

Returning to school in a COVID-safe way Webinar

21 October 2021

Responses from Department of Education

Ventilation questions

Why is CO2 monitoring not an option to monitor air quality in all schools right now?

Why is a simple, cheap CO2 monitoring device not recommended by the department?

How can you guarantee safety for students without real-time monitoring?

Can P&Cs donate CO2 monitors to schools?

Can the data for the CO2 pilot study be made public? When will the results be available?

Are the data sources varied enough to give accurate results?

The department is piloting the use of carbon dioxide monitors in a number of public schools across metro, regional and rural NSW to continue to assess indoor air quality and will use existing systems installed as part of the Cooler Classrooms program.

The trial will provide participating schools with data loggers to take readings across indoor spaces. The trial will provide the department with advice about the effectiveness of the measures adopted, and provide reassurance that existing ventilation strategies are appropriate.

Once complete, the department will share the results. We expect this will happen before the end of Term 4 this year.

The department does not encourage P&Cs to purchase their own CO2 monitors. To work effectively, CO2 monitors need to be calibrated to take accurate readings, factoring in considerations in the setting such as where they are positioned, if windows are open and how many occupants are in the room.

There is also a great variety in monitors that are available, and these also vary greatly in quality with many unable to be calibrated to take a reliable reading.

What will be done to ensure safety when natural ventilation is not appropriate, e.g. if air quality is poor due to bushfires, pollution, noise, extreme heat and cold, and other inclement weather events?

What will happen to schools in bushfire prone areas, or in areas affected by bushfire smoke?

Will at home learning be available if natural ventilation is not possible at school?

Is 19,000 filters enough? What happens when these are all used up?

Is there consideration given to children with asthma?

The approach to ventilation in NSW is nation leading. No other jurisdiction has the in depth knowledge of the ventilation status of their schools, including individual data for each learning space such as the number of students that can safely be accommodated at any one time.

The department continues to respond, as it has done for many years, as and when required to weather events.

We understand there will be times where maximising natural ventilation may not be a suitable option in some teaching spaces for example due to local weather conditions with poor air quality.

The department will retain a stock of air purification devices to be deployed in the event that sufficient natural ventilation cannot be provided, for example if bush fire smoke reduces the quality of the air at a school. We have secured a stock of air purifiers that will mobilise in the event of bushfire situations, to have these distributed, installed and operating, within a 24-hour period.

We continue to work collaboratively with the Rural Fire Service (RFS) to ensure scheduled activities, for example hazard reduction burns, have minimal impact on schools.

Are HEPA filters suitable for classrooms?

Do air flow models consider COVID-19 transmission?

I believe more can be done to make schools safe, including installing HEPA filters. If they work, why are they not installed in every school, in every indoor space?

Can a school community donate air purifiers / HEPA filters?

How do you determine which school spaces receive air purifiers?

The department does not encourage P&C's to purchase their own air purifiers. If there is a need to install air purifiers in a school, they will be provided by the department.

The department is working with School Principals to discuss their individual ventilation audit report against the day-to-day use of their facilities and local conditions. We have provided advice to schools on how to maximise natural ventilation in each classroom and consider additional strategies to enable the continued safe use of their facilities.

Air purifiers are not required in every classroom to make them safe, and cannot replace the need for effective natural ventilation, and COVID safety measures such as face masks, physical distancing, personal hygiene and following school COVID safety plans.

World Health Organisation (WHO) and Doherty Institute research indicates natural air ventilation is the most effective approach, however there will be times where maximising natural ventilation may not be a suitable option to implement in teaching spaces.

Any use of purifiers needs to be under the management of the department, as filters will need regular replacement and may need to be disposed of as hazardous materials.

Some schools are being supplied with air purifiers for use in specific spaces. These spaces were identified during the recent inspection and review of the school's ventilation audit report by the Asset Services Officer as requiring a supplement to natural ventilation.

The use of air purifiers has been customised to a school's local setting and to supplement the natural ventilation in the space. The air purifier does not replace the need to maximise natural ventilation through open windows and doors, or the requirement to continue to use COVID-safe practices.

All spaces that require an air purifier have been identified and agreed between the school Principal and local Asset Services Officer, following an assessment of the school's individual needs within the identified spaces. If this applies to your school, an air purifier will be supplied and maintained by the Department

The department is using air purifiers fitted with H13 Medical-grade HEPA Filters as recommended by NSW Health and the WHO.

Why is the NSW approach to ventilation different to in other Australian states, including Victoria?

Are we looking at what approaches work elsewhere? For example, the USA and the UK.

The approach to ventilation in NSW is nation leading. No other jurisdiction has the in depth knowledge of the ventilation status of their schools, including individual data for each learning space such as the number of students that can safely be accommodated at any one time.

It is also important to note that the work the department has done has been in conversation with other jurisdictions around the country and overseas, including New Zealand, and the New South Wales response meets and, in many cases, will exceed the WHO metrics for fresh air flow.

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Fact check:

The Victorian Government did not announce air purifiers for classrooms. [Read the Victorian Government's media announcement.](#)

How were demountable classrooms accounted for in the audit?

Were all internal spaces included in the audit?

What is being done in school toilets to ensure ventilation?

What is being done in other spaces, for example, corridors and OSHC centres, to ensure ventilation?

The department is confident that the vast majority of spaces in schools can be adequately ventilated through natural and mechanically assisted ventilation.

The department is working with School Principals to discuss their individual ventilation audit report against the day-to-day use of their facilities and local conditions. We have provided advice to schools on how to maximise natural ventilation in each classroom and consider additional strategies to enable the continued safe use of their facilities.

The department understands air quality is a key factor in the comfort of a learning space, however ventilation is only one part of the return to school plan. There is a comprehensive range of measures in place, including vaccinations, use of masks, outdoor teaching, additional hygiene supplies, continuation of enhanced cleaning and servicing and cleaning of air conditioning systems.

The Doherty Institute has reinforced this layered approach to ensuring schools are safe, and that vaccinations, masks and not mixing student cohorts as primary interventions.

An additional \$100 million as part of the economic recovery program has provided the department with the opportunity to deliver ongoing, permanent improvements to air quality in public schools.

Corridors, walkways and bathrooms are safe to occupy when used as intended. Corridors, walkways and bathrooms should not be used for groups or gatherings.

Temporary classrooms were included in the ventilation audit and assessed on the same basis as other rooms.

Some spaces in schools are being used differently than they may normally be, for example school halls or COLAs.

All schools have a COVID safety plan that guides the safe use of all spaces.

Who has the department consulted for expert advice?

What data sources are used to determine the modelling for wind speed, air flow etc.?

Does the modelling allow for geographical variances, e.g. areas with on average no wind vs areas with high wind?

What is the difference between natural ventilation and purified air as ventilation?

What reports are available to view?

The department's ventilation and asset use recommendations are informed by:

- NSW Health advice
- Research from the Doherty Institute
- Guidelines from the World Health Organisation (WHO)
- Independent peer reviewed expert advice from building services consultants Steensen Varming.

Maximising natural ventilation in learning spaces is the most effective method for minimising the spread of COVID-19. This can be best achieved by opening doors and windows.

Building services consultants Steensen Varming has provided the department with [independent expert advice on air quality in schools \(PDF 6.71 MB\)](#). Their report, which has also been peer reviewed, provides specific advice around the effectiveness of natural ventilation to achieve internal air quality, in line with international health recommendations for COVID-19. In particular the number of air changes and external opening areas required to meet the recommendations.

The report confirms that using fresh air to ventilate our schools is preferable over any other filtration system and that our buildings, along with sensible operating measures have sufficient natural ventilation. On what appears to be a still day, there is still sufficient airflow for us to operate safely and to meet the recommended ventilation guidance from the WHO.

This advice, along with findings from the comprehensive asset review and NSW Health's advice, has informed the return to school plan, including ventilation and asset use recommendations.

Our ventilation strategy has been customised for each individual school.

Was there a professional that attended all schools to conduct the school audits??

Where any classroom spaces deemed as Category B?

What did the audit say about my child's classroom?

The department has provided each school with an individualised ventilation audit report.

A comprehensive fact sheet about the air ventilation in public schools across NSW is available at www.schoolinfrastructure.nsw.gov.au

The department continues to work with schools and provide guidance on how spaces should be used relative to the availability of natural ventilation.

School Principals discussed their report with their local Asset Services Officer to factor in the way those spaces are used on a day-to-day basis and a school's local conditions.

Asset Services Officers provided advice to schools on how to maximise natural ventilation in each classroom. If there is a space where the number of students in a classroom exceeds the conservative indicative occupancy, the Asset Services Officer worked with the Principal to maximise natural air ventilation.

This may have included to:

- Measure openable windows and doors
- Consider if it is appropriate for windows and doors to remain open to outside areas
- Consider if the classroom can be connected to another area in order to increase natural ventilation
- Assess rooms with double banked windows (windows at low or high levels)
- Install air purification systems where alternate interventions are not available.

Schools have received remediation works, and in some cases may have adapted the way they use spaces as part of their COVID-19 Safety plan.

Examples of measures include:

- Removing nails, screws and rivets from windows so they can operate
- Removing built up paint so windows can open and shut
- Addressing windows that have a minor fault or damage.

How were sealed schools assessed?

What type of filtration is there in the air purification systems in sealed school spaces?

Is the management plan available for sealed schools?

There are 40 sealed schools (out of 2,200+) across NSW, with windows that cannot be opened in order to mitigate noise, pollution etc. These schools are fully air conditioned. The design and operation of these schools has been audited and they have the required flow of fresh air.

The air conditioning systems in these schools have been set to run 24/7 with maximum fresh air settings to support maximum ventilation. Filters have been replaced and the frequency of filter servicing and cleaning has been increased to occur on a monthly basis.

For classrooms without air conditioning or natural ventilation have these classrooms had fresh air turn over monitored in line with the Australian Standard for Mechanical Air Handling?

All spaces have been assessed on the level of natural ventilation, spaces fitted with mechanical ventilation have fresh air provision rates above the 10 litre per person per second rate in line with the Australian standard.

Air conditioning systems as installed in homes only provide air cooling or heating by circulating the air within the space and do not provide fresh air. The systems installed in sealed schools provide air-conditioning and fresh air ventilation.

Air quality is a key factor in the comfort and safety of a learning space, however ventilation is only one part of the return to school plan. There is a comprehensive range of measures in place, including:

- vaccinations
- use of masks
- outdoor teaching
- additional hygiene supplies
- continuation of enhanced cleaning
- teaching in smaller groups
- servicing and cleaning of air conditioning systems.

There will also be spaces where 1 person per 4 sqm will be applied to ensure fresh air volumes are suitable for the safe use of the space.

Many of our school windows cannot be opened due to height, what can we do?

What is being done to ensure guidelines are being followed, e.g. windows opened and masks worn inside?

Schools have been provided with guidance relevant to their local setting. In general, windows will be left open wherever possible with air cooling and heating systems being used in addition to maintain ventilation. In circumstances where windows cannot be opened, other strategies will be considered to ensure sufficient ventilation.

If you have a specific concern about your school or classroom it is important that you raise this with your Principal so that they can discuss this with their local Asset Services Officer. It may be that your particular example has been considered, checked and the room has the required ventilation.

The department has taken the position on health and safety grounds that face masks are required indoors by all staff, and all students in Year 7 and above. Schools have been provided with clear communications to support this, including detailed advice on how to address concerns from parents, students, and school staff, practical guidelines to support best practice mask wearing, and other strategies to support wearing a mask or face covering.