

**Submission  
No 76**

## **INQUIRY INTO COSTS FOR REMEDIATION OF SITES CONTAINING COAL ASH REPOSITORIES**

**Organisation:** CEN (Community Environment Network), Central Coast & Lake  
Macquarie

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## **Community Environment Network Inc.**

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*An alliance of community and environment groups from Lake Macquarie, Wyong and Gosford.*

NSW Parliament  
LEGISLATIVE COUNCIL  
PUBLIC WORKS COMMITTEE

### **Re: Inquiry into the costs for remediation of sites containing coal ash repositories**

Dear Madam or Sir,

The Community Environment Network (CEN) is a network of community and environment groups in the Central Coast and Lake Macquarie. CEN was established in 1997 and has the Mission of Supporting Ecologically Sustainable Development (ESD) and opposing threats to ESD.

CEN has a membership of 400, including 70 groups. These groups in turn have a membership of approximately 5,000 members. CEN is a highly credible organization and has contributed an estimated \$10 million to the Central Coast and Lake Macquarie environment from grants, contracts and donations plus another \$20 million in work by volunteers as 'In Kind' in the 20 years since formation.

This submission is prepared for CEN by Dr Heinz-Joachim Muller, a member of the Executive Committee of CEN. He also attended the site visit of the commission in 2019 investigating the coal ash dam of the Eraring power station.

We support our natural environment and commend the NSW government for investigating their responsibility and liability for remediating contamination at sites associated with power stations.

## **Our comments, listed according to the structure of the Terms of Reference:**

### **(a) prospective or current quantum of government liability for remediating contamination at sites associated with power stations**

As stated in some reports, the State NSW is in charge of remediation of at least some of the power plants, like e.g. Vales Point Power Station after their end of life, although these power plants have been sold to private investors. The details can be determined by the legal team of the NSW government.

The remediation will be very expensive. This paper <https://www.powerengineeringint.com/2015/03/18/managing-coal-ash/> gives an idea about the cost involved:

*“... According to the ACAA, if the coal ash can be piped to the site, rather than trucked, and the ash is easy to handle, costs could be around \$3–\$5 per tonne.*

*However, when the disposal site is further away and a more complex transport solution is needed due to either higher moisture content or larger volume, the cost could rise to \$20–\$40 per tonne.*

*If a new disposal site is needed, involving an extensive permitting process, total costs will be even greater. ...”*

(As the paper is from 2015 and the costs are in US\$, the actual cost in AU\$ will be at least 50% higher in Australian dollar.)

With an estimated 60 million tons of coal ash in the Lake Macquarie area alone, remediation will be a costly activity:

In addition to the above figures it is also necessary to consider the cost of removing the coal ash from the existing storage and remediation to the existing storage site.

Picking the highest number (US\$40 = AU\$60) for the above reasons results in a cost of more than 3 billion dollars (60,000,000 t \* 60 \$/t = \$3,600,000,000 ) for the remediation of the coal ash dams at Lake Macquarie alone.

### **(b) prospective timing of government expenditure in relation to remediation at those sites**

All sites store coal ash inferior to best practice and must be brought to a safe standard as soon as possible, even before the closure of the power plants.

### **(c) economic and employment opportunities associated with coal ash re-use, site remediation and repurposing of land**

There is a huge amount of work involved in remediating the existing sites. Just at Lake Macquarie there are 60 million tons of coal ash to be removed from unlined dams near open water bodies and close to populated areas. The skills required for this task are actually quite

similar to the skills required for open cut mining. This will keep many miners employed for many years to come even if mines and coal fired power stations have been shut down.

Once remediated, the land used for coal ash dams and everything else related to power stations will provide large areas of valuable land for revegetation, settlements and leisure.

**(d) adequacy and effectiveness of the current regulatory regime for ensuring best practice remediation of coal ash repositories**

Our existing regime for dealing with coal ash is far below the state of the art and best practice. The current regulatory regime is not up to standard.

Reuse targets for ash are 80%. However, at the moment e.g. at the Eraring power station only about 35% of the ash is reused.

<https://www.powerengineeringint.com/2015/03/18/managing-coal-ash/>

Best practice is avoidance of coal ash by appropriate use or if that is not possible, by dry storage of coal ash in permanent water-protected sites.

We need to look at what other countries have been doing:

- Many European countries have no ash dams at all, although they still are using coal. Coal ash is either recycled into concrete or other building materials or in other applications where it safely can be used.
- In the US wet storage in coal ash dams is to be abandoned and all wet stored coal ash has to be moved into dry storage with waterproof lining and with a watertight capping.

**(e) mitigation of actual or perceived conflict of interest arising from the state having ongoing liability for remediation costs the quantum of which will be impacted by government policy and regulatory action**

This is a serious conflict of interest, with the state NSW being on the one hand either the owner or the former owner and being liable for remediation and on the other hand setting and enforcing the rules for safe and proper remediations according to best practice as mentioned in point d).

However, the state NSW has above all the responsibility of working for the safety and health of all of its citizens and residents.

**(f) risks and liabilities associated with inadequate remediation including community and environmental health impacts**

As reported in many publications, leachates from coal ash dams contain heavy metals, selenium and other metals and other contaminations. The existing ash dams have no watertight lining nor is there a watertight capping material. This means that all contaminants will be slowly leached out as the rain water percolates through and a part of this leachate will end up contaminating ground water and/or adjacent waterbodies. This is a slow process and it will continue far into the future unless the coal ash is removed and either repurposed or stored in a watertight storage.

**(g) any other related matters**

- There is no significant amount of mercury found in the leachates from coal ash in NSW. While this is a good thing, it points to the fact that power plants in NSW have no mercury filters installed in the exhaust gas treatment. This is far below international best practice and the mercury coming from the burned coal will be finely and widely spread over the whole population of NSW.
- There are no or insufficient environmental bonds for unplanned safety issues and for the final closure and safe remediation of the ash dam after the closure of the coal fired power stations. This means that eventually the state NSW and in consequence the taxpayer will foot the bill.
- Ground water assessment and test of air are insufficient. For instance, at Eraring power station are just four groundwater sampling sites with samples taken every half year. And the critical components like heavy metals, arsenic and selenium are not even tested. And there is only one air testing station in the region Central/Lake Macquarie.
- The test data for water and air quality data are not or only with difficult to access.
- Ash dams for instance at Vales Point power station are capped with soil and rock from other building sites like the NorthConnex tunnel. This is not a water tight capping material and rain water will get into the covered coal ash with leachates seeping into the ground water and into nearby water bodies.
- While the installation of a large solar farm of more than 30MW on the coal ash dam of Vales Point power station may look like a step into the right direction, it will make a future remediation of the ash dam even more costly.
- The NSW government should make access to information about ash dumps transparent and available to the Australian community, including all existing management plans, details of financial assurance, rehabilitation plans, pollution incidents, fines and other enforcement actions taken by regulators, monitoring data, hydrogeological assessment, predictions for future contamination, and predictions for future land-use planning.

## **Conclusion**

Storing a large amount of toxic material open and in close proximity to residential areas and close to wetlands and water bodies is a serious problem. The NSW government must make sure that coal ash is not be 'stored' but reused or repurposed in safe ways, as done in other developed countries.

Yours sincerely,

Dr Heinz-Joachim Muller

Executive Committee member of CEN

Community Environment Network, Central Coast and Lake Macquarie