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Submission: Clean air consultation paper

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Thank you for the opportunity to submit to this important work.

We strongly support action to improve air quality in New South Wales, and since the coal mining industry is responsible for more than half of the particulate pollution in this state, support the focus on coal mining that is taken in the paper.

Key points

- The Government must achieve the 50% reduction in particle pollution that the EPA says is necessary to meet air quality standards in the Hunter Valley even if this means a reduction in the scale of coal mining.
- We support expanding and strengthening the load-based licencing scheme by applying it to coal mining and making sure the fees the mines pay for particulate and other air and water pollution reflect the damage it does in the broader community.
- A previous EPA paper has cited a damage cost of PM₁₀ pollution in the Hunter of \$73,000 per tonne. Applying this to last year's overall PM₁₀ pollution load from the coal mining industry would put the damage bill at around \$6.9 billion. But this damage bill is not evenly spread. Around 30% of the industry's total PM₁₀ pollution in 2014/15 was created by the three dirtiest mines in the Hunter Valley, Glencore's Ravensworth Mine Complex, Rio Tinto's Hunter Valley Operations and BHP's Mt Arthur, the biggest of them all.
- The EPA should manage the Hunter Valley as a "critical zone" for air pollution and coordinate load-based licencing of air pollution with tight limits imposed via other licences and the development consent process to ensure national standards are being met.
- The clean air plan should incorporate additional action to reduce particulate emissions from coal mining including set-backs for coal mines from villages and sensitive land uses and a limit on the overall number and scale of coal mining that can be undertaken at any time and controls on off-road diesel engines,
- One major omission is a set-back rule for coal mines in close proximity to homes, schools and other sensitive locations. We believe a 2km exclusion from homes and schools is more than reasonable and should be included as part of the clean air plan.

- We support action to reduce emissions from coal fired power stations but the failure of the clean air consultation paper to address and discuss the greenhouse pollution from coal power stations is highly negligent and irresponsible. It is an omission that must be addressed.
- We urge the EPA to make the clean air summit accessible for regional and low-income people to attend.

The objective of the plan “to improve average air quality across NSW” seems appropriate, but we believe that the EPA and the Government should clearly signal that no matter where you live, the Government is committed to improving your air quality. With this in mind, “across NSW” needs to mean that the improvement occurs everywhere. Air pollution and its impacts are not evenly spread in the state. Making the objective an “average” improvement implies that the Government will continue with the currently unacceptable practice of allowing breaches of national particle pollution standards in some localities. Given that standards have been adopted nationally, these are the appropriate objectives for the plan. Regarding the actions outlined in the consultation paper for industry sources, which is our main concern, we urge the Government to more specifically commit to reducing the sources of particulate pollution. One major omission is a set-back rule for coal mines in close proximity to homes, schools and other sensitive locations. We believe a 2km exclusion from homes and schools is more than reasonable and should be included as part of the clean air plan.

The accelerated increase in PM₁₀ pollution in the last ten years corresponds to an intensification of open-cut coal mining in the Hunter Valley. Since 1992, PM₁₀ pollution has increased 48%, but three quarters of this rise has occurred in the last twelve years. Predictive modelling commissioned by the EPA indicated that the annual average PM_{2.5} Ambient Air Quality Standard of 8µg/m³ “is unlikely to be attained in Singleton and Muswellbrook into the future as coal production in the Hunter Valley is expected to continue to increase” and that **human-made sources of this pollution need to be reduced by 50% to meet the standard**. Some of this reduction can be attained by changing mining practices, but there must be an acceptance from the Government and industry that there are limits to how much country can be open-cut at any one time if we are to protect the surrounding population from the damaging health consequences of air pollution.

This urgent air quality problem, and the stark analysis that to meet the national standard for the most damaging fine particles in the Singleton and Muswellbrook areas, human-made emissions of particle pollution must be reduced by half, provides a powerful argument in favour of imposing limits on production of coal in the Hunter Valley at a level below the current rate, and a timetable to urgently transition the industry into compliance with basic environmental standards.

The load-based licensing discussion paper released last year is frank about the contribution that coal mining, particularly in the Hunter Valley, is making to rising particulate pollution. We do not accept the premise that coal production in the Hunter has to continue increasing and the EPA should not accept this either. The information objectively described in the Discussion Paper indicates that there is a limit to how much coal production can be undertaken in close proximity while ensuring the health of the surrounding communities.

A previous EPA paper on this topic cited a Department of Environment and Conservation study that estimated a damage cost of PM₁₀ pollution in the Hunter of \$73,000/tonne¹. Applying this to last year's overall PM₁₀ pollution load from the coal mining industry would put the damage bill at around \$6.9 billion.

Lock the Gate has analysed pollution data from the National Pollution Inventory (NPI) to investigate the scale of contribution the coal mining industry is making to particulate and other air pollution. As Table 1 shows, around 30% of the industry's total PM₁₀ pollution in 2014/15 was created by the three dirtiest mines in the Hunter Valley, Glencore's Ravensworth Mine Complex, Rio Tinto's Hunter Valley Operations and BHP's Mt Arthur, the biggest of them all. These mines are imposing a huge health cost on the region and the state and we urge the EPA to ensure that an appropriate cost per kilogram is imposed on the industry via the load based licencing scheme to reflect this cost.

Table 1: Top ten coal mine sources of PM10 pollution according to 2014/15 NPI data

Mine	coal prod'n (MT)	PM ₁₀ (kg) 2014/15
<i>Mt Arthur</i>	25.14	10,622,387.59
<i>Hunter Valley Operations</i>	17.65	9,702,940.00
<i>Ravensworth Mine Complex</i>	12.84	9,099,757.94
<i>Mount Thorley Warkworth</i>	18.76	8,200,495.00
<i>Boggabri Coal Mine</i>	5.3	7,024,985.18
<i>Liddell Coal Operations</i>	6.93	6,210,129.00
<i>Bengalla mine</i>	8.6	4,692,169.00
<i>Mangoola mine</i>	11.26	4,401,440.00
<i>Bulga mine</i>	11.36	3,961,229.38
<i>Werris Creek mine</i>	2.38	3,032,716.86
<i>All coal mines</i>		95,366,678.01
<i>All industry sources in NSW</i>		163,362,812.51
<i>Coal mining % of whole</i>		58%

On the specific actions canvased in the Clean Air consultation paper, we strongly support application of the load-based licencing scheme to coal mining with a fee level sufficient to provide a strong incentive to reduce overall loads of particle and other pollution. We also support the action to "Minimise emissions from coal-fired power stations" though this is a very general statement.

We note that measures to reduce air pollution from coal power stations can have negative other consequences due to the increased toxic ash capture which is concentrated pollution that must then must be disposed of in some way. We encourage the Government to pursue a coordinated approach to managing ash dams and disposal with air pollution and greenhouse emissions. The actions and goals that are specified for this need improvement. We notes that the largest air pollution volumes produced by the power stations are greenhouse gases. These are not currently regulated at all in NSW despite commitments made by Australia internationally to be part of international action to keeping global warming to below 2 degrees above pre-industrial levels. Meeting this commitment likely means a phase out of all coal power in OECD countries by 2030, neatly complementing the

¹ PAEHolmes February 2013. *Methodology for valuing the health impacts of changes in particle emissions - final report*. EPA NSW. Available here: <http://www.epa.nsw.gov.au/resources/air/HealthPartEmiss.pdf>

timeline for the Clean Air Plan. Since the Coal Innovation NSW mentioned in the Clean Air Consultation paper study does not actually address this problem, there is scope for the EPA to include this pressing commitment and actions to meet it in its Clean Air plan. Similarly, we support action to “strengthen the mining rehabilitation framework” but seek specifics on the actions that would be pursued for this. We support the proposal for increased dust capture from coal mining and transport activities, but there are no specific actions proposed for this at the mining end. We urge the EPA to continue its work trying to reduce emissions by off-road diesel engines in coal mines, but also propose that there be more rigorous actions considered, including caps on overall production and land exposed, if that is the only way to meet the standards.

The situation in the Hunter Valley’s open cuts is acute, given how many of the coal mine that are tightly clustered around Singleton and Muswellbrook are among the top 10 or 20 sources for pollutants that are damaging to people’s health. It is no surprise that Mount Arthur, Ravensworth, Hunter Valley Operations and Mount Thorley Warkworth top the lists of pollution sources, given their size. Their proximity to each other, and to the Bayswater and Liddell power stations raises serious concerns about the cumulative impact this load, not just of particles but of toxic pollutants, might have on nearby populations.

Table 2: Top ten coal mine sources of PM_{2.5} pollution according to 2014/15 NPI data

Mine	coal prod'n (MT)	PM2.5 (kg) 2014/15
Ravensworth Mine Complex	12.84	312,966.31
Liddell Coal Operations	6.93	277,127.00
Bulga mine	11.36	207,592.76
Mt Owen Mine	15.06	182,787.00
Mt Arthur	25.14	164,570.60
Glendell & Ravensworth East	15.06	152,849.00
Hunter Valley Operations	17.65	134,228.10
Mount Thorley Warkworth	18.76	124,972.10
Tarrawonga mine	1.98	93,056.57
Wambo mine	9.91	82,311.01
All coal mines		2,478,129.78
All industry sources in NSW		4,798,634.01
Coal mining % of whole		51%

As Table 2 shows, in the 2014/15 NPI reporting year, six Hunter Valley coal mines were responsible for nearly half of the industry’s total emission of PM_{2.5}: Ravensworth, Liddell, Bulga, Mt Owen Mine and Mt Arthur Coal and Ravensworth East. The health impact of particulate pollution on Hunter communities is being caused by a small number of companies at a small number of facilities, but is causing a widespread and lasting health damage.

Comparing pollution loads reported to the NPI against production capacity, there is wide variation in emissions per kilotonne of coal production. All 45 coal mines reporting to the NPI report emissions of PM₁₀ in 2013/14, but as Table 3 shows, eight of them (Bloomfield, Boggabri, Duralie, Liddell, Ravensworth, Tarrawonga, Ulan and Werris Creek) created emissions of that pollutant that year at more than twice the average rate per kilotonne of the industry as a whole, which was 399kg per kilotonne. Similarly, for PM_{2.5}, several mines had emissions twice the industry average in 2013/14, Bloomfield, Integra open cut, Liddell, Ravensworth, Tarrawonga, Werris Creek and Wilpinjong.

Tarrawonga and Werris Creek reported creating a tonne of PM₁₀ pollution for every megatonne of coal. In 2014/15, the industry average for pollution of PM₁₀ per kilotonne of coal production was lower, at around 345kg per kilotonne, and three Namoi mines, Tarrawonga, Boggabri and Werris Creek, produced PM₁₀ pollution at three times this rate. This is again an argument that measures the EPA has introduced in the Hunter Valley should be extended to the Namoi and demonstrates a wide range of pollution rates against production.

In the most recent reporting year for the NPI, in 2014/15, it was mines outside of the Hunter that produced the highest quantities and the highest rates of pollution per tonne of production to the NPI. Tarrawonga, Boggabri, Werris Creek, Rocglen and Duralie had the highest rates of PM₁₀ reported to the NPI, all five reported an increase from the previous year, with the three Namoi mines producing particulate pollution at three times the average rate of the rest of the industry. This is an indication that the measures being used to address particulate pollution in the Hunter, including public-owned monitoring and pollution reduction programs targetting dust and diesel, should be expanded to the Namoi region.

Table 3: Rates of PM10 pollution per Mt production in NSW coal mines in 2013/14

Mine	Coal prod'n (Mt)	PM ₁₀ pollution (kg)	Pollution rate (kg/Mtonne)	Av. pollution rate 13/14
<i>Werris Creek No 2 Coal Mine</i>	2.38	2,985,900.00	1,254,579.83	399,209.96
<i>Tarrawonga Coal Mine</i>	1.98	2,252,388.93	1,137,570.16	399,209.96
<i>Liddell Coal Operations</i>	6.93	6,690,804.00	965,483.98	399,209.96
<i>Boggabri Coal Mine</i>	5.3	4,875,359.03	919,879.06	399,209.96
<i>Rocglen Coal Mine</i>	1.01	916,322.99	907,250.48	399,209.96
<i>Duralie Mine</i>	3.18	2,864,570.00	900,808.18	399,209.96
<i>Ravensworth Mine Complex</i>	12.84	11,412,730.12	888,841.91	399,209.96
<i>Ulan Coal Mine</i>	7.99	6,951,731.79	870,054.04	399,209.96
<i>Bloomfield Colliery</i>	1.08	938,728.80	869,193.33	399,209.96
<i>Wilpinjong Coal Mine</i>	17.33	13,184,175.85	760,771.83	399,209.96
<i>Integra Coal Open Cut Mine</i>	2.97	2,127,123.01	716,203.03	399,209.96
<i>Wambo Mine</i>	9.91	6,550,410.30	660,989.94	399,209.96
<i>Drayton Mine</i>	3.78	2,443,060.00	646,312.17	399,209.96
<i>Hunter Valley Operations</i>	17.65	9,900,632.00	560,942.32	399,209.96
<i>Mangoola Coal</i>	11.26	5,900,000.00	523,978.69	399,209.96
<i>Bengalla Operations</i>	8.6	4,392,545.00	510,761.05	399,209.96
<i>Mount Thorley Warkworth</i>	18.76	8,933,270.00	476,187.10	399,209.96
<i>Muswellbrook Coal</i>	1.39	627,998.82	451,797.71	399,209.96
<i>Rix's Creek Pty</i>	2.9	1,248,079.70	430,372.31	399,209.96
<i>Bulga mine</i>	11.36	4,570,007.67	402,289.41	399,209.96
<i>Mt Arthur Coal</i>	25.14	8,960,370.00	356,418.85	399,209.96
<i>Pine Dale Mine</i>	0.17	46,649.10	274,406.47	399,209.96
<i>Austar Coal Mine</i>	1.64	423,877.68	258,462.00	399,209.96
<i>Stratford Mine</i>	3.18	763,489.00	240,090.88	399,209.96
<i>Mt Owen Mine</i>	15.06	2,872,460.00	190,734.40	399,209.96
<i>Moolarben Coal Operations</i>	8.53	1,559,696.00	182,848.30	399,209.96

<i>Glendell and Ravensworth East</i>	15.06	2,505,143.00	166,344.16	399,209.96
<i>Newstan Colliery</i>	0.69	93,115.10	134,949.42	399,209.96
<i>Narrabri Coal Mine - Baan Baa</i>	5.51	486,787.60	88,346.21	399,209.96
<i>Metropolitan Collieries</i>	2.03	172,375.10	84,913.84	399,209.96
<i>Charbon Colliery</i>	1.34	100,760.72	75,194.56	399,209.96
<i>West Cliff Colliery</i>	2.8	124,402.00	44,429.29	399,209.96
<i>Abel Mine</i>	2.45	95,300.00	38,897.96	399,209.96
<i>Angus Place Colliery</i>	3.26	111,472.79	34,194.11	399,209.96
<i>Springvale Colliery</i>	3.5	115,859.19	33,102.63	399,209.96
<i>Tahmoor Coal Mine</i>	2.53	81,399.00	32,173.52	399,209.96
<i>Clarence Colliery</i>	2.39	62,388.40	26,103.93	399,209.96
<i>Ashton Coal Mine Camberwell</i>	3	64,289.69	21,429.90	399,209.96
<i>Integra Coal Underground Mine</i>	2.2	24,155.40	10,979.73	399,209.96
<i>Dendrobium Mine</i>	3.28	28,221.00	8,603.96	399,209.96
<i>Appin Mine</i>	3.26	12,276.14	3,765.69	399,209.96
<i>Mandalong Mine</i>	4.99	16,080.19	3,222.48	399,209.96
<i>West Wallsend Colliery</i>	3.69	7,930.87	2,149.29	399,209.96

Thank you for the opportunity to submit to this import consultation. We very much look forward to attending the clean air summit, and hope that it will be accessible for regional and low-income people to attend.