025 Event description There will be press release by Honorable Health Minister on Lead poisoning, awareness and testing program at the community

- Social media activity
- Advocacy
- Media engagement

www.bbs.bt/

Cameroon

African Environmental Network, Yaoundé

Reduce the risk of lead poisoning in Yaoundé and Kribi-Cameroon, 19.10.2025 - 19.12.2025 Event description The Rotterdam Convention Focal Point and the Basel and Stockholm Focal Points in Cameroon are well prepared and understand the next steps after the Notification; are have the necessary information to address the criteria (c) questions

- Social media activity
- Other: Research to determine the concentration of lead in tap water in 100 households in the city of Yaounde

https://africanenvi.org/

Centre de Recherche et d'Education pour le Développement, Yaoundé

Advancing the preparation of Cameroon for the next steps following the Notification of the listing of late chromates in Annex III of the Rotterdam Convention, 20.10.2025 - 27.11.2025 Event description The Rotterdam Convention Focal Point and the Basel and Stockholm Focal Points in Cameroon are well prepared and understand the next steps after the Notification; are have the necessary information to address the criteria (c) questions

- Social media activity: Facebook, website social media cards
- Advocacy: Interpersonal Engagement with the Rotterdam Convention Focal Point and the Basel and Stockholm Convention Focal Points

http://crepdcm.com/#/

Centre de Recherche et d'Education pour le Développement (CREPD), Yaoundé

Educating Cameroonian focal point and the African members seating in the Rotterdam Convention's CRC on the link between national lead paint regulation/law and Notification to list Lead Chromate in Annex III of the Rotterdam Convention, 17.10.2025 - 27.10.2025

Lead is harmful to everyone and damages the vital organs such as reproductive systems, kidneys, liver, blood and brain. Young children are more vulnerable as their nervous systems are still developing and they absorb 4-5 time more lead than adult which can cause intellectual disability, underperforming at school and behavioral issues; In adult, lead exposure increases the risk of ischemic heart diseases and stroke; in pregnant women, lead exposure damages many organs but also negatively affects developing foetus. One of the wide sources of exposure to lead after TEL/TML was eliminated in gasoline is lead paint. Facing this fact, countries are increasingly becoming conscious of the urgency to act and are enacting national regulations to ban lead paints to protect the health of their citizens. However, it has be noted that one significant enforcement challenge facing developing countries that have banned or want to ban lead paint is the unregulated trade in lead chromates that makes them accessible for paint manufacturing. Another challenge is the ignorance among regulators and government officials of the fact that if a country has adopted a legally-binding regulatory limit of 90 ppm lead in paints, this means it has banned or severely restricted the use of lead chromates in paints. In developed countries (i.e. EU and its Member States, Switzerland, Canada, Australia) where lead paints are banned, lead chromates cannot be added to paint as they are unsafe for their citizens, but some of these countries allow production and exports of lead chromates putting the recipient countries' children and families at risk. Cameroon and most of the developing worlds except (India and China) do not have domestic production of lead compounds but receive them through imports. Therefore, one of the most effective additional measures to improve lead paint regulation compliance would be to control the trade and import of lead compounds that are used in paint. At the global level, the Rotterdam Convention is the only legally binding instrument able to control the trade of hazardous chemicals, such lead chromates. Understanding the link between national lead paint regulation/law and Notification to list Lead Chromate in Annex III of the Rotterdam Convention for the country is crucial, as well as the engagement of the BRS Focal Points in Cameroon and the CRC members in the Africa Region. If these key players understand the link, they will be able to provide the compelling rationale to speed up the recommendation for listing and the effectiveness of the listing by the BRS COPs within a reasonable period of time by demonstrating that national regulation/law on lead in paint satisfies Criterion (c), and element of positive answers to the following two questions: 1. "Whether the final regulatory action led, or would be expected to lead, to a significant decrease in the quantity of the chemical used or the number of its uses", and 2. "Whether the final regulatory action led to an actual reduction of risk or would be expected to result in a significant reduction of risk for human health or the environment of the Party that submitted the notification."

- Social media activity: Sharing of adapted social media materials from the ILPW 2025

- Advocacy: Engage with the Rotterdam Focal Point Convention
- Roundtable discussion: Reaching out to and meetings with the BRS Focal Points to further explain the Notification and next steps
- Webinar: Reaching out to the African Members of the Rotterdam Convention Chemicals Review Committee
- Media engagement: Announcements and interviews on national platforms to highlight data on law non-compliance and public health risks.
- Other:School awareness caravans using educational games and activities, field poster campaigns with artisans, training of 100 youth and NGO advocates, and health center visits to inform pregnant women about exposure and prevention

www.crepdcm.com

Young Volunteers For Environment (YVE), Yaoundé

Progress Towards a lead-free Future: Combatting Persistent Lead use for a better well-being, 18.10.2025 - 16.11.2025

The event is a multisectoral campaign aimed at raising awareness about the health and environmental risks related to the use of products containing lead. It targets decision-makers, the private sector, the media, civil society, and vulnerable populations such as children and pregnant women. Activities include a multi-party dialogue, local media announcements and interviews, a digital campaign using social networks (LinkedIn, Twitter, Instagram, Facebook, WhatsApp, Telegram, etc.), workshops, parliamentary advocacy, school and community outreach, and training of youth and ambassadors to sustain the efforts. The goal is to strengthen regulation enforcement and protect public health and the environment by eliminating the dangers of lead exposure.

- Social media activity: Sharing at least 10 data-based visuals and infographics to increase public awareness about lead paint risks
- Advocacy: Submission of an advocacy memorandum to ministers and parliamentary action for stronger enforcement , importer compliance and the mandatory use of lead-free paints in educational institutions
- Roundtable discussion: Workshop gathering government, industry, customs, and civil society to analyze data and develop enforcement solutions
- Webinar: Training of 100 youth and NGO advocates
- Media engagement: Announcements and interviews on national platforms to highlight data on law non-compliance and public health risks.

- Other:School awareness caravans using educational games and activities, field poster campaigns with artisans, training of 100 youth and NGO advocates, and health center visits to inform pregnant women about exposure and prevention

https://jvecameroun.org/

Colombia

Asociación Colnodo, Bogotá

Guía para la remoción de pintura con plomo/Guide for removing lead paint, 19.10.2025 - 31.10.2025

Publicar una guía para la guía para eliminar pintura con plomo.

- Social media activity: www.rds.org.co. X, Facebook
- Mural, street painting, drawing or other creative arts
- Other: publicación en https://rds.org.co/es/plomo-en-pinturas

https://rds.org.co/es/plomo-en-pinturas

Côte d'Ivoire

Jeunes volontaires pour l'environnement Côte d'Ivoire, ABIDJAN

Campagne de sensibilisation sur la dangerosité de l'exposition au plomb, ILPPWA 2025, 19.10.2025 - 25.10.2025

Cette campagne s'inscrit dans le cadre de la Semaine internationale de prévention du saturnisme (ILPPWA) 2025. Elle vise à utiliser les réseaux sociaux pour diffuser largement des messages de plaidoyer et de sensibilisation. Elle mettra en avant les résultats des études menées par JVE Côte d'Ivoire sur les questions liées au plomb. L'objectif est de renforcer les capacités des populations, susciter un mouvement citoyen en faveur de l'adoption d'une réglementation stricte sur les peintures sans plomb. La campagne contribuera également à une sensibilisation accrue des consommateurs aux problèmes de santé et d'environnement liés à l'exposition au plomb, ainsi qu'à une meilleure compréhension des diverses sources d'exposition. Cet événement sera organisé en ligne sur les différentes plate-forme de JVE Côte d'Ivoire (Facebook, Instagram…), et en collaboration avec IPEN.

- Social media activity
- Advocacy

https://www.jvecotedivoire.org

Democratic Republic of the Congo

Appui aux Initiatives Communautaire de Conservation de l'Environnement et de Développement Durable, AICED, City of Goma

La menace de la peinture à plomb sur les enfants par manque la transparence des fabricants de la peinturey, 20.10.2025 - 25.10.2025

EEn effet, nos enquêtes sur le terrain ont montré un certain manque de transparence des fabricants de peintures. Sur certaines boîtes de peintures, comme ingrédients, nous avons trouvé cette mention : Alkyl resin, pigments, solvents and approved additives. Quand on ecrit « and approved additives », c'est un manque de transparence de la part des fabricants parce que ces additifs dits « approuvés » ne sont pas clairement identifiés. Nous allons faire un plaidoyer pour montrer la menace de la peinture à plomb sur les enfants et demander aux décideurs d'exiger la transparence des fabricants de la peinture conformément à la convention de Bâle. Nous allons aussi sensibiliser la communauté du danger du plomb sur les enfants et nous allons aussi attirer l'attention de la communauté du danger du manque de transparence des fabricants de la peinture

- Social media activity
- Advocacy
- Media engagement

https://www.facebook.com/AICED-Asbl-102051812502991/ https://twitter.com/aicedasbl2022 // https://youtube.com/@aicedrdc?si=Yr4ren_9hZ0-dJeS

Solidarité pour la Protection des Droits de l'Enfant, Bukavu, Province du Sud-Kivu, République Démocratique du Congo

Campagne de mobilisation communautaire et institutionnelle sur les dangers du plomb dans la peinture, ILPPWA 2025 (SOPRODE / RDC), 19.10.2025 - 25.10.2025. Une phase de préparation (contact intervenants, supports visuels, logistique) se déroulera durant les deux semaines précédentes (du 1er au 18 octobre) pour garantir le bon déroulement du programme.

Solidarité pour la Protection des Droits de l'Enfant organise une campagne hybride (présentiel + en ligne) à Bukavu et dans sa périphérie pour sensibiliser les communautés locales aux dangers du plomb dans la peinture. En présentiel : - Activités éducatives dans les marchés, écoles et centres de santé/ Ciblage des parents, commerçants et artisans peintres / Distribution de flyers bilingues (français/langues locales) et d'infographies / Sessions interactives et mini-débats communautaires / Réunions de mobilisation avec les autorités locales et les services techniques (santé, environnement, éducation) / En ligne et via les médias : Diffusion quotidienne de mini-vidéos, infographies, flyers, quiz et témoignages sur

les réseaux sociaux avec les hashtags #StopPlombRDC et #ILPPWA2025 / Publication d'une lettre ouverte accompagnée d'une pétition adressée aux autorités / Organisation d'une émission radio/télévisée participative pour sensibiliser les publics non connectés

- Social media activity: Une émission radio et télévisée participative sera organisée pour sensibiliser les publics non connectés aux dangers du plomb dans la peinture, en donnant la parole aux experts, aux responsables locaux et aux citoyens.
- Advocacy: Une lettre ouverte, accompagnée d'une pétition, sera adressée aux autorités locales et nationales pour demander l'adoption et/ou l'application stricte de normes interdisant l'utilisation de peinture au plomb. Des rencontres avec les décideurs sont également prévues en amont des activités communautaires.
- Media engagement: Une lettre ouverte, accompagnée d'une pétition, sera adressée aux autorités locales et nationales pour demander l'adoption et/ou l'application stricte de normes interdisant l'utilisation de peinture au plomb. Des rencontres avec les décideurs sont également prévues en amont des activités communautaires.

https://twitter.com/ASBL_SOPRODE

Ethiopia

Pesticide Action Nexus Association Ethiopia, Addis Ababa

Consultative meeting on lead poisoning prevention in Ethiopia, 23.10.2025 - 25.10.2025

Lead poisoning is a global public health problem, including Ethiopia. In an effort to prevent lead poisoning, PAN Ethiopia has been working in collaboration with national and international institutions and government offices, by promoting alternatives, awareness creation for the wider public through different information dissemination pathways, and also by engaging with high-level policymakers. The efforts have contributed for Ethiopia to develop and pass regulations on lead poisoning prevention, mainly to eliminate lead paints. The 2025 international lead poisoning prevention week is planned to be conducted from October 27 to 30, 2025 with the main focus of conducting a consultative meeting with higher officers to discuss on the status of enforcing regulation. Media professionals will also be part of the meeting to disseminate information to consumers./p>

- Social media activity
- Advocacy
- Roundtable discussion

Georgia

Association "Health XI", Tbilisi

There is no safe level of lead: disseminate knowledge and act!, 19.10.2025 - 26.11.2025

During the week we will hold several activities to: Educate medical professionals, medical students and general public about lead, its harmful effect on everyone exposed to lead sources; Raise awareness of lead sources and preventive measures. Webinar material will be focused on the slogan that there is no safe level of exposure and everyone should disseminated information on lead poisoning and how to end lead exposure. Educational lectures on lead poisoning will be given to medical students of public health faculties. Lead week material will be posted on the Tbilisi State Medical University website. Medical faculty students will participate in the webinars and address data on lead exposure and outcome. The international lead week material webinars, podcasts, infographics and videos will be used. The event will be marked together with the national toxicology association and education institutions.

- Advocacy
- Webinar
- Health professionals' event

Gamarjoba, Tbilisi

Lead Paint Action activation, 19.10.2025 - 26.10.2025

The changes in Georgian legislation are an important but not final step towards a complete elimination of lead paints. The promotion of lead paint regulations in the country is relevant. The most common source of lead exposure for children may be paints containing lead chromate pigment. The use of lead chromates can be eliminated by including them in the Rotterdam Convention as hazardous chemicals subject to the Prior Informed Consent (PIC) procedure. This will facilitate compliance with national lead paint laws and encourage more countries to implement lead paint control measures. Objectives: Raising awareness of the dangers of lead paint and existing lead paint regulations in the country; Promoting the thesis “No safe levels of lead”; Raising awareness of the importance of activities and submitting notifications under the Rotterdam Convention.

- Social media activity
- Media engagemen

India

Advanced Study Institute of Asia, New Delhi

Bulletin Release & Social Media Advocacy, Lead and Heavy Metals Prevention, 20.10.2025 - 25.10.2025

A week-long awareness and advocacy initiative during ILPPWA featuring the release of a special bulletin on lead and heavy metals in India accompanied by awareness through social media of lead exposure risks, especially for children.

- Social media activity: Coordinated posts on Instagram, and LinkedIn including infographics, caraosal, and expert quotes.
- Advocacy: Release of a research-based bulletin on lead and heavy metals
- Media engagement: Writing an Opinion peice and will be published under media platform.
- Other: Tagging policymakers, medical professionals, and media contacts in digital content.

https://asiaresearch.co/

Pahle India Foundation, New Delhi

Towards a Lead-Free India: Understanding Risks and Shaping Responses, 24.10.2025

This high-level session will convene Principal Health Secretaries, NHM Mission Directors, senior policymakers, and technical experts to deliberate on India's lead poisoning and exposure landscape, and to chart actionable, coordinated strategies for an integrated national policy response.

Webinar: 90 Minutes virtual discussion

https://ileap.org.in

Toxics Link, Delhi

Social Media Event, 20.10.2025 - 25.10.2025

Social media Campaigns in collaboration with IPEN.

- Social media activity: Posts on Facebook, Instagram, LinkedIn, X
- Advocacy: Policy Brief

Toxics Link, Delhi

School Awareness Programme and Social media camapign, 20.10.2025 - 25.10.2025

For awareness among children, we will organise a talk in school.

- Social media activity
- Other: School talk

Indonesia

Nexus3 Foundation, Indonesia

Lead-Free Indonesia : Strengthening Multi-Stakeholder Collaboration for Regulatory Change, 19.10.2025 - 25.10.2025

The 13th ILPPWA campaign by Nexus3 Foundation will focus on strengthening collaboration among regulators, paint industries, associations, media, and civil society to push for a national ban on lead in paint. Building on over 15 years of advocacy, Nexus3 aims to go beyond awareness-raising by showcasing its leadership and catalyzing stronger policy action. Activities include the launch of the Indonesia Country Situation Report, a national webinar, social media outreach, and stakeholder engagement to accelerate Indonesia's transition toward mandatory lead-free paint regulations and a toxics-free future.

- Social media activity
- Advocacy
- Webinar
- Media engagement: There will diverse media coverage
- Other: Report launches

https://www.nexus3foundation.org/

Kenya

Centre for Environment Justice and Development, Nairobi

Awareness and Advocacy for Lead Free Kenya, 19.10.2025 - 25.10.2025

We will conduct week-long awareness and advocacy campaign aimed at mobilizing the public and promoting policy support for the enforcement of Kenya's lead in paint regulations and the global phase-out of lead chromates. This is to be achieved through: stakeholder consultations, and a media briefing with emphasis on listing lead chromates under the Rotterdam Convention.

- Social media activity: Share facts on toxicity of lead on social media platforms
- Advocacy: Advocate for elimination of lead chromate in all paint and other consumer products.

- Roundtable discussion: In collaboration with The University of Nairobi we will hold a meeting under the title: Restrict Lead Chromate: Sustaining Momentum Towards Lead-Free Communities

https://cejadkenya.org/

Kisiwani Conservation Network, Kabete, Kiambu County

BrighTest, 01.10.2025 - 30.10.2025

BrighTest is concerned that the unregulated construction and operation of kitchenettes for school feeding programs could create a profound exposure for leaded paints, lead dust, lead poisoning and negative learning outcomes in early childhood schools. The project uses targeted awareness and remediation plans to sensitize and equip school development committees, kitchen staff, artisans and sponsors. The goal is zero-lead results from swab tests on walls, floors, chimneys, door and window frames of kitchenettes where food ingredients are stored, cooked and served to young learners in public schools.

- Advocacy: Integrate lead-free paints in construction and maintenanceof kitchenettes cooking, handling and serving school feeding programs in public early childhood education centres.
- Roundtable discussion: Workshop for school administration, sponsors, contractors, artisans and kitchen staff to adopt lead-free paints in school construction standards and work with certified experts in remediation of affected surfaces.
- Outreach to paint manufacturers: Showcase lead-free paint solutions for schools and best practices for remedying affected surfaces.

https://sites.google.com/view/www-kisiwani-org/home

University of Nairobi, Nairobi

Restrict Lead Chromate: Sustaining Momentum Towards Lead-Free Communities, 21.10.2025 - 25.10.2025

The ILLPWA 2025 will be dynamic and focused on the theme, with its foundation being a digital platform for raising awareness. The extent of exposure sources covered will be a key criterion for determining the most effective digital content. The central event will be an interactive session, interluded with edutainment, to discuss the post-ban findings of high lead concentrations in the newly purchased shades of yellow, green, and red oil-based residential and yellow road marking paints, while highlighting the toxicity of lead chromate. The week will also feature a practical safe repainting procedure on an old building, documenting the proper procedures to prevent ongoing exposure from peeling lead paint. Additionally, the week will conclude with the recognition of organizations, individuals and groups for their outstanding contributions to the ILLPWA initiatives and the best-performing content on the

digital platform. These efforts will collectively strengthen our key call for rigorous control and eventual elimination of lead chromate in all paint and other consumer products.

- Social media activity:All social media and digital platform
- Advocacy: Will bring together regulators, policy makers and stakeholders for a discussion on restriction of lead chromate based on the findings
- Outreach to paint manufacturers: Video has been documented during the survey to pinpoint opportunities and challenges of enforcing paint product standards targeting lead chromate
- Media engagement: There will diverse media coverage
- Drama, dance or other expressive activity
- Mural, street painting, drawing or other creative arts

uncsa.uonbi.ac.ke

Kuweit

Kuwait Poison Control Center, Kuwait City

International Lead Poisoning Prevention Week of Action, 20.10.2025 - 23.10.2025

Booth - Public Hospital: Social Media - Public / Presentation - Health Care workers

- Social media activity: Instagram posts
- Health professionals' event: Presentation
- Other: Booth in a public hospital

Kyrgyzstan

Union of Photo Journalists in cooperation with AKMENA Public Association, Bishkek

Information campaign and survey "Childhood without lead!", 01.10.2025 - 31/01/2026

Project goal: Eliminating children's exposure to lead by strengthening lead monitoring in paints. Main project activities: 1. Organize a study of lead concentration in kindergartens for lead content in paints used for playgrounds and possibly inside buildings). 2. Organize a workshop to discuss the results of the study with the relevant government agencies, stakeholders.

- Social media activity

- Roundtable discussion
- Other: A study of lead content in paint used in Kindergardens.

Liberia

Pollution Control Association of Liberia, Monrovia

Awareness, Education on Lead Paint and community involvement to end Lead exposure, 22.10.2025 - 23.10.2025

>Planery for two schools, media activities on TV, Radio and Newspaper

- Roundtable discussion
- Media engagement
- Other: Distribution of Lead Paint fact Sheets

Malaysia

Consumers' Association of Penang, Georgetown, Penang

Towards lead paint law in Malaysia and listing of lead chromate under the Rotterdam Convention., 19.10.2025 - 25.10.2025

The Consumers' Association of Penang will hold a press conference on 23 October 2025 during the ILPPWA2025 to advocate for lead paint law in Malaysia. We will also spread awareness through our social media about lead toxicity and the urgency of protecting children from preventable sources of lead exposure such as lead-containing paints and dust by disseminating information materials from IPEN, WHO and other sources.

- Social media activity: Share information materials from IPEN and WHO.
- Media engagement: Conduct press conference to advocate binding lead paint standards.
- Write to the relevant government agency to urge support for listing lead chromates under the Rotterdam Convention.

México

Casa Cem - Vías Verdes, A.C., Guadalajara

México sin plomo: Casa Cem lanza campaña por la eliminación del plomo en pinturas, 20.10.2025 - 25.10.2025

En el marco de la Semana Internacional para la Prevención de la Intoxicación por Plomo 2025, Casa Cem desarrollará una campaña nacional de comunicación y acción institucional

enfocada en la eliminación del plomo en pinturas en México.Durante esta semana, Casa Cem difundirá en redes sociales información técnica, educativa y de sensibilización sobre los riesgos del plomo, especialmente en pinturas a base de solventes. La campaña incluirá publicaciones informativas, materiales visuales y comunicados de prensa destinados a medios de comunicación y tomadores de decisión. Paralelamente, Casa Cem enviará cartas oficiales a la Secretaría de Salud y a la COFEPRIS solicitando la revisión y actualización de las normas NOM-231-SSA1-2016 (Juguetes y artículos escolares) y NOM-004-SSA1-2013 (Pinturas, tintas, barnices y esmaltes), con el objetivo de fortalecer los límites de plomo actuales. Con esta iniciativa, Casa Cem busca promover una política nacional de eliminación total del plomo en pinturas, contribuyendo a los esfuerzos globales del Global Alliance to Eliminate Lead Paint

- Social media activity
- Advocacy

Nepal

Center for Public Health and Environmental Development (CEPHED), Kathmandu

CEPHED, with the support of the WHO Country Office for Nepal, IPEN, and LEEP, has planned the following events in Nepal. (A) With the Support of WHO: Marking ILPPWA 2025 with BLL Policy Dialogue and Public awareness in Nepal, 1st Oct - 30 Nov 2025. (B) With the Support of IPEN: Campaigning for listing of Lead Chromate in the Rotterdam Convention and Press Meet on ILPPWA 2025 in Nepal. (C) With the Support of LEEP: Study of Lead in Cosmetics (Kajal), Personal hygiene products (Toothpaste), and Traditional Products (Sindoor) in Nepal, 01.10.2025 - 31.01.2026

CEPHED, with the support of the WHO Country Office for Nepal, IPEN, and LEEP, has planned to carryout following activities under three different events in Nepal. (A) With the WHO Support, CEPHED will carry out, following events and activities: 1. Collect, customize, prepare, and produce GAELP Campaign materials for 2025 and widely disseminate them through mass media, etc. 2. Collect, review, and compile the results of BLL-related studies carried out in Nepal. 3. Collect, review, and compile the results of leads on different products in Nepal. 4. Organize a kick-off press meet ILPPWA 2025 among 25 health and environment journalists and lawyers. 5. Organize a day-long “Multistakeholder workshop on Lead Poisoning Prevention in Nepal,” including a dedicated “ BLL Policy Dialogue.” 6. Develop IEC Material (Radio PSA and Video PSA) for NHEICC on lead to be broadcast during the week of action and beyond. (B) With the support of IPEN, CEPHED will carry out the following activities: 1. Rooted advocacy campaigns and meetings with concerned government agencies, including specifically the DNA of RC, talk and convince them to initiate the listing process. 2. Writing a letter along with sending the Lead Paint standards to all concerned Government agencies agencies at the Federal, Provincial, and Local levels. (Media outreaches through

writing dedicated news articles to maximize public outreach / PRESS MEET on ILPPWA 2025, followed by a press release both in English and the Nepali Language, etc.). (C) With the support of LEEP, CEPHED will carry out the following activities : 1. Study of lead in cosmetics (Eye products, Kajal), Personal hygiene products (Toothpaste), and Traditional products (Sindhoor). 2. Prepare a Study Report on Lead in Cosmetics, Personal Hygiene Products, and Traditional sources, and release the report through organizing a multistakeholder workshop program. 3. Public mass awareness through mass media (radio PSA production and dissemination). 4. Advocacy with the government for the enactment of regulatory limits and their effective implementation of lead in these products. 5. Final report submission on project completion.

- Social media activity: IEC material, Radio Jingle and TV PSA will be also share with social media
- Advocacy: Adovicay letter and campaign for effective implementation of lead paint standers, more laws regulating lead in other source of exposure etc..
- Roundtable discussion: Blood Lead Level (BLL) Policy Dialogue among most concerned agencies and representative as the part of Multi Stakeholder workshop has planned.
- Health professionals' event: Health professional participation ensured in a Multi Stakeholder workshop has planned.
- Outreach to paint manufacturers: Paint Manufacturers participation ensured in a Multi Stakeholder workshop has planned.
- Media engagement: Media engagement and participation ensured in ILPPWA 20205 Kick Off program and Multi Stakeholder workshop has planned.
- Other: Study of Lead in Other potential sources and products (toothpaste, kajal, Shindoor) and report release through stakeholder workshop

Niger

Association Vie & Développement (AVD-Kowa Murna), Niamey

Vulgarisation du décret sur la teneur en plomb dans les peintures au Niger, 06.10.2025 - 20.10.2025

Diffusion et sensibilisation des populations sur la nouvelle réglementation sur la peinture au Plomb.

- Social media activity: Affiches ,dépliants, prospectus ....
- Webinar: Avec le réseau IPEN Afrique francophone

Association Vie & Développement (AVD-Kowa Murna), Niamey

Le plomb dans la peinture tue à petit feu, interdisons les dans nos maisons., 05.10.2025 - 15.10.2025

Préparer des message de sensibilisation en se basant sur le décret de réglementation de la teneur du plomb dans les peintures au Niger.

- Social media activity
- Media engagement
- Mural, street painting, drawing or other creative arts: Plaque Alhéri -Bobiel Niamey

Association Vie & Développement (AVD-Kowa Murna), Niamey

Support for the process of regulating the content of lead in paints through the popularization of the decree N° 2025-392/PRN/ME/H/A du 18 juillet 2025 issued by the Council of Ministers in Niger, 23.10.2025 - 29.10.2025

Through our advocacy and awareness-raising actions of the NGO AVD Kowa murna on the effects of lead in paint, the Government of Niger has adopted a decree to regulate the content of lead in paints. AVD kowa Murna is committed to supporting the process by raising awareness, popularizing the decree in national newspapers and on social networks, which have always served as communication tools. The NGO will also increase communication for the listing of lead chromates in the Rotterdam Convention. An initiative that will now be part of our organization's activities. We will help regulate all hazardous substances, and lead chromates in particular.

- Social media activity: Advocacy through socia media cards
- Advocacy

Nigeria

C-Circle Foundation for Sustainable Health and Environment, Abuja

Stopping Lead Poisoning from Edible Clay (Nzu) among Pregnant women in Nigeria: a case study of Federal Capital Territory (Abuja), Abia state (Aba) and Imo state (Owerri), 12.10.2025 - 30.11.2025

Lead poisoning remains a silent public health threat in Nigeria, with one overlooked source being the cultural practice of eating edible clay, locally known as nzu or calabash chalk. Common among pregnant women, especially in southern Nigeria, this practice is often used to manage nausea and cravings but exposes mothers and unborn children to dangerous levels of lead, arsenic, and cadmium, far above WHO safety limits. These toxic metals can cause irreversible brain damage, miscarriages, and developmental problems in children. This

campaign, held under the International Lead Poisoning Prevention Week of Action (ILPPWA) 2025, aims to raise awareness, discourage edible clay consumption, and protect mothers and children from lead exposure, contributing to safer pregnancies and healthier future generations. There will be traditional media and social media awareness events between 19 -25 October 2025. Also there will be sensitization and discussion with pregnant women during antenatal clinic visit

- Social media activity
- Advocacy
- Roundtable discussion
- Health professionals' event
- Media engagement
- Mural, street painting, drawing or other creative arts: House 849 Mohammed Sanusi Street, Cad Zone C01

Centre for Earth Works, Jos, Plateau state

Act now campaign: A social media and public sensitization campaign on the harmful effects of lead exposure(focus on lead-based paints), 20.10.2025 - 24.10.2025

This event seeks to raise public awareness on the harmful exposure to lead, especially through lead-based paints. This will be achieved through social media campaigns and radio programs. A school engagement will also be held to educate school children on lead poisoning, routes of exposure, sources of exposure, and preventive measures.

- Social media activity: Daily posts on social media, showcasing ILPPWA activities and delivering key messages
- Media engagement: A radio program targeting the general public. This will focus on the harmful effects of lead exposure, especially through lead-based paints. It will also create awareness on prevention, detection and mitigation of lead poisoning among vulnerable populations(pregnant women and children)
- Other: Education: This is targeted at school children to educate them on the harmful effects of lead exposure and also preventive measures.

Federal Ministry of Environment, Abuja

Commemoration of the International Lead Poisoning Prevention Week of Action (ILPPWA) 2025 in Nigeria, 27.10.2025 - 30.10.2025

The International Lead Poisoning Prevention Week of Action (ILPPWA) 2025 is being commemorated by the Federal Ministry of Environments through social media campaigns ,

technical presentations by experts , video shows/ documentary and product demonstration of an organization that has produced lead free paints from natural sources. The week long event will also feature secondary school students acting a playlet to demonstrate the deleterious effects of lead in Humans. Equally, there will be panel discussion session where experts will deliberate extensively on the theme of this years event

- Social media activity: Social media campaigns were deployed to ensure the message of lead poisoning is well circulated. Instagram, twitter, facebook posts were used
- Advocaxy: Pamplets and fyers were distributed to pass the message of effects of lead poisoning especially to children and women
- Roundtable discussion: The events equally involved panel discussions all to create awareness about the event
- Outreach to paint manufacturers: Paint manufacturing SME were equally involved in the commemoration of the lead poisoning prevention week.
- Media engagement
- Drama, dance or other expressive activity: Secondary school students acted a short playlet demonstrating the deleterious effects of lead
- Other: Showcasing of production process for lead free paint production

Sustainable Research and Action for Environmental Development (SRADev Nigeria), Lagos/Abuja

Lead Chromate in Paints: Simplified Risk Assessment and Policy Roadmap, 22.10.2025 - 25.10.2025

Lead poisoning remains a silent public health threat in Nigeria, with one overlooked source being the cultural practice of eating edible clay, locally known as nzu or calabash chalk. Common among pregnant women, especially in southern Nigeria, this practice is often used to manage nausea and cravings but exposes mothers and unborn children to dangerous levels of lead, arsenic, and cadmium, far above WHO safety limits. These toxic metals can cause irreversible brain damage, miscarriages, and developmental problems in children. This campaign, held under the International Lead Poisoning Prevention Week of Action (ILPPWA) 2025, aims to raise awareness, discourage edible clay consumption, and protect mothers and children from lead exposure, contributing to safer pregnancies and healthier future generations. There will be traditional media and social media awareness events between 19 -25 October 2025. Also there will be sensitization and discussion with pregnant women during antenatal clinic visit

- Advocacy: SRADev will carry out a technical brief drafting including a desk review on the National stat

- Roundtable discussion
- Media engagement

Oman

Ministry of Health, Muscat

International Lead Poisoning Prevention Week of Action, 19.10.2025 - 25.10.2025

Organizers: Oman Ministry of Health. Co-Organizer: Emory University Department of Emergency Medicine Medical Toxicology Section and the Georgia Poison Center Partner; Nepal Poison Center Collaborative; Georgian Emergency Medicine Physician Association; Karadeniz Technical University-Trabzon; American University of Beirut Clinical Toxicology Services. Goal: Raise awareness about lead poisoning hazards with particular focus on lead-based paint Objectives: Organize a webinar in collaboration with partners from Emory for healthcare workers on the health effects of lead and diagnostic methods, One Outbreak-Based Presentation-Republic of Georgia / Use Social Media to disseminate information on the topic of lead poisoning / Use Social Media to disseminate infographics Disseminate Question of the Day / One Day Exhibition for 8 hours involving different sectors in the country responsible for chemical-lead regulations

- Social media activity
- Webinar
- Other

Peru

Grupo GEA, San Isidro, Lima. Peru

“Ollantaytambo Libre de Plomo: Pinta Vida, Pinta Salud” . Cusco, Perú. No hay nivel seguro: actúe ahora para poner fin a la exposición por plomo “Ollantaytambo Lead-Free: Paint Life, Paint Health.” Cusco, Peru. There is no safe level, act now to end lead exposure., 15.09.2025 - 21.10.2025

La actividad se realizó el martes 21 de octubre de 2025 en la Institución Educativa Manco Inca, con la participación de autoridades locales, del Rotary Club Camacho, del Grupo GEA y de la Municipalidad de Ollantaytambo. El encuentro inició a las 10:00 a.m. con las palabras de bienvenida de la Bióloga Hina Sánchez López, Gerente de Gestión Ambiental y Saneamiento, y del Profesor Félix Earlan Tocre, Director de la institución educativa anfitriona. Durante la jornada, el Ing. Marcos Alegre Chang, Director Ejecutivo del Grupo GEA, realizó la entrega de libros ambientales a la biblioteca escolar, junto con material de pinturas libres de plomo donadas por la empresa Universal Colors, que permitirá continuar con la adecuación y mejoramiento de los espacios del colegio. Este acto simbolizó el

compromiso conjunto del sector público y privado con la eliminación del plomo en las pinturas y la creación de entornos educativos más seguros y saludables. El Blgo. Elmer Quichiz Romero, socio y Director de Proyectos del Rotary Club Camacho y DIGESA, presentó una exposición sobre la normatividad vigente y los efectos del plomo en la salud, mientras que el Sr. Jorge Rivera Echegaray, Presidente del mismo club, entrego cuentos bilingües al Director del colegio, y compartió una reflexión sobre el desarrollo sostenible y la responsabilidad comunitaria en la protección de la salud infantil. Asimismo, se desarrolló la dinámica educativa "Pinta tu respuesta", dirigida por la Ing. Maricé Salvador del Grupo GEA, donde estudiantes respondieron preguntas sobre los efectos del plomo y asumieron el compromiso con un futuro libre de contaminación. El cierre de la jornada estuvo marcado por la inauguración de un mural ambiental participativo frente a la institución, acompañado por la poesía de una estudiante de la escuela y la participación del alcalde de Ollantaytambo, G.O.T. Paull Ferenk Palma Herrera, quien destacó la importancia de promover entornos escolares saludables y sostenibles. Se realizó una activación con la participación de nuestra mascota PiBi (Pb) en las instalaciones del colegio. The activity took place on Tuesday, October 21, 2025, at the Manco Inca Educational Institution, with the participation of local authorities, the Rotary Club Camacho, Grupo GEA, and the Municipality of Ollantaytambo. The event began at 10:00 a.m. with welcoming remarks by Biologist Hina Sánchez López, Manager of Environmental Management and Sanitation, and Professor Félix Earlan Tocre, Director of the host educational institution. During the day, Eng. Marcos Alegre Chang, Executive Director of Grupo GEA, presented environmental books to the school library along with lead-free paint materials donated by the company Universal Colors, which will support the improvement and adaptation of the school's spaces. This act symbolized the joint commitment of the public and private sectors to eliminate lead in paints and to create safer and healthier educational environments. Biologist Elmer Quichiz Romero, partner and Project Director of Rotary Club Camacho and DIGESA, gave a presentation on current regulations and the health effects of lead, while Mr. Jorge Rivera Echegaray, President of the same club, handed bilingual storybooks to the school's Director and shared a reflection on sustainable development and community responsibility in protecting children's health. Additionally, the educational activity "Paint Your Answer" was led by Eng. Maricé Salvador from Grupo GEA, where students answered questions about the effects of lead and committed to a future free of contamination. The day concluded with the inauguration of a participatory environmental mural in front of the school, accompanied by a poem recited by a student and the participation of Mayor of Ollantaytambo, G.O.T. Paull Ferenk Palma Herrera, who emphasized the importance of promoting healthy and sustainable school environments. The event also included an activation featuring PiBi (Pb), our educational mascot, within the school facilities.

- Social media activity: Charlas de sensibilización sobre pinturas libre de plomo (materiales de revestimiento), charla sobre los efectos del plomo a la salud, etc.
- Outreach to paint manufacturers: Conexión con el sector privado- fabricantes de pinturas libre de plomo para realizar la activación.

- Mural, street painting, drawing or other creative arts: Mural pintado con pinturas libre de plomo en el colegio Manco Inca Ollantaytambo (288 nniños) en el Cusco. Perú
- Other: Sensibilización con la mascota Lata de pintura "PiBi" en el colegio Manco Inca Ollantaytambo y comunidad en general.

Philippines

BAN Toxics Philippines, Quezon City, Tacloban City, Tuguegarao City, and Bulacan Provinces

Towards a Lead-Free Future: Safeguarding Children's Health through Awareness, Research & Policy Advocacy

- Social media activity
- Advocacy
- Media engagement:
- Mural, street painting, drawing or other creative arts: Matalino Street, Diliman

https://bantoxics.org/

EcoWaste Coalition-Philippines, Metro Manila, Cebu and Davao

Collaborative Action to Strengthen Enforcement of the Lead Paint Ban, Uphold the Human Right to a Clean, Healthy and Sustainable Environment, 01.10.2025 - 31.11.2025

The EcoWaste Coalition is set to observe the 13th ILPPWA together with the other stakeholders from the public and private sectors and with support from the International Pollutants Elimination Network (IPEN). On October 21, the Environmental Management Bureau and the EcoWaste Coalition will hold a joint forum to discuss the various sources of lead exposure, their impacts on the health vulnerable populations, particularly the children, and ways to prevent poisoning, and to celebrate the progress of eliminating lead paint in the country as well as the prevailing challenges and the ways forward, including the proposed listing of lead chromates in Rotterdam Convention. The EcoWaste Coalition will also speak at the EMB webinar on October 23 regarding best practices and collaborative action for lead-safe communities. During the week, EcoWaste will release an updated version of "Public Notice on Lead Containing Paints" co-published with the Philippine Paint & Coatings Association, Inc. and IPEN. For the entire month of October, which is observed as the Consumer Welfare Month in the Philippines, the EcoWaste Coalition will raise public awareness about lead-containing paints, lipsticks, eyeliners, medicinal patch, plumbing supplies, candles, and Halloween products. The EcoWaste Coalition will further promote the third-party Lead Safe Paint® certification program. It will cap the week with the launch of a new lead paint study with support from the Lead Exposure Elimination Project (LEEP).

- Social media activity
- Advocacy
- Roundtable discussion

https://ecowastecoalition.blogspot.com/

Médecins du Monde, Manila City

Community Based Event: Increasing awareness on lead exposure, 24.10.2025 - 29.10.2025

In celebration of the International Lead Poisoning Prevention, the a community-based event will be organized targeting informal waste workers, Barangay Health Workers, Barangay Officials and other community members in District 1 (Tondo) and District 5 (San Andres). The objectives of the event will be: 1. To raise awareness on the sources of Lead & its ill-effects on human health. 2. To identify different risk mitigation measures and commit to its promotion in their communities/groups. 3. To encourage partnership and get the commitment of the local officials, dismantlers and the community at large in dealing with the issue of Lead exposure.

Community event with fun interactive booths to increase awareness about lead exposure

Médecins du Monde, World Health Organization Philippines, Department of Health, National Capital Region

Public Health Forum in support International Lead Poisoning Prevention Week of Action, 17.10.2025

A public health forum in support of the International Lead Poisoning Prevention Week of Action is organized by Médecins du Monde in partnership with World Health Organization and Department of Health. It aims to raise awareness about the health impacts of lead and to call for a coordinated action to protect the population, especially those in marginalized and high-risk communities.

Public Health Forum

Russia

Eco-Accord, Москва

Public awareness campaign on lead poisoning risks and the necessity of its prevention, 19.10.2025 - 25.10.2025

The public awareness campaign will include the dissemination of information about the risks of lead contamination, sources of lead contamination, and ways to reduce health risks. Particular attention will be paid to lead in paint. Information will be disseminated on the Internet, in mass media, and through networks of partner organisations (family and parent

associations, youth organisations, health professionals, non-governmental organisations related to environmental and health issues, and others).

Social media activity

http://www.ecoaccord.org/lead-in-paint.html

Rwanda

Association Rwandaise des Ecologistes (ARECO-RWANDA NZIZA), Kigali

Lead Paint Awareness Campaign, ILPPWA 2025, Rwanda, 17.10.2025 - 31.10.2025

The Lead Paint Awareness Campaign for ILPPWA 2025 will build on the successes of ILPPWA 2022, 2023, and 2024 to raise awareness about lead poisoning risks and accelerate the shift to lead-free paints in Rwanda. The key activities that will be conducted in the campaign include: 1. Preparatory and consultative meetings: involving government agencies, civil society, and paint industry representatives to review progress and align strategies. Technical consultations will update stakeholders on best practices for eliminating lead in paints. 2. Workshop: To engage policymakers, regulators, industry leaders, and community representatives on the dangers of lead exposure and the benefits of lead-free alternatives. 3. Public awareness: Amplified through targeted media campaigns (radio, TV, and social media) and the distribution of educational materials to schools, retailers, and communities. These combined efforts aim to inform, influence policy, and drive industry reformulation, protecting public health, especially children, from the harmful effects of lead.

- Advocacy: Advocacy activities will target policymakers, regulators, and local authorities to strengthen commitment toward eliminating lead paint in Rwanda, and reinforce enforcement mechanisms
- Roundtable discussion: Roundtable discussions will bring together key stakeholders, including government agencies, civil society, and paint manufacturers, to review progress, share best practices, and coordinate actions to accelerate the transition to lead-free paints.
- Media engagement: Media engagement through radio, television, and social media campaigns will raise public awareness on the health and environmental impacts of lead exposure, highlight the benefits of lead-free alternatives, and encourage consumer demand for safer products.
- Mural, street painting, drawing or other creative arts: Kigali, Rwanda
- Other: please describe

www.arecorwandanziza.org

Sri Lanka

Centre for Environmental Justice, Colombo

Lead Safe Sri Lanka, 19.10.2025 - 25.10.2025

CEJ will make public aware about the possible exposure routes to lead. A series of social media posts will be published on the same. In addition media will be briefed about the recommendations for making lead exposure in the country minimum.

- Social media activity: Social Media Post series
- Advocacy
- Media engagement: Press releases

Thailand

Ecological Alert and Recovery-Thailand, Nonthaburi

Lead Safe Sri Lanka, 07.10.2025 - 25.10.2025

The Ecological Alert and Recovery, Thailand (EARTH) joins forces with our local and global partners for the 2025 International Lead Poisoning Prevention Week of Action (ILPPWA) on 19-25 October, to raise awareness on the health effects of lead exposure. This year, during the first half of October, EARTH's technical and research team conducted field visits to inspect paints for lead content in 19 preschool development centers in eight districts of Bangkok. The total number of children cared for by the 19 centers is over 2,500. The X-Ray Fluorescence (XRF) machine was used to identify what elements are contained in paints, and how much concentration for lead content of the building paints, playground paints in playground equipment, and other equipment in the preschool development centers. The machine identifies the elemental content of substances or objects using the principles of X-ray fluorescence, allowing for accurate measurements of the amount and composition of various substances, with immediate results. The inspection of lead content in paint in child centers by EARTH was conducted in collaboration with the Bangkok Metropolitan Administration and the National Institute for Child and Family Development, Mahidol University, by recruiting interested child centers to participate. Crucially, the participated centers were actively taking part, as teachers and other relevant personnel expressed concerns and awareness of the potential for lead contamination in the environments where young children's health could be negatively affected. EARTH will disseminate the results of the lead paint testing and submit to the Bangkok Metropolitan Administration (BMA), as well as report back to the 19 preschool development centers. The findngs will also publicize on EARTH's website. The International Lead Poisoning Prevention Week of Action (ILPPWA) is an international campaign initiated by the World Health Organization (WHO) and the United Nations. Recognizing this issue, the Global Alliance to Eliminate Lead Paint (GAEPP) was established

to urge countries worldwide to eliminate the use of lead in paints to prevent lead exposure, particularly in children, and push for the completion of action to eliminate lead paint through regulatory action at the country level.

- Social media activity: Campaign and publish the lead in paint's results
- Advocacy: Report back to the government agency and affiliated agencies

Togo

Ministry of environment and forest ressources, LOME

Workshop to raise awareness and consult stakeholders on the elimination of lead in paint, 21.10.2025

Paints are one of the main sources of lead exposure in Togo, making populations vulnerable to diseases linked to high blood lead levels and lead poisoning. They are used in buildings, crafts, toy licking, etc. Scientific studies have revealed that in Togo, 30% of paints sold on the Togolese market have lead concentrations above 90 ppm, the standard recommended by the WHO. The activity to be carried out consists of organising a stakeholder consultation workshop to define a roadmap leading to the adoption of regulatory texts for the elimination of lead in paints. This workshop will bring together sixty people from the public administration and private sector stakeholders. The overall objective is to inform, educate and communicate about the health and environmental impacts of lead on human health and regulations on lead content thresholds in paints. Specifically, this involves: -Raising awareness among the various stakeholders about the health impacts of lead; -Sharing the experience of the NGO 'Friends of the Earth'; -Disseminating the ECOWAS ECOSTAND 092-2022 standard on lead content limits in paints.

Roundtable discussion: During this workshop, there will be three presentations followed by discussions.

Uganda

Centre for Citizens Conserving Environment & Management (CECIC), Kasese

Ending Lead Poisoning in Our Community, 19.10.2025 - 20.10.2025

This International Lead Poisoning Prevention Week of Action (ILPPWA) 2025, we are not just raising awareness; we are forging a path to action. Lead poisoning is a silent and insidious threat, particularly to our children, causing irreversible harm to their developing brains and bodies. It is a preventable tragedy, and it demands a collective, localized response. To mark this critical week, the Centre for Citizens Conserving Environment & Management (CECIC) will host a pivotal roundtable event at our Downhill offices. This gathering will bring together health experts, policymakers, community leaders, and advocates to move beyond discussion and towards tangible solutions.

- Advocacy
- Roundtable

https://cecicug.org

Center for Ecological Governance and Gender Initiatives, Kampala

Spread awareness through the social media about lead toxicity, 23.10.2025 - 25.10.2025

Spread awareness through the social media about lead toxicity and the urgency of protecting children from preventable sources of lead exposure such as lead-containing paints and dust by disseminating information materials from IPEN, WHO and other sources.

- Social media activity
- Media engagement
- Other: Awareness creation

www.ceggi.org

Western Media for Environment and Conservation (WEMECO), Hoima Oil City

Media-Driven Advocacy Campaign: Lead-Free Homes, Healthy Futures, 20.10.2025 - 30.10.2025

Lead-Free Homes, Healthy Futures is a campaign to protect children and families from the dangers of lead in paint. From 20 to 26 October 2025, WEMECO and seven media partners will share stories, radio talks, and TV spots across Uganda, bringing the message from national platforms to local communities in the Albertine region. By raising awareness and calling for safer alternatives, the campaign seeks to inspire parents, teachers, and leaders to demand stronger action for a healthier, lead-free future for every child.

- Social media activity: Featured stories on the social media platforms of our media partners
- Media engagement: Electronic ,print media and online

https://www.wemeco.org

United Kingdom

Lead Exposure and Poisoning Prevention Alliance, United Kingdom

Lead Exposure and Poisoning Prevention (LEAPP) Alliance open meeting, TBA

We will hold an open meeting to present advancements and activities related to lead exposure and poisoning prevention in the UK during ILLPW 2025. We will also be sending a barrage of

letters to government agencies, policy leaders, members of parliament, and professional bodies. We will also start to enhance our social media engagement and seek celebrity endorsements.

- Social media activity
- Advocacy
- Roundtable discussion
- Outreach to paint manufacturers
- Media engagement
- Mural, street painting, drawing or other creative arts: LEAPP ALLIANCE

https://leappalliance.org.uk/

United Republic of Tanzania

AGENDA for Environment and Responsible Development (AGENDA), Dar es Salaam City

Accelerate the Elimination of Lead Paint in Tanzania, 16.10.2025 - 15.11.2025

AGENDA is planning to: a) In collaboration with regulatory bodies in Tanzania, develop a plan that will accelerate lead paint elimination in the country through improved enforcement of the standard that was endorsed in 2017. The plan will have a deadline for NO LEAD PAINT in Tanzania. This will be done based on the laboratory test results in 2025 for paints on the market. b) Organize a media event to raise the public awareness on the status of lead paint in Tanzania, and the effects of lead paint to humans and the environment.

- Advocacy: In collaboration with Regulators, AGENDA will test paints on the market and use the results to develop a plan to eliminate lead paint through improved enforcement of the existing legal sub-regional standard
- Outreach to paint manufacturers: Based on paint test results, manufacturers and importers will be urged to abide to the standard
- Media engagement: To raise public awareness on the status of lead paint in Tanzania and the effects of lead to humans and the environment

Green Planet Plan (GPP), DODOMA

Multi-Sectoral Workshop on Lead Elimination and Safer Consumer Products in Tanzania, 19.10.2025 - 25.11.2025

The Multi-Sectoral Workshop on Lead Elimination and Safer Consumer Products in

Tanzania is a one-day event organized by Green Planet Plan (GPP), scheduled for October 25, 2025, in Dodoma City at the UDOM Conference Hall. Themed “No Safe Level: Act Now to End Lead Exposure,” it aligns with International Lead Poisoning Prevention Week of Action (ILPPWA) 2025 and aims to address the critical public health challenge of lead exposure in paints, cosmetics, spices, and other consumer products. The workshop will bring together approximately 30 key stakeholders from government agencies (e.g., NEMC, TBS, GCLA, Ministry of Health, Ministry of Industry and Trade), paint manufacturers, academia, NGOs, and media to foster collaboration, raise awareness, share best practices for lead-free production, and develop a Workshop Communiqué with actionable policy recommendations for eliminating lead by 2030. Pre-workshop activities from October 13 to 24 include a national media tour, social media campaign (#LeadFreeTanzania), paint industry visits, and student awareness sessions to build momentum and reach over 500,000 Tanzanians. The initiative supports Tanzania’s National Environmental Policy (2021), Vision 2050, and global targets from WHO and the Global Alliance to Eliminate Lead Paint, emphasizing protection for vulnerable groups like children and pregnant women.

- Social media activity
- Advocacy
- Roundtable discussion
- Outreach to paint manufacturers
- Media engagement
- Mural, street painting, drawing or other creative arts

Networking for Society Development Organization (NESODO), Mwanza

Multi-Sectoral Workshop on Lead Elimination and Safer Consumer Products in Tanzania, 19.10.2025 - 25.10.2025

Networking for Society Development Organization (NESODO), with support from the Lead Exposure Elimination Project (LEEP), is implementing a community-based project in Mwanza, Tanzania, to identify and reduce sources of lead exposure from paints, spices, and cosmetics. As part of the 2025 International Lead Poisoning Prevention Week of Action (ILPPWA) under the theme “No Safe Level: Act Now to End Lead Exposure,” NESODO will: Disseminate social media awareness messages using IPEN, WHO, and LEEP materials ; Conduct sampling and testing of paints, spices, and cosmetics sold in Mwanza to detect lead contamination ; Organize a stakeholder workshop to share preliminary findings and discuss policy actions to promote lead-free products. These activities aim to strengthen public awareness, generate evidence, and encourage collaboration between government, civil society, and the private sector in eliminating lead exposure in Tanzania.

- Social media activity: NESODO will share key messages and infographics from IPEN,

WHO, and LEEP through Facebook, X, and WhatsApp platforms to raise public awareness on the dangers of lead exposure and promote lead-free products in Tanzania.

- Advocacy: Advocacy efforts will target local authorities, Tanzania Bureau of Standards (TBS), and paint and cosmetics retailers to promote enforcement of lead-free standards and regulations aimed at reducing lead exposure.
- Roundtable discussion: NESODO will organize a multi-stakeholder meeting in Mwanza involving government agencies, civil society, and community leaders to review findings from the sampling and testing activities and discuss practical policy actions.

United States of America

California Institute of Environmental Design & Management (CIEDM), Arcadia

CIEDM Actions for Lead Poisoning Prevention @ Arcadia Ecohome, 20.10.2025 - 21.10.2025

As in past years, as members of the Lead in Paint Community of Practice (CoP) and the Green Forum's Chemicals & Waste Management CoP, we practitioners at CIEDM are to hold a local grassroot event at the Arcadia Ecohome to support and take part in the 2025 ILPPWA, US National LPPW, California LPPW and International Day of Action on Big Biomass, an awareness camoaign to oppose burning biomass and resulting in air pollution with lead, all taken place in the same week of ILPPWA. Our event actions include: 1) Registrating local events with ILPPWA & NLPPW' 2) Engaging a scoail media campaign to raise public awareness of those campaign messages via posting SME comments to news & articles; and 3) Engaging firscaping works at the Arcadia Ecohome to showcase online for preventing fires & widlfires.

- Social media activity
- Advocacy
- Other: Firescaping to showcase lead prevention via air pollution

https://www.facebook.com/ciedmeco

Emblem Entertainment and Clean + Healthy, New York State

LEAD Listening Tour, 19.10.2025 - 25.10.2025

This program will leverage the LEAD Podcast created and hosted by Shannon Burkett, mother of a lead-affected child and founder of Emblem Entertainment, to engage lead-impacted families, health care professionals, journalists, and elected officials and government employees in six of New York State's most lead-impacted communities: Buffalo, Rochester, Syracuse, Albany, Garrison, and New York City during the 2025 National Lead Poisoning

Prevention Week. Shannon Burkett and Jenny Maguire of Emblem Entertainment and Gabby Gonzales of Clean+Healthy, which co-leads the statewide collaboration of Lead Free Kids NY, will travel to each community to hold 1 - 2 Silent Disco" style listening events (with headphones provided) followed by a "talk back" panel, including local speakers with scientific expertise and direct lived experience. The optional second event will focus on health care providers. Through these events, we will increase understanding of the ongoing problem of lead poisoning in New York State, driven by old paint in our aging housing stock. We will give local lead-impacted families the opportunity to speak for themselves for social media posts. To iterate this process and ensure communities get the scientific information they need, a survey at the end of each event will help determine future podcast content and/or fact sheets to be produced by Lead Free Kids NY, and provide feedback to health care providers or the New York State Children's Environmental Health Centers (NYSCHECK, nyscheck.org). Project Goal: Using LEAD podcast, we seek to educate, engage, connect, and activate lead-impacted families, health care providers, and elected officials to advance lead poisoning prevention. With the trust and willingness of the communities we reach, we are hoping to get more stories along the tour to share where lead poisoning education is lacking and document what people's reactions and thoughts on the podcast are. We want to capture the most authentic reactions possible, and to inspire action by community members, health care professionals, and elected officials to advance lead poisoning prevention. We also hope that people will get interested in the story and journey. As a result we would like for them to continue listening to the podcast and engage in activism in whatever level they have capacity for.

- Social media activity
- Advocacy
- Health professionals' event

endleadpoisoning.org and https://cleanandhealthy.org/

Emory University Medical Toxicology Section and the Georgia Poison Center in Partnership with the Oman Ministry of Health and in Collaboration with Nepal Poison Center Collaborative, the Georgian Emergency Medicine Physician Association, and the Karadeniz Technical University, Atlanta, Georgia

Paint Without Poison, 19.10.2025 - 26.10.2025

During the week we will hold several activities to educate about the medical assessment and management of lead poisoning and to raise awareness about lead hazards in paint. We will use various formats including webinars, podcasts, Daily Question, and infographics. It is a joint effort or a number of Emory University Medical Toxicology Section and the Georgia Poison Center in Partnership with the Oman Ministry of Health and in Collaboration with Nepal Poison Center Collaborative, the Georgian Emergency Medicine Physician Association, and the Karadeniz Technical University.

- Social media activity
- Webinar
- Media engagement
- Mural, street painting, drawing or other creative arts
- Other: Podcasts, Daily Question

www.menatox.org and www.georgiapoisoncenter.org and https://med.emory.edu/departments/emergency-medicine/strategic-programs-initiatives/center-for-advanced-emergency-care/international-collaboration/index.html

Environmental & Public Health International, Chicago

Global Relaunch of the Lead Service Line Replacement Cost Calculator (LSLRCC): Advancing Equity in Lead Service Line Replacement. Environmental & Public Health International (EPHI) announces the global relaunch of the free, multilingual Lead Service Line Replacement Cost Calculator (LSLRCC). The updated tool supports equitable, data-driven planning to eliminate lead exposure and advance safe water infrastructure worldwide., 25.10.2025

Environmental & Public Health International (EPHI) announces the global relaunch of the Lead Service Line Replacement Cost Calculator (LSLRCC), a UNEP-recognized, free, multilingual, EPA-aligned planning tool that empowers governments, Tribal Nations, and utilities to estimate and plan the costs of lead service line replacement projects and protect public health. With an estimated 9.2 million lead service lines in the United States, the need for equitable and data-driven planning tools is critical to accelerate safe water infrastructure replacement and eliminate lead exposure risks. The updated version of the LSLRCC webpage expands its mission-aligned resources, including the addition of a UNESCO-IHP WINS DOI for citation and integration into water infrastructure grant proposals, and new linkages to UNEP, global databases, academic institutions, and public health leaders. It maintains full scenario modeling, multilingual functionality, and free public accessibility to better support underserved communities and advance compliance with the EPA Lead and Copper Rule Improvements (LCRI). This initiative supports the World Health Organization's campaign to eliminate lead exposure, while advancing UN Sustainable Development Goals 3 (Good Health and Well-Being) and 6 (Clean Water and Sanitation). Recognized by Global, Scientific, and Policy Leaders. United Nations System: UNEP, UNESCO, UN WIPO GREEN Technology Marketplace, UN Global Compact Water Action Hub, UN Decade Playbook. Global Policy & Transparency: OECD Policy Observatory, Taskforce on Nature-related Financial Disclosures (TNFD). U.S. Public Health & Federal Leaders: U.S. Environmental Protection Agency (EPA), National Center for Healthy Housing (NCHH), Lead Innovation Hub (EDF & EPIC). Scientific & Professional Networks: American Water Works Association (AWWA), American Planning Association (APA), American Society of Landscape Architects (ASLA), Society for

Ecological Restoration (SER). Tribal & Community Leaders: Native American Community Development Institute (NACDI), Cleveland Lead Advocates for Safe Housing (CLASH CLE), River Network. Academic Leaders: Harvard, Boston University Climate and Health Café, Duke University Clinical & Translational Science Institute, Yale University Green Chemistry for Sustainability Network

- Online event (webpage announcement and digital campaign)

NYC DOHMH- Education and Community Partnerships Unit, New York

National Lead Poisoning Prevention Week 2025 activities., 18.10.2025 - 25.10.2025

Join the NYC Department of Health and Mental Hygiene, NYC Housing Preservation and Development (HPD) and NYC Department of Environmental Protection (DEP) in celebrating National Lead Poisoning Prevention Week 2025 for in-person and virtual webinars starting on October 18, 2025 to October 25, 2025. This year's theme, "Healthy Communities Start with Lead-Safe Homes," reminds us of the importance of ensuring safe living spaces for children and highlights our shared commitment to preventing lead poisoning. 1. Get the Facts: Learn about the hazards of lead. 2. Get Your Child Tested: Learn about how to get a blood test to detect lead. 3. Get Your Home Tested: Learn how to hire a certified professional to test older homes for lead. To see the listing of upcoming events, visit us at: https://www.nyc.gov/site/doh/health/health-topics/healthy-home-workshops.page If you have any question, please call us at 646-632-6023 or email: healthyhomesecp@health.nyc.gov

- Social media activity: social media handle: nycHealthy
- Webinar: Webinar #1: Lead in Drinking Water and Housing and Lead Based Paint: an overview of NYC Rules for Owners and Tenants. Webinar #2: Lead Poisoning Prevention & Lead-based Paint Complaints and Inspections.
- In-person tabling events in neighborhoods throughout the five boroughs of NYC.

Pure Earth, Virtual

Year 3 Progress Report from Colombia, Indonesia, Kyrgyzstan, Maharashtra, India, and Peru., 27.10.2025

Please join Pure Earth and Vital Strategies during International Lead Poisoning Prevention Week of Action for a Year 3 Progress Report from Colombia, Indonesia, Kyrgyzstan, Maharashtra, India, and Peru. Supported by Takeda Pharmaceuticals, Ltd., the Strengthening Health Systems to Reduce Lead Exposure project has been working toward and implementing blood lead level surveillance programs to understand the prevalence and severity of childhood lead exposure in 5 participating countries. The webinar will feature project leaders describing the progress made in planning and implementing blood lead level surveillance programs, conducting home-based source assessments, collaborating with

government partners, and plans for the coming year. Participants will have the opportunity to ask questions during the live Q&A.

Webinar

Vietnam

Research Centre for Gender, Family and Environment in Development (CGFED), Hanoi

Youth-led communication campaign on lead paint, 19.10.2025 - 26.10.2025

Students from the Academy of Journalism and Communication (AJC) will develop and disseminate diverse communication products, such as articles, social media posts, and infographics, through school newsletters, Facebook pages, and other media channels, ensuring wide outreach both online and offline. To highlight the campaign, students will also co-organize a public exhibition at the Academy, showcasing posters, infographics, and other creative outputs on lead hazards.

- Social media activity
- Drama, dance or other expressive activity
- Mural, street painting, drawing or other creative arts

cgfed.org.vn

Zambia

Children's Environmental Health Foundation (CEHF), Livingstone /Lusaka

The Launch of Ending Childhood Lead Poisoning, 01.10.2025 - 15.11.2025

Zambia is in the process of developing regulations and standards to address lead in paint .CEHF continues to contribute to these efforts by sharing technical evidence , global best practices and public health reasearch to support effective implementation and compliance. For example CEHF 's engagement meeting with Zambia Compulsory Standards Agency on making the voluntary standard ZS1185 widely adopted took place on 22 october 2024 during the ILPPWA.

- Advocacy
- Roundtable discussion: Advocacy to policy makers and dicission implementers is the best way
- Health professionals' event
- Outreach to paint manufacturers: Advocacy to policy makers and dicission

implementers is the best way

to be provided

University of Zambia, Lusaka

University student debate “Lead exposure is a serious public health threat in Zambia”., 22.10.2025 - 31.10.2025

University student debate with judging panel to be drawn from regulators and the paint industry. It will be live streamed and shared on the University social media handles and YouTube. Some media houses will also be invited to the event.

- Social media activity
- Health professionals' event
- Media engagement
- Drama, dance or other expressive activity
- Mural, street painting, drawing or other creative arts: 2041

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