



When the Ash Settles

A COMMUNITY GUIDE TO CLEANING UP LATROBE VALLEY'S TOXIC COAL ASH

Power stations don't just produce steam and air pollution. They also produce millions of tonnes of coal ash every year.

- Coal naturally contains toxic chemicals and heavy metals which are concentrated in the ash when coal is burned.
- In Australia, coal ash is the 5th largest industrial waste stream.
- The contaminants in coal ash can travel in surface water and groundwater and in the air as dust, so it's important that it's cleaned up properly.

In the Latrobe Valley, coal ash dams can't be seen from the road like the mines or the buildings. The ash dams are built next to waterways and on top of groundwater. These dams are not built in a way that prevents environmental contamination.

For years the Latrobe Valley power stations have been allowed to operate without strong regulations to prevent contamination.

- Ash dams have been slowly leaching into surrounding groundwater.
- There is a lack of public information available and transparency on management and monitoring.
- The Environment Protection Authority Victoria (EPA) are using guidelines for landfill sites, but these are not fit-for-purpose and fail to adequately address management and rehabilitation of coal ash dams.
- Unlike black coal, there is very little research on the safe use of brown coal ash in reuse industries. The EPA does not have guidelines for the safe reuse of coal ash.

what needs to happen?

- EPA to develop guidelines specific to the management, remediation and re-use of coal ash
- Coal mine operators develop best practice coal ash closure plans in collaboration with community
- Implement the Health Innovation Zone into local planning law

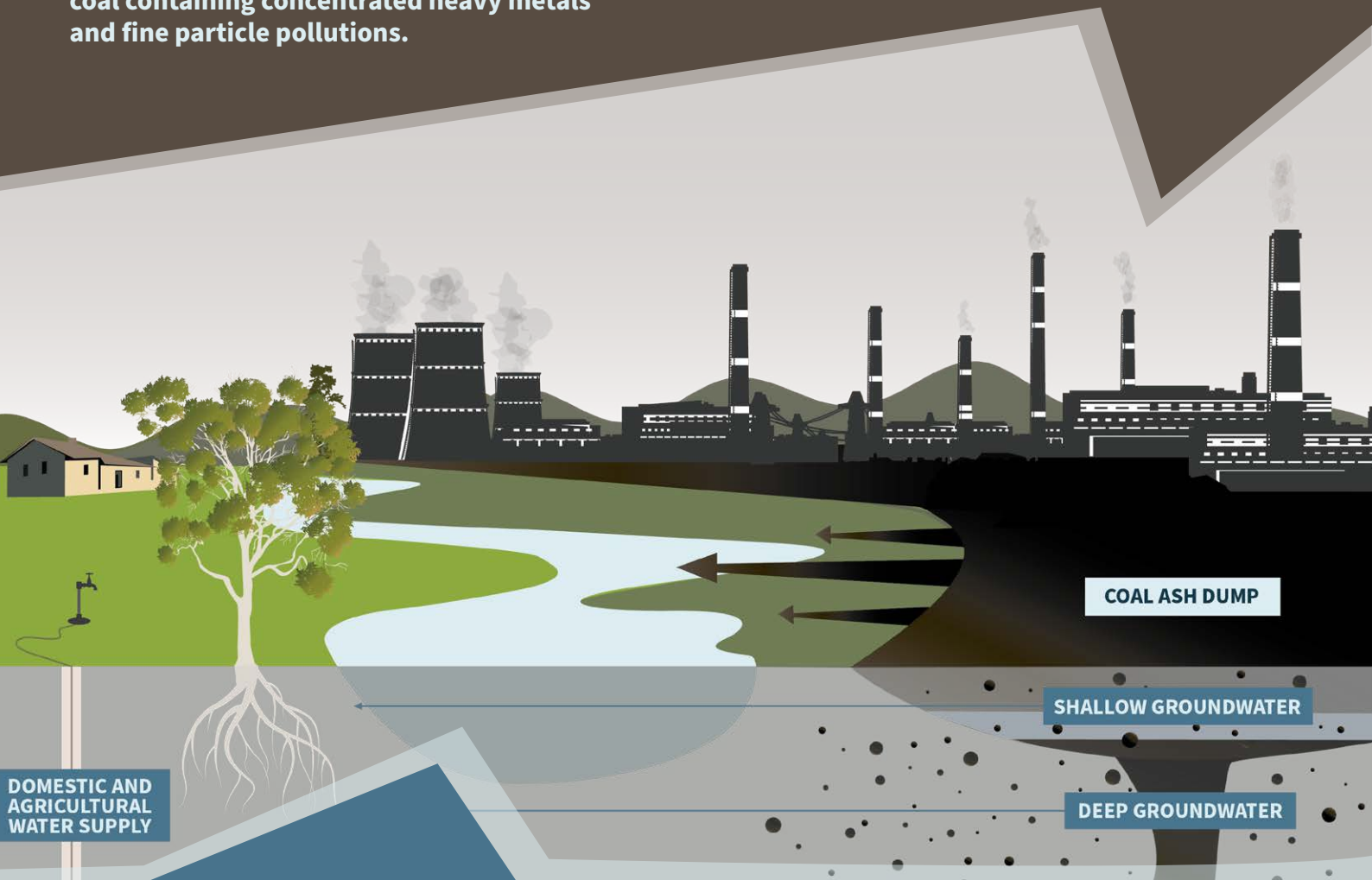
The information contained in this synopsis is a summary version compiled by Friends of Latrobe Water from the full report, *When the ash settles: a community guide to cleaning up Latrobe Valley's toxic coal ash*. Lead author, Bronya Lipski. See back page for more information.

What is a coal ash dam?

Coal ash is the waste produced after coal is burned, which is different to coal dust that comes off unburned coal in the mines. After the coal is burned, water is added to the coal ash to create a slurry. As the name suggests, coal ash dams are a type of landfill full of a wet substance.

The coal ash waste is more toxic than raw coal containing concentrated heavy metals and fine particle pollutions.

This means that dams constructed to hold coal ash must be properly engineered, managed, monitored – and rehabilitated – to make sure that none of these toxins make their way into our waterways, and potentially harm aquatic life or human health.



How did this even happen in the first place?

The EPA has never prepared best practice coal ash dam construction, management, rehabilitation, closure or post-closure management guidelines or regulations.

- Some of the coal ash dams, like Hazelwood, were built before the EPA existed.
- The EPA does not require best practice coal ash dam management and operation.
- Ash dam management plans are not publicly available so there is no transparency with the

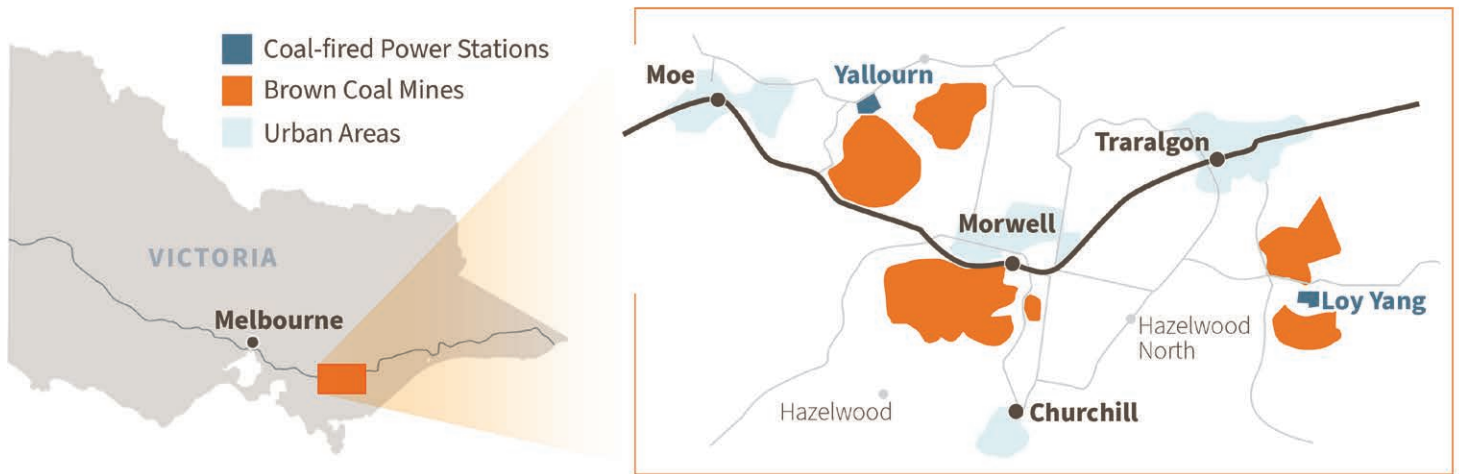
community to make sure mine operators are doing everything they can to stop pollution.

This highlights a consistent failure of the EPA and the mine operators to make sure contamination is reduced, cleaned-up and better standards are introduced to make sure the contamination stops.

Using landfill rehabilitation guidelines for these wet, toxic sites is not appropriate. Likewise, capping the ash dams and walking away is not the solution.

Current situation

None of the coal ash dams in Latrobe Valley were built to EPA's best practice standards, let alone world's best practice. They are already causing environmental harm.



Why is this a problem?

One of the big issues with coal ash pollution is that the full extent of the contamination problems don't appear until decades later. This is the experience in the United States, for example, where communities living near coal ash dams have suffered catastrophic harms, including deaths, caused by poorly constructed and managed coal ash dams.

A US EPA risk assessment warns peak pollution from ash dams occurs 78 to 105 years after they first started operating. Thus old dam sites, even

if they cease receiving coal ash, still pose very significant environmental and human health threats.

We might not think this is a problem at the moment, but we can't let that stop us from wanting the best for our community now.

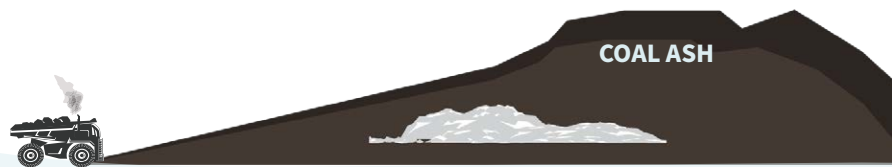


Under the Environment Protection Act 2017 – the law that licences and pollution controls are made under – coal ash is categorised as a 'priority waste'.

This categorisation imposes several obligations on coal ash dam operators in Latrobe Valley. These duties include taking all reasonable steps to ensure that coal ash is contained in a manner that prevents its escape and is isolated in a way that ensures resource recovery is practicable. It also imposes a duty on the power station operators to investigate alternatives to disposal of coal ash,

including reuse and recycling, and minimising the impact on human health and the environment from coal ash generation and disposal.

From 2017 – 2021 the EPA reviewed the coal-burning power station licences for Yallourn, Loy Yang A and Loy Yang B. The EPA has included new licence conditions in the licences for Yallourn and Loy Yang to complete coal ash rehabilitation plans by December 2021. The current EPA guidelines are not fit for purpose for ash dam rehabilitation, therefore setting up the remediation for serious shortfalls.



What does this mean for mine rehabilitation?

Yallourn and Hazelwood have ash dams inside their mines. If the operators want to flood the mines then we must make sure that the rehabilitation standards of the ash dams are as strict and comprehensive as possible.

We need to make sure the rehabilitation of ash dams is comprehensive. Otherwise we're just letting a big problem sit there and become the community's problem later down the track once

the power stations have closed and their owners have moved on.

Now that Yallourn and Loy Yang A power stations are required to think about and prepare rehabilitation plans for the ash dams, the EPA – and the community – has an opportunity to ensure that best-practice rehabilitation happens to protect our community and local environment.

9NEWS

Yallourn coal mine failings should be **subject of inquiry**, environment group says

The Sydney Morning Herald

Latrobe Valley residents lodge **legal push over toxic coal ash**



Environment
Protection
Authority Victoria

EPA fines Energy Australia for **ash slurry spill**

Who is the EPA?

The Environment Protection Authority Victoria (EPA) is the statutory authority for controlling pollution in Victoria. This includes decisions on whether to allow new industrial facilities to be built, issuing and amending licences that control how much pollution a facility can emit, and taking regulatory action to chase-up pollution incidents and taking legal action.

Victorians rely on the EPA to protect us from health and environmental impacts caused by pollution

and waste. We rely on the EPA to make sure we have the information we need to understand what pollution and contamination we live near, whether we're exposed to that pollution, and how much we're exposed to.

If you see pollution or contamination occurring, or want to know more about pollution near you, contact EPA by emailing contact@epa.vic.gov.au or calling 1300 372 842.

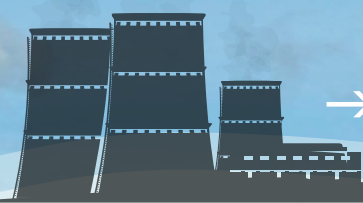
Cleaning up the mess

So what does best practice coal ash dam closure planning look like? Experts in coal ash dam law and regulation at Environmental Justice Australia say it includes the following:

- A comprehensive corrective action plan developed in partnership with the community, including: detailed descriptions of the site; contamination; remedial action to prevent ongoing contamination of groundwater, surface water, air and land; and requirements for timely public safety announcements.
- Strategies for coal ash reuse which apply the Victorian waste hierarchy.
- Comprehensive water quality modelling that estimates how quickly groundwater and surface water contamination will improve; how much contamination is expected to continue to leak into water sources; and a prediction for the effect of pollution control measures including removal of contaminated materials.
- A closure plan that is enforceable by both the EPA and the community.
- The operator is required to maintain financial assurance before rehabilitation takes place.
- The impact of the ash dam's contaminants in ground water, surface water, air and land are detailed, as are the environmental and human health impacts of these contaminants.
- There are detailed descriptions of long-term monitoring program (at least 30 years) funded by the operator that include: groundwater monitoring systems; remedial actions to restore groundwater to original conditions where contamination continues or in the event that contamination is discovered post-closure; and ash dam cap inspection and cap maintenance.
- All documents related to ash dam rehabilitation are publicly available.



COAL EXTRACTION



**COAL COMBUSTION
POWER STATION**



TRANSPORTATION



**CEMENT/CONCRETE,
CONSTRUCTION,
MAGNESIUM**

What about reuse industries?

Is reusing coal ash a good idea? It is, if it's safe to use it. The safest way of using coal ash in other industries is when it's incorporated into a solid form such as concrete, bricks and tiles. But when it comes to coal ash from brown coal, even the coal ash reuse industry says there's not enough

information to know how to safely use Victoria's coal ash.

The Victorian EPA does not have guidelines for reusing coal ash safely. To make sure that it's safe to use we need the EPA to make safe reuse guidelines.



ACCESS TO INFORMATION



PUBLIC PARTICIPATION



ACCESS TO JUSTICE

Community having a say

Best practice environmental planning and decision making includes thorough community engagement.

This is critical to make sure that planning and decisions are made to thoroughly protect environmental and community health.

The new conditions in Yallourn and Loy Yang licences provides the Latrobe Valley community with an opportunity to ensure the EPA requires the power station operators implement best practice coal ash dam rehabilitation and closure planning. And it provides the operators, who are happy to tell us that they want us to be informed and involved in conversations about rehabilitation, to put their money where their mouths are and make sure we're involved in the rehabilitation and closure planning design.

Community engagement in environmental decision making is so important that international law was made about it 30 years ago. This is known as the Aarhus Convention which stipulates that community engagement in environmental decision making must include access to information, public participation and access to justice.

Best practice community engagement in Latrobe Valley regarding the ash dams doesn't currently exist:

- We have no idea of the extent and severity of the ash toxicity.
- We don't have access to water monitoring data.
- We don't know the structural integrity of the ash dams.
- We don't know how and to what standard Engie is required to rehabilitate the Hazelwood ash dams.

All these unknowns breed mistrust between the community and the power station operators, and the EPA whose job it is – if it applies best practice to itself – to provide us with the information we need to know what we're living next to and how we can be deeply involved in the planning and decision making for the future of our region.

The Latrobe Valley community must have the opportunity to contribute to and participate in decision-making. We must have access to the information we need to do so. We must have a seat at the table in the planning, design, and outcome of the ash dam rehabilitation plans.

Environmental justice and comprehensive remediation are part of a just transition

AFTER THE MINE FIRE AND CLOSURE ANNOUNCEMENTS WE STILL DON'T HAVE CLEAR SOLUTIONS FOR REHAB

A lot of important things have happened since the Hazelwood mine fire in 2014. Initiatives like The Health Innovation Zone, Special Economic Zone, Latrobe Valley Mine Rehabilitation Authority and Latrobe Valley Regional Rehabilitation Strategy were established. However, none of these initiatives treat environmental remediation as an opportunity to properly clean-up the result of years of mining, nor as a way to create local jobs and expertise.

DESPITE THESE IMPORTANT DEVELOPMENTS WE STILL HAVE NO IDEA WHAT MINE REHABILITATION WILL LOOK LIKE AND WHAT WILL BE DONE TO THOROUGHLY REHABILITATE THE COAL ASH DAMS

It's very unclear what the relationship between the relevant government agencies and the power station operators is to ensure coal ash dams inside both Yallourn and Hazelwood mines are comprehensively rehabilitated to stop contamination.

The Latrobe Valley community must be left with safe water and land that we can use well into the future.

JOB FOR WORKERS IS NOT EVEN HALF OF THE ISSUE

A just and fair transition isn't just about moving people from one industry to another or focusing solely on coal workers. These are important aspects of a just transition, but they're not – and shouldn't be – the only focus. We all rely on a clean environment to have the healthiest lives possible, so it needs to be about everyone.

The good news about comprehensive environmental remediation is that it creates jobs and cleans up our land, water and air.

A CLEAN ENVIRONMENT TO SUPPORT HEALTHY COMMUNITY

One of the initiatives to come out of the Hazelwood Mine Fire Inquiry was the creation of the Health Innovation Zone (HIZ), Assembly and Advocate. Many people had a lot of hope about what the HIZ meant for the Latrobe Valley and it has done a lot of good work. But one thing that these initiatives don't do is take environmental pollution into consideration as an impact on people's health.

Environmental pollution, such as air pollution, can and does have a poor impact on people's health. It causes asthma attacks, higher rates of childhood asthma, cancers, heart diseases and stroke.

For years we've looked out at mines and power stations. Wouldn't it be nice, to look out over a landscape that has been comprehensively remediated and know that a new local job industry was created to protect our land and water after the last mine closes?

If the mine operators are allowed to use water to fill the mines, what does poor ash dam rehabilitation mean for water quality? Will we really be expected to swim and water ski in a large contaminated puddle? Or will the mines be fenced?

Is a just transition about doing the bare minimum to clean-up after over one hundred years of digging up and burning coal? Or should it be about everyone who lives in the Valley?

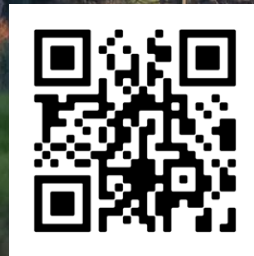
If the environment that we live in has high rates of pollution, who will advocate for us to make sure that we can have happy healthy lives?

What's next?

READ THE FULL REPORT AND GET MORE INFORMATION

SIGN UP TO OUR MAILING LIST FOR UPDATES ON NEWS AND EVENTS

GET INVOLVED WITH THE MOVEMENT FOR A JUST TRANSITION



flowlatrobe.org/coalash/

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We acknowledge and pay our deep respects to the First Nations people of the land on which the coal-burning power stations, ash dams and mines are located – the Brayakaulung People of the Gunaikurnai nation. We pay our respects to their elders past and present. We acknowledge that Brayakaulung sovereignty has never been ceded. We acknowledge that the Brayakaulung people cared for country for tens of thousands of years with dignity and companionship. Despite the violence and trauma of colonisation, the dignity and companionship with which the Brayakaulung care for country continues unbroken.

References

Why is this a problem p3:

'Health of Children Living Near Coal Ash', Global Pediatric Health, Volume 4, 1-8 (2017) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5533260/> at 4-7 to 4-8.

Current situation p3:

Environment Protection Authority Victoria, Siting, design, operations and rehabilitation of landfills, Publication 788.3. Available at: <https://www.epa.vic.gov.au/about-epa/publications/788-3>

Under the Environment Protection Act 2017 p3:

Environment Protection Regulations 2021 (Vic) Schedule 5.
Environment Protection Act 2017 (Vic) s 139 (2).
Environment Protection Act 2017 (Vic) s 140.
Environment Protection Act 2017 (Vic) s 140 (1)(a)(i).
Environment Protection Act 2017 (Vic) ss 140(1)(b)(iii), 111(1)(a)

Coal licence review p3:

<https://engage.vic.gov.au/review-brown-coal-power-station-licences>
The power station licences are available in the EPA's website:
<https://www.epa.vic.gov.au/for-business/permissions/search-for-licence>

Cleaning up the mess p5

https://www.envirojustice.org.au/wp-content/uploads/2019/07/EJA_CoalAshReport-lr.pdf

What about reuse industries? P5

The Aarhus Convention
https://www.adaa.asn.au/uploads/default/files/adaa-case_study_9.pdf
Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters
<https://ec.europa.eu/environment/aarhus/>



Environmental
Justice Australia

Environmental Justice Australia is a not-for-profit public interest legal practice. Funded by donations and independent of government and corporate funding, our legal team combines a passion for justice with technical expertise and practical understanding of the legal system to protect our communities and environment.

envirojustice.org.au



Friends of Latrobe Water (FLoW) is a community advocacy group based in Gippsland, Victoria working to facilitate a positive post-coal mining legacy for future social and economic prosperity of the region in a manner that safeguards and protects the community and surrounding environment, including the Latrobe River.

flowlatrobe.org