**Responses to Supplementary and Transcript Questions – Mr Matthew Riley**

**Transcript**

**Question (page 28):**

**The Hon. WALT SECORD:** I take you back to that point. The Grattan Institute gave very clear evidence that there was a dearth or a complete lack in western New South Wales. Is that incorrect?

**Mr RILEY:** That is incorrect.

**The Hon. WALT SECORD:** Can you please provide a list, and if you are unable to do it now on notice, of how many are in western New South Wales?

**Mr RILEY:** We have west of the Great Dividing Range more than 50 monitoring stations.

**The Hon. WALT SECORD:** More than 50 monitoring stations?

**Mr RILEY:** Yes. I will take it on notice and provide detail back to the Committee.

**The Hon. WALT SECORD:** Thank you. I appreciate it.

**The CHAIR:** Perhaps on notice that will provide you with the opportunity, not just the number, the type of monitoring equipment as well so we have the complete picture. That would be helpful.

**ANSWER:** Information on current air quality monitoring stations is provided at Attachment 1.

**Question (page 31):**

**The Hon. NATASHA MACLAREN-JONES:** Can I follow on from the questions that have been taken on notice in relation to the monitoring stations where you provide information about the types and numbers? Is there information or research that has been done to show the number that are required to per capita or based on area size as well and, if so, whether that is included to take as a question on notice or are you able to update now?

**Mr RILEY:** I thank the member for her question. We can provide that information to you. We are guided in the first instance in the design of our air quality monitoring networks by the National Environment Protection (Ambient Air Quality) Measure [NEPAM]. It sets that population thresholds that inform you of the likely amount of monitoring required within a certain air shed or a certain community. That is the primary source of information that we take. However, it is a guidance document and I do note that New South Wales in most regions far exceeds that guidance. For example, in Sydney we would just take the guidance from the NEPAM. Then we would likely only need 11 monitoring stations where currently we have 18.

What we do is we take a critical assessment of the needs of the community, looking at the sources of air pollution within that community, their likely size and the impacts on the community and that informs the monitoring decisions. Also as part of a review of our air quality monitoring network we undertook an international review of how other jurisdictions set population thresholds or monitoring needs. That is available on the Department of Planning, Industry and Environment [DPIE] website but I will make it available to this Committee. In essence what it found is that the population thresholds set by the Australian National Environment Protection (Ambient Air Quality) Measure were the strictest in the world. We require more monitoring per head of population than basically any other jurisdiction or indeed any of the eight jurisdictions we reviewed as part of that review work. I will provide that report to the Committee on notice.

**ANSWER**: The report is available at www.environment.nsw.gov.au/topics/air/monitoring-air-quality/review.

**Question (page 33):**

**The Hon. WALT SECORD:** Is there a draft clean air strategy at this moment? Is there a draft document?

**Mr RILEY:** I would have to take that on notice, regarding the current status of the draft, but draft documents have been prepared.

**The Hon. WALT SECORD:** There is a draft document?

**Mr RILEY:** Documents have been prepared.

**The Hon. WALT SECORD:** What is the timetable for the public release of those documents? What are you telling people who are putting input into that document? When will they expect to see the documents?

**Mr RILEY:** That is a matter for the Government regarding the timing.

**The Hon. WALT SECORD:** The document is done but it is a matter for the Government to release that document?

**Mr RILEY:** No, I specifically mentioned that we have had input into the development of what would be the plan and it is a matter for the Government on the timing of the release of that plan.

**The Hon. WALT SECORD:** You have had input into the plan? "Input into the plan" indicates that you are not the lead agency. Who is the lead agency, then?

**Mr RILEY:** I will direct that to the EPA to provide advice on that.

**ANSWER**: The government intends to publish the final Clean Air Strategy in early 2021, following further consultation on the draft strategy in late 2020. The Environment, Energy and Science Group in the Department of Planning, Industry and Environment is leading the development of the Strategy.

**Question (page 34):**

**The Hon. WALT SECORD:** What will happen after 30 June? There will be no air monitoring at Katoomba?

**Mr RILEY:** We will take that air quality monitoring station and it will be redeployed at another monitoring location. I would have to take on notice the information about what will happen within the community, but that project does not cease just when the monitoring ceases. We have got on board Western Sydney University and other researchers to help with detailed assessment of the data that was recorded during that program. That will help inform the design of future monitoring needs and future monitoring programs.

**ANSWER:** The Blue Mountains and Lithgow Air Watch project is a 12-month air quality monitoring project to overview air quality across all seasons in the region. A final report drawing on the 12-months of data from the air quality monitoring will be released in late 2020.

Monitoring data collected by the project is analysed by Western Sydney University and reports are publicly available on EPA's project page: www.epa.nsw.gov.au/your-environment/air/regional-air-quality/blue-mountains-and-lithgow-air-watch.

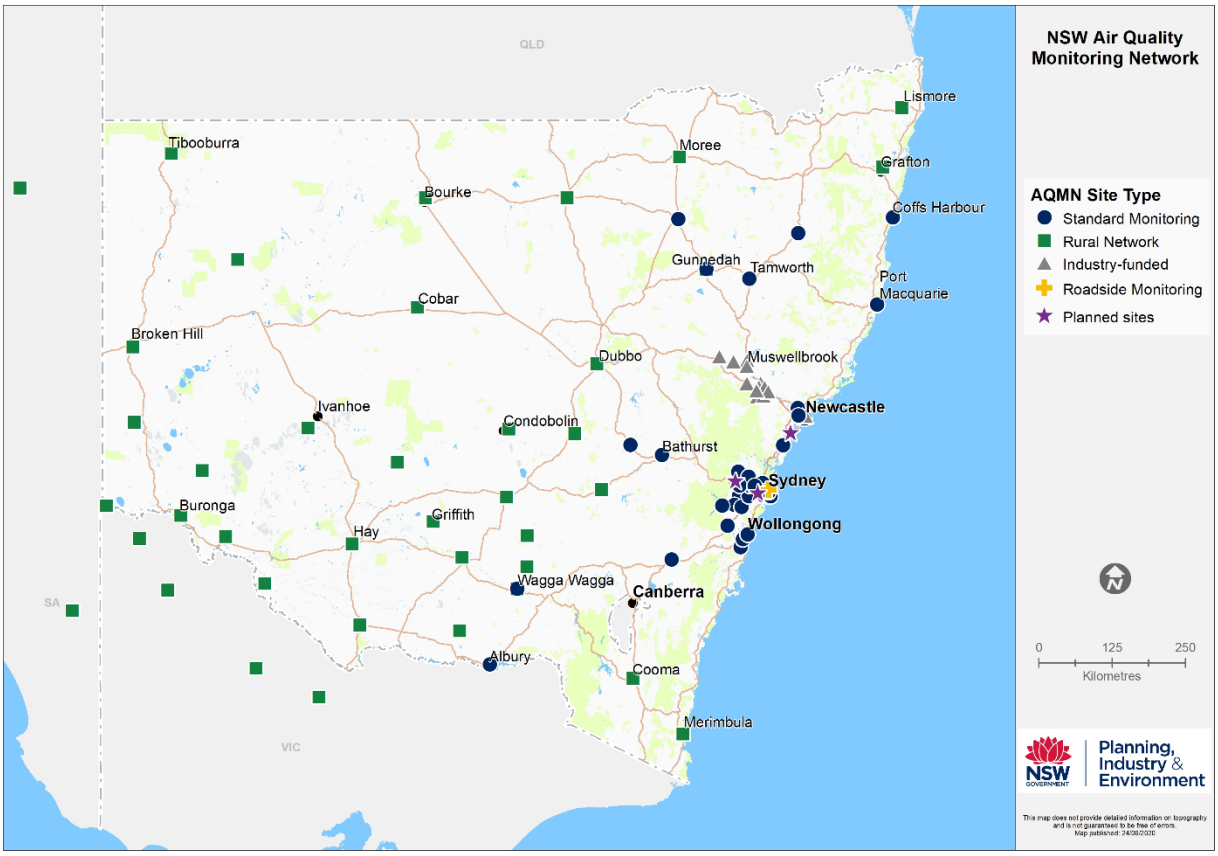
The project will provide a better understanding of air quality in the region and help inform future initiatives to protect air quality.

**Supplementary Questions**

**1. In addition to providing a list of the locations of monitoring stations (taken as a question on notice), could you please provide them in map form.**

**ANSWER:**

Please refer to the list of air quality monitoring stations and locations (Attachment 1) and the following




maps.

*Figure 1: Station locations in the NSW Air Quality Monitoring Network (AQMN). Note: stars indicate planned stations to be operated at Penrith, Lake Macquarie and Lidcombe in 2020.*

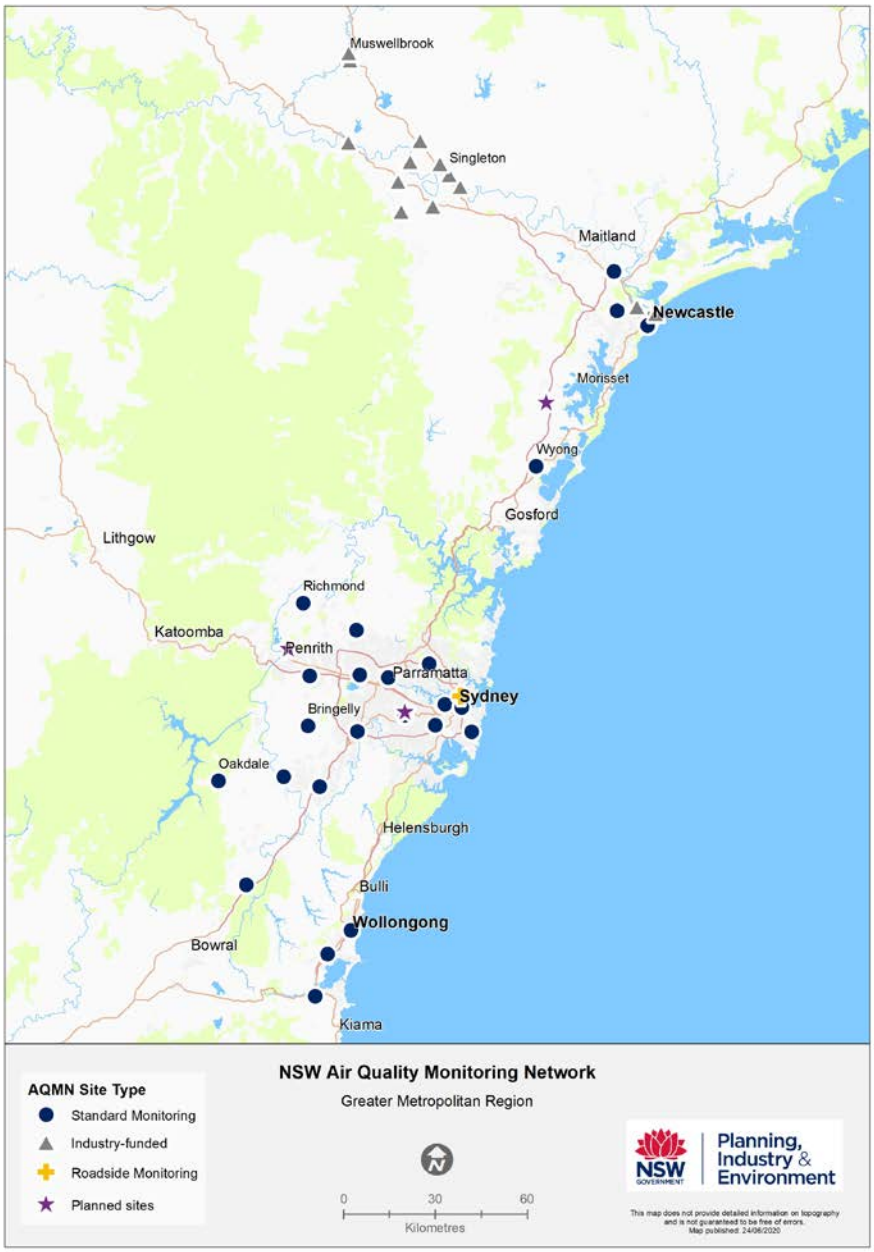



*Figure 1: Station locations in the Greater Metropolitan Region (GMR) of New South Wales. Note: (1) only part of the Upper Hunter Monitoring Network falls into the GMR domain; (2) stars indicate planned stations to be operated at Penrith, Lake Macquarie and Lidcombe in 2020.*

**2. Please provide information on the background to the recent expansion of the air quality monitoring network, the government's intentions for further expansion, and the framework for determining where new sites are to be located.**

**ANSWER:**

**Background to the recent expansion of the air quality monitoring network**

The recent expansion of the NSW air quality monitoring network (AQMN) is a result of multiple factors that increase the need for enhanced data and information on air quality in NSW, such as population and industry growth, Government development planning and land use, changing community expectation and Government commitment for improving air quality management in NSW.

The expansion delivers on the Government's commitments to new air quality monitoring stations in a number of metropolitan and regional locations at the Clear Air Summit in June 2017 and was a key part of the Government's immediate response to the recent 2019–2020 bushfires.

In response to the bushfires, emergency air quality monitors were temporarily deployed at Merimbula, Cooma, Lismore, Grafton, Coffs Harbour, Port Macquarie, Batemans Bay, Taree and Ulladulla (Figure 3; www.environment.nsw.gov.au/research-and-publications/publications-search/emergency-air-quality-monitoring-in-response-to-bushfires).

The Grafton, Lismore, Cooma, and Merimbula sites were retained after the bushfires were extinguished, as part of the Rural Air Quality Monitoring Network. Sites at Coffs Harbour and Port Macquarie have been retained as reginal centre stations, while negotiations continue with councils on a permanent location for a comprehensive air quality monitoring station on the Mid-North Coast.

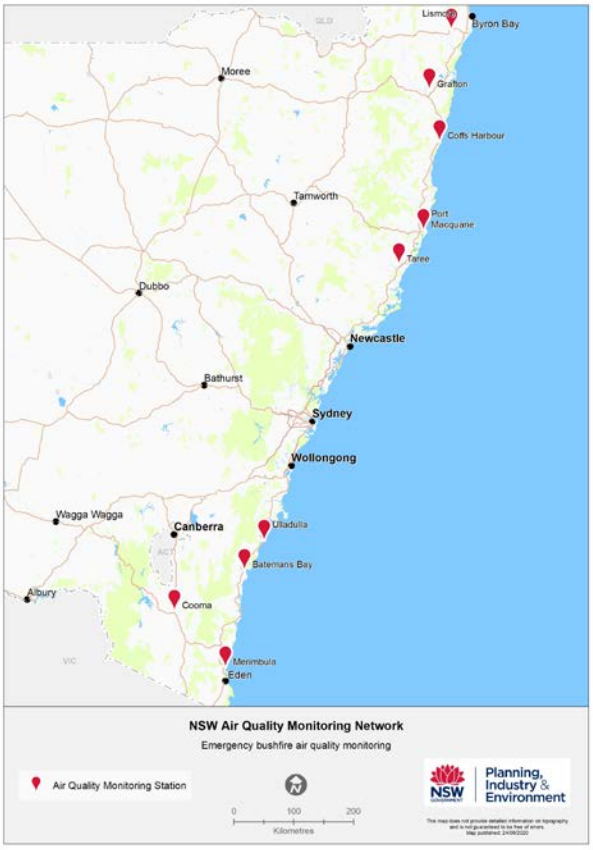



*Figure 3: Locations of 9 temporal emergency air quality monitoring stations deployed during the 2019-2020 bushfires.*

**Government's intentions for further expansion**

New South Wales regularly assesses air quality monitoring needs and will consider the needs of communities in the next Air Quality Monitoring Plan, due in 2020.

For example, new stations are to be commissioned in the near future in 2020, in Penrith CBD and Lake Macquarie (Figure 2).

**The framework for determining location of new sites**

Air quality monitoring in NSW, including how to determine location of new monitoring sites, is guided by objectives, principles, regulations and standards for air quality monitoring, as is also described in the NSW Air Quality Monitoring Plan. The updated plan is being prepared and the expected publishing date is late 2020. The new plan will address the findings from several reviews, such as

- Reviews of the NSW air quality monitoring networks described at www.environment.nsw.gov.au/topics/air/monitoring-air-quality/review/nsw-air-quality-monitoring-plan.
- Review of Air Monitoring Network Design: this report integrates two independent reviews that examined current Australian practice and international best practice in the design of air quality monitoring networks (www.environment.nsw.gov.au/topics/air/monitoring-air-quality/review).

Some major aspects are highlighted below.

Monitoring objectives

DPIE monitors ambient air quality to:

- provide the community with accurate and reliable up-to-date information
- allow policymakers to determine if the air quality is sufficient to protect the health and wellbeing of the population
- provide a platform for developing strategies to improve air quality where required
- provide information for reporting against the National Environment Protection (Ambient Air Quality) Measure (AAQ NEPM).

To achieve these priority objectives, air quality monitoring in NSW aim to:

- characterise regional air quality
- estimate pollution exposure
- increase public awareness
- describe air quality trends
- support air policy/program development
- evaluate emission reduction programs
- assess new sources of pollution
- support research programs

Monitoring principles

DPIE's air quality monitoring is based on principles that ensure that data from the network is robust and fit for purpose. We:

- measure pollutants of greatest concern to the air program
- use scientifically sound monitoring methods
- monitor in appropriate locations

- collect sufficient data to suit the defined purpose
- be geographically diverse
- provide flexibility to ensure that emerging monitoring needs can be met
- make the best use of resources
- support other research activities when possible
- review the network periodically.

## AAQ NEPM monitoring requirements

The National Environment Protection (Ambient Air Quality) Measure (AAQ NEPM) was made in 1998 (http://www.nepc.gov.au/nepms/ambient-air-quality). The NEPM sets air quality standards and provides a framework to support consistent air quality monitoring and reporting throughout Australia. States and Territories are responsible for monitoring and managing air quality in their jurisdictions. Each jurisdiction monitors and reports against national ambient (outdoor) air quality standards that protect health. Each jurisdiction also has legislation and strategies in place to manage air quality, including industrial point-source emissions, where local circumstances play a key role.

The guidance on NEPM monitoring network design has been reviewed by independent air quality experts, with the review report at www.environment.nsw.gov.au/topics/air/monitoring-air-quality/review.

The review concludes that the existing NEPM guidance on network design remains comprehensive and often more comprehensible than other comparable international guidance material.

For the purposes of NEPM ambient air quality monitoring, New South Wales is sub-divided into regions based on a population threshold of 25,000 or more. Monitoring is required for every region with a population of 25,000 or more (AAQ NEPM, Clause 14(1)). The AAQ NEPM allows each jurisdiction to determine its regions and their boundaries. The NEPM Peer Review Committee Technical Paper No.2 (PRC 2001a) provides guidance as to how these regions should be selected.

For example, on the basis of Clause 14(1) of the NEPM, and taking into account Sydney's estimated population of 4.5 million in 2016, the number of monitoring stations required in the Sydney region is now eight. In 2001 this number was seven, based on a population of 3.8 million (Australian Bureau of Statistics census in 2016).

The stations designed to assess general population exposures in NSW adhere to the requirements of the AAQ NEPM and are independently accredited by the National Association of Testing Authorities (NATA).

## NSW regulations for industry funded monitoring

The Upper Hunter Air Quality Monitoring Network (UHAQMN) and the Newcastle Local Air Quality Monitoring Network (NLAQMN) have been established and maintained in accordance with the requirements under the Protection of the Environment Operations (General) Regulation 2009.

## Community requirements

One of the key drivers for monitoring ambient air quality in New South Wales is to provide the community with accurate and up-to-date information about air quality. For example, the NSW Environment Protection Authority (EPA) conducted two stakeholder engagement campaigns to better understand community expectations of air quality, how and where air quality is monitored, and the way in which the data is disseminated to the public. Extensive stakeholder and community consultation was conducted as part of the 2016 Clean Air for NSW Consultation Paper and 2017 Clean Air Summit processes.

NSW Government requirements

In broad terms, the NSW Government requirements are that the air quality monitoring network provides robust, accurate and up-to-date air quality data in NSW.

In the short term, the air quality monitoring program is intended to:

- make end-users aware of the significance of local air quality issues
- ensure that key decision makers have access to the right data at the right time and the right scale
- facilitate stakeholder engagement and collaboration on air quality science and management.

Over the longer term, the expected outcomes are:

- improved air quality across NSW
- greater protection for the people of NSW from air pollution
- enhanced amenity and liveability
- more complete evidence of air quality impacts, enabling better decisions on environment and public health outcomes.

At the Clean Air Summit in June 2017, the NSW Government committed to expand the NSW air quality monitoring network to include:

- new monitoring stations in the Sydney central business district (CBD) and Parramatta CBD
- investigation of the need for monitoring in Penrith
- monitoring at a busy roadside location
- expansion of the regional air quality monitoring network, with additional monitors in towns along the Tablelands where wood smoke in winter is a concern for residents (e.g. Armidale, Orange and Goulburn)
- consideration of monitoring in North Coast centres such as Coffs Harbour or Lismore to better understand air pollution in these communities
- a new North-West (Namoi) Air Quality Monitoring Network with new monitoring stations at Gunnedah and Narrabri
- integration and expansion of the Community DustWatch network into the NSW Rural Air Quality Monitoring Network.

Australian Standards and application of domain knowledge in air quality science and technology

Selection of location for air quality monitoring stations is guided by the requirements of Australian Standard AS/NZS 3580.1.1 2016 ‘Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment’. This is required due to the accreditation of our network by NATA.

Advanced tools such as air quality modelling are also used to identified air pollution hotspots or the most effective locations to monitoring air quality in NSW, in an effort to protect human and environmental health and maximise the investment outcomes for air quality management.