Clean Air Summit: Survey Results

Following the Clean Air Summit on 27June 2017, the EPA sought the views of attendees and stakeholders via an on-line survey about the management of air quality. These views form important input to the EPA's development of a 10-year strategy for managing air quality in NSW.

The information below summarises the responses of participants to the questions in the survey.

This summary does not represent the views of the EPA, nor is it a complete record of stakeholder views.

Q1 Which group/s do you identify yourself with?*

Answered question	*160*
Skipped question	*0*
Group/s	**Response (%)***
Member of community	41
NSW State Government	22
Industry/ Business	16
Research/ academic organisation	12
NGO/ Community/ Advocacy group	11
NSW Local Council	8
Other (specified)	4

* Respondents could select multiple options

Q2 Please select your location in NSW

Answered question	*160*
Skipped question	*0*
Location	**Response (%)**
NSW Greater Metropolitan Region	66
NSW Regional	23
State-wide	6
Other (specified)	6

Q3 What sources of emissions are you most interested in? (Select all that apply)*

Answered question	*153*
Skipped question	*7*
Emission Source	**Response (%)***
Wood smoke	61
Transport and fuels	48
Coal mining activities	46
Coal transport	39
Power stations	38
Non-road diesel engines	37
Industry in general	37
Hazard reduction burning	37
Diesel locomotives	35
Shipping	28
Waste related facilities (eg, landfill dust and odours)	27
Agricultural burning	25
Small petrol engines	24
Concerned about air pollution but not a specific source	18
Not concerned about air pollution	1

* Respondents could select multiple options

Other comments related to air quality issues associated with:

- proposed Western Sydney airport (multiple)
- wood smoke emissions in Armidale region (multiple)
- proposed Waste to Energy facility at Eastern Creek (multiple)
- coal seam gas infrastructure
- burning of rubbish waste and green waste
- aircraft
- lead from mining and smelting
- fireworks
- indoor gas appliances
- dust from agricultural activities/sources
- herbicides.

Q4 Are you specifically interested in air quality in any of the following locations?* (Select all that apply)

Answered question	*149*
Skipped question	*11*
Location	**Response (%)***
Sydney	42
State-wide	42
Western Sydney	36
Upper Hunter	25
Lower Hunter	24
Regional centres	22
Small communities near emission sources	20
Transport corridors	20
Illawarra	16
Industrial precincts	15
Indoor air quality	13

* Respondents could select multiple options

Other locations of interest included: Armidale (multiple responses), Blue Mountains, Broken Hill, Illawarra and Shoalhaven, North West NSW, food producing areas.

Q5 Did you/your organisation make a submission to the Clean Air for NSW Consultation Paper?

Answered question	*150*
Skipped question	*10*
	Response (%)
No	57
Yes	43

Q6 Did you/your organisation attend the NSW Clean Air Summit on 27 June 2017?

Answered question	*151*
Skipped question	*9*
	Response (%)
Yes	66
No	34

Respondents were asked to provide comment on what additional research could be undertaken; what the main opportunities for improving air quality are; and innovative programs or policies from interstate or overseas that may be relevant to NSW.

Responses (grouped by issue):

Wood smoke

- Further research into economic and health impacts of wood smoke
- Phase out/ban wood heaters
- Use mobile, low-cost sensors to target local emission sources (eg, using particle counters)
- Map local wood smoke pollution hot spots
- Fund replacement of wood heaters with cleaner alternatives (especially where financial hardship)
- Give Councils powers to deal with wood smoke more effectively
- Explore new public awareness approaches for wood smoke
- Concern about the upcoming EPA wood smoke campaign message, "If you can smell it you are already breathing it", based on difficulties it raises for Local Government as responsible for regulation but with limited powers, and the additional concern it may cause communities about their local air quality.
- Return to the "Don't light up tonight" advice for wood heaters when inversions or extremely still conditions are expected.
- Require heaters to be removed before houses are offered for sale and/or do not allow new wood heaters to be installed.
- Research in Tasmania and New Zealand shows that stricter "standards" based on the current AS4013 test do not result in any significant pollution reduction as standards do not represent real-life operation.
- Consider New Zealand's emissions limits of less than 1.5g/kg for wood heaters in properties less than 2 hectares in size; Clean Air Zones, where wood heaters must have emissions of less than 0.5g/kg; and testing using real-life emissions, before authorising wood heaters.
- Consider Launceston's changes to regulation of wood heaters, and education on health impacts including: woodsmoke.3sc.net/policies-elsewhere#Lonnie
- Consider the review: "*What makes a Successful Wood smoke Reduction Program?",* Air Quality and Climate Change, Vol.50, No.3, August 2016
- See wood smoke campaign: *Breathe Utah* www.breatheutah.org/education
- Consider strong wood heater laws in the United States and Chile
- Consider wood heater bans in Canada. Also a registration and wood heater replacement program in Montreal and stringent new Quebec EPA standards: http://legisquebec.gouv.qc.ca/en/ShowDoc/cr/Q-2,%20r.%201

Hazard Reduction Burns (HRBs)

- Coordinate and regulate HRBs
- Investigate alternative methods of fuel reduction to reduce the need for HRBs
- Change land management practices so less HRBs are needed and to lessen impacts
- Better forecasting to predict meteorological conditions applying to HRBs
- Change land management practices to reduce dust and smoke from stubble burning.

Transport and fuels

- Promote reduced motor vehicle use, through planning, car parking, road pricing policies, aligning vehicle registration fees to actual kilometres driven or demonstrated lower emissions, etc
- Promote and expand public transport
- Promote active transport
- Fuel quality standards with lower sulfur levels
- More stringent vehicle emission standards, like those in Europe for on and off-road vehicles
- Stronger air quality standards near major roads/ hot spots/ new major infrastructure projects like West Connex
- Research the health impacts of vehicle-related pollution (including particulates, ultra-fines, NOx and SOx)
- Improve understanding of ammonia (NH_3). With more catalytic converters and subsequent decrease in NOx, and less sulfur in fuels, NH_3 will increase and it is not well understood or quantified
- Research health impacts of major roads/road tunnel emissions
- Require in-tunnel exhaust filtering/capture for all new and existing tunnels
- Better characterise non-exhaust emissions from road transport
- Reduce diesel vehicle use and/or ban diesel vehicles from sensitive zones by time of day
- Require lower emissions from non-road vehicles
- Set dates for introduction of non-road diesel regulations, so industry can plan
- Investigate/set standards for diesel locomotives or “Best Practice Rail”
- Investigate health and environment impacts of diesel locomotive emissions
- Prosecute locomotives for visual exhaust emissions
- Monitor rail hotspots and report results
- Build high-speed rail, as an alternative to the proposed Western Sydney airport
- Research health impacts of shipping emissions, particularly near ports
- Shore-to-ship power for all cruise ships in NSW
- Ban shipping using high-sulfur fuels in port and within a few hundred kilometres
- Consider emissions inspection requirements on vehicle registration in Colorado, United States: https://www.colorado.gov/pacific/cdphe/emissions-testing-changes-2015
- Consider congestion charges applied in London and Singapore
- Consider United Kingdom’s ultra-low emission zones, clean air zones and public-awareness campaigns
- Consider banning of diesel vehicles adopted in Paris city centre, and France’s reduced speed limits on motorways, when air pollution exceeds targets
- Consider “Cash for Clunkers” (old vehicle scrappage) programs.

Coal Chain

- Assess cumulative/respiratory impacts of coal industry on air pollution in the Hunter
- Research air pollution along rail corridors (as recommended by the Chief Scientist)
- Reduce coal dust and require coal cars being transported by rail to be covered
- Set additional air pollution controls for coal-fired power stations

- Control sulfates from coal-fired power stations in summer
- Create mandatory 2km set-backs for homes and villages from coal mines and coal seam gas infrastructure
- Apply Load Based Licensing to coal mining, at an appropriate fee level
- Fast rehabilitation of mine overburden stockpiles to reduce PM10 dust
- Set local air quality goals and deny approval of new and expanded coal mines where air quality goals have not been met
- Require coal companies to cover exposed material
- Prohibit new coal seam gas development, coal-mine expansions, new open-cut mines and further coal-fired power stations
- Reduce fugitive and migratory methane emissions from coal seam gas.

Monitoring and research

- Conduct further particle characterisation studies to better understand the significance of different pollution sources
- Monitor baseline levels to inform suitability or impacts of developments/infrastructure
- Extend the ambient air monitoring network
- Extend real-time air quality monitoring network for the supply of independent data
- Further develop reliable, mobile low-cost mobile sensors/particle counters
- Expand the number of sites conducting PM2.5 monitoring and introduce ultra-fine particulate monitoring
- Target monitoring to areas known to have air quality issues, eg, close to coal mines, power stations, motorways
- Use satellite data for remote sensing of dust and smoke emissions
- Industrial facilities should monitor in real time, and report any breaches directly to the EPA
- Provide detail on new NSW monitoring networks announced at the Summit, and community involvement in positioning of monitors
- See Tasmania's Sense-T (internet of things) movement, that makes historical, spatial and real-time data available on the internet, http://www.sense-t.org.au/.
- See United States EPA's Air Sensor Toolbox: www.epa.gov/air-sensor-toolbox.

Clean Air Metric

- Further development of the Clean Air Metric is needed before it can be used as an effective planning tool
- Develop a Metric that measures the potential accumulation factor of damage due to air pollution.

Urban Design and Planning

- Consider human and environmental health more in conditions of consent, Environmental Impact Statement process, and in the planning process in general
- Ensure that the health risks associated with air quality strongly inform the regulation of land use activity and policy and strategies at a regional and local level
- Consider cumulative impacts in regional air sheds prior to development approvals
- Consider air quality early in the planning process
- Improve urban planning to reduce motor vehicle kilometres travelled and to reduce exposure

- Improve public and active transport infrastructure
- Control population/urban growth in Sydney
- Assess projects in the Sydney region in context of a Master Plan and not as separate environmental assessments, and that Master Plan should have an air quality target
- Shift some air pollution load from Sydney/Cumberland Basin by promoting greater regional growth in Port Newcastle and Port Kembla
- Maintain green spaces to assist with better air quality.

Local/ Regional Issues

- Take immediate actions to reduce wood smoke pollution in Armidale
- Support the Armidale community in reducing wood smoke impacts, through monitoring, wood heater replacement programs, education, etc
- Research the respiratory illness and cumulative impacts of coal mining, coal transport, electricity generation and wood smoke in the Upper Hunter
- Contribution of shipping and overall emissions from the Port Newcastle area
- Examine issue of lead in Broken Hill
- Research into the cumulative impacts of transport, waste facilities, rail emissions, odour and aircraft on Western Sydney air shed
- Develop a NOx strategy for the Sydney Greater Metropolitan Region
- Stop the proposed Western Sydney airport from going ahead
- Stop the proposed Waste-to-Energy plant in Western Sydney from going ahead.

Climate Change, Renewable Energy and General Air Quality initiatives

- Research how meteorology/changing weather patterns under climate change impact on air quality
- Research into the cost benefit and role of renewable energy in reducing air pollution
- Transition from coal-fired power stations to renewable energy
- Incentives, investment, and promotion to increase electricity generation from renewable sources, including solar panels for commercial premises, hospitals, etc
- Support and provide incentives for electric vehicle uptake, including renewable energy stations with battery backup
- Consider Germany's feed-in tariff to encourage domestic and commercial rooftop solar generation
- Consider San Francisco's - *Spare the Air* campaign: http://www.sparetheair.org/.
- Consider the duel carbon/air pollution taxation scheme in Chile
- See the Port of Long Beach, California *Clean Air Plan (*especially measures to reduce truck pollution): http://polb.com/environment/air/default.asp
- See the IMPROVE program, that looks at visibility in United States national parks: https://www3.epa.gov/ttnamti1/visdata.html.
- See 41 recommendations to improve air quality in Sydney made by the NSW Legislative Council in 2006.

Health impacts

- Research the health impacts of air quality, wood smoke and motor vehicles

- Research into the impact of land use and health risks, eg, allowing gyms, childcare centres and other sensitive uses in industrial areas
- Relate air quality and the components of air pollution to specific health effects, eg, hospital admissions/diseases by postcode
- Research to determine if particulates from different emission sources are differentially hazardous
- Improve knowledge of individual exposure
- Research the cumulative effects of adverse air quality.

Economic Impacts

- Conduct Cost Benefit Analyses to determine the greatest impact for the resources deployed
- Target research on areas that will have the largest quantifiable improvement in health impacts
- Examine the potential economic incentives that would be required to drive effective change
- Create incentives for lower emission practices
- Conduct energy cost reviews and set subsidies for lower socio-economic areas.

Load-based Licensing (LBL)

- Strengthen LBL by increasing fees 10-fold (or sufficiently to drive changes)
- Extend LBL to coal mining, shipping and diesel trains
- LBL is too punitive and should only be applied as a last resort – other measures such as those applied overseas should be considered to incentivise industry best practice.

Public Awareness and Education

- Further research into community perceptions of air quality issues and sources
- Identify behaviour change mechanisms for industry and the community
- Public education campaigns re air quality impacts from transport choices, vehicle purchases, garden equipment purchases, electricity sources etc
- Include air pollution causes and impacts in school curriculum
- National air quality forecasting and data service and/or better meteorological forecasting to predict poor air quality days
- Make air quality results more widely available, especially to media outlets, newspapers and local television stations
- Make data publicly available on air quality, wind speed and wind direction for all industrial areas, and develop Apps to provide/report weather/smoke/dust conditions
- Develop time series contour maps of pollutant levels across NSW
- Generate contour maps of areas according to air quality risk, ie, geographic locations most likely to be affected by pollution levels (eg, valleys)
- See Singapore's public awareness campaigns, explaining PM levels and hourly/daily averaging differences: http://www.nea.gov.sg
- Consider Victorian EPA's 1-hour averages for PM2.5 using data from monitoring stations to explain how potential sources may impact on a location (given wind, topography and time of day).

Government Commitment and Action

- Drive change through government action and commitment
- Greater collaboration between Government agencies with consistent overarching policy, strategy, regulation etc
- Improve training and information for Local Councils
- Balance regulation to consider all sources/sectors contributing to the state's emissions inventory
- Extra funds for EPA so it can better regulate/monitor emerging threats and strengthen legislation and licensing
- Develop more accurate emission factors for use in emissions inventories and dispersion modelling, to better guide policy
- Research mitigation strategies that can be applied to air pollution
- Encourage industry to find technological innovations that improve air quality
- Avoid over-regulating industry when other emission sources are more significant, eg, waste and soil treatment industries can get regulated out of the market while providing minimal air quality gains
- Larger emitters to provide more information
- Stop industry self-monitoring.