

# MEMO

**To:** Scott Evans, Hautū, Infrastructure and Digital

**From:** Sam Fowler, Head of Property Delivery

**Cc:** Scott MacKenzie, Programme Director – COVID-19 Ventilation Response

**Date:** 14 February 2022

**Subject:** Proposed deployment strategy for portable air cleaners

## Purpose

1. This memo seeks your endorsement of a priority-based deployment strategy for the 5,000 portable air cleaners that have been procured to date, to be delivered to schools in need. This paper also considers the logistics and methodology required to deploy the portable air cleaners following their arrival in New Zealand, which starts from later this week.
2. The proposal is to enact two deployment tranches:
  - **Tranche 1:** A priority holding of 1,000 portable air cleaners by the Ministry, for urgent deployment where significant ventilation challenges are evidenced that cannot be quickly addressed by other more preferred solutions or strategies.
  - **Tranche 2:** A general deployment of the remaining 4,000 portable air cleaners to all schools (for example, 1-3 units per school depending on size) with guidance on how they can best utilise them.
3. This paper does not address the justification or deployment approach for future orders of portable air cleaners, though these would most likely be an increase in volumes against the same Tranche 1 and 2 strategies for the winter season.
4. This approach is generally consistent with what has been enacted in overseas jurisdictions including NSW, South Australia, the UK and Canada, which do not include in the widespread deployment of portable air cleaners into school classrooms. The risk-based approach adopted by Victoria is similar in principle, noting it elected to procure ~51,000 portable air cleaners ahead of a ventilation assessment process, resulting in a substantially higher adoption of portable air cleaners in Victoria schools.
5. The Ministry's Ventilation Technical Advisory Group (VTAG) have been consulted and are supportive of the Ministry adopting this approach.

## Context

6. For an overview of the broader COVID-19 Response Ventilation Programme (CVP) implementation plan and an update on the programme's latest actions, please refer *Implementation Plan – Ventilation in Schools Information Update [METIS 1290872 refers]*.
7. An initial procurement of 5,000 portable air cleaners was intended to provide schools with a temporary means to improve air quality in spaces where ventilation strategies and solutions proven insufficient, in any given space.

8. The practice of natural ventilation, utilised in 90% of New Zealand schools, involves opening windows and doors in a room to bring in as much fresh air as possible and to flush out the existing air which may contain elevated CO<sub>2</sub> levels, airborne pollutants and potentially traces of the virus that causes COVID-19.
9. The CVP team, including the supporting VTAG, maintains that the focus on maximising the performance of the existing natural or mechanical ventilation system(s), is a priority over the widespread introduction of air filtration and recirculation, and continues to be the best suited strategy for New Zealand schools.
10. There are however certain spaces and situations in schools where barriers may exist for users to enjoy good quality ventilation that cannot be quickly addressed. These factors generally fall into the categories presented in the following table:

Factors	Description	Examples
<b>Significant and/or specific health issues</b>	Factors that relate to the needs of individual staff and/or student's personal health situation, that may be exacerbated with windows and doors being fully open.	Immunocompromised Sensitivity to natural sunlight
<b>Safety and security issues</b>	Significant limitations on opening windows and doors due to the needs of individual students.	"Runners" Specialist schools Health schools
<b>External factors impacting ambient conditions</b>	Factors outside of the school's control that impact the air quality, and/or the ability of the school to fully utilise ventilation strategies and solutions.	Road, construction or other sustained noise Airborne pollutants and smells
<b>Renovations and refurbishment implications</b>	Previous changes to the building layout or structure may have inadvertently impacted the room's ventilation, now requiring more substantial property changes to remediate.	New dividing walls Converting opening to fixed windows Full height glass dividers Windows clashing with other structures Windows no longer accessible to be opened
<b>Spaces with higher risk of, or implication from airborne transmission</b>	Areas that due to their purpose and usage incur a higher risk of airborne transmission, increasing the criticality of how their ventilation system performs and the justification for additional supplementary measures to also be introduced.	Staff rooms Sick bays Music rooms Cafeterias
<b>Impact on indoor temperature</b>	Spaces in which reasonable indoor temperatures cannot be maintained by other means while providing sufficient fresh air.	Hotter/colder climates Hotter/colder seasons

11. While longer term solutions are identified and implemented, indoor spaces with one or more of these factors present may benefit from the interim and/or targeted deployment of portable air cleaner(s).

12. The Ministry has already publicly expressed its intention to deploy up to 2,500 of the portable air cleaners for schools to position in staff rooms, as an area of high risk of COVID-19 "adult to adult" transmission, and the high implication infection between staff would have on the school's operation. This suggested deployment approach has now been incorporated into the wider set of considerations presented above.
13. We are continuing to diligently consider how the performance of ventilation during winter may impact the demand for portable air cleaners, with further studies planned to more conclusively investigate this over the next six weeks.

### Procurement

14. To supplement the Ministry's current ventilation strategy, 5,000 air cleaners have been procured consistent with MBIE's emergency procurement protocols. The supplier that best satisfied the Ministry's requirements was Samsung Electronics NZ Ltd. Two models have been ordered from Samsung:

Model	Description	Unit Cost (NZD)
<b>AX60T5080</b>	Medium Air Purifier for ~60m <sup>2</sup> rooms, with Wi-Fi	9(2)(i) excl. GST & freight
<b>AX90T7080</b>	Large Air Purifier for ~90m <sup>2</sup> rooms, with Wi-Fi	9(2)(i) excl. GST & freight

15. Plans are underway to approach the market to identify additional portable air cleaner suppliers that have the rapid and ongoing ability to supply the Ministry, and directly supply schools, early childhood centres and tertiary institutions. An advance notice was posted on 28 January 2022 with the RFP to be released imminently, with the intention for the resulting contractual arrangements to be in place by 31 March 2022.
16. From this second procurement phase we intend to secure 5,000+ additional portable air cleaners should these be required as part of our medium-term requirements (with this information not currently in the public domain and being commercial in confidence).
17. The portable air cleaners progressively land in New Zealand with the first 716 units arriving in February, followed by 34 units in March, 2,550 in April and the remaining 1,700 in May. Units are arriving through a combination of air and sea freight. Note this schedule advised by Samsung 11 February is an improvement on the original schedule, which had only 216 Large units arriving in February.

	FEB				MAR					APR				MAY				
Type	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	W15	W16	W17	W18	W19	W20	W21	Total
<b>AX60T5080WD/SA (Medium)</b>																		
AIR FREIGHT			200	300														500
SEA FREIGHT												900	900	900	800			3500
<b>AX90T7080WD/SA (Large)</b>																		
AIR FREIGHT			108	108	34													250
SEA FREIGHT										350	350	50						750
Monthly total:	716				34					2550				1700				5000

18. Given the staggered nature of the arrival of the portable air cleaners, a prioritised deployment strategy is recommended.

## Proposed Deployment Strategy

19. Two deployment tranches are proposed, as presented below.

	Tranche 1	Tranche 2
Name	Priority Targeted Deployments	General Deployment
Description	An initial and priority holding of stock by the Ministry, for deployment where significant ventilation challenges are evidenced that cannot be addressed by other more preferred solutions or strategies.	A wider deployment of portable air cleaners to all schools with guidance on how they may elect to utilise them.
Number of units allocated	1,000	4,000
Stock levels	Have at least 400 units on hand at any one time, if required for short terms situational changes.	Once 400 have been reserved for targeted deployment, general deployments can be considered for the remaining stock on hand.
How accessed	School has raised ventilation issue with their Property Advisor. Advisor confirms with CVP team via ventilation inbox that portable air cleaner is the appropriate solution.	For all state owned and state-integrated schools, no pre-qualification. Option of requiring schools to confirm they want them prior to dispatch, as we did with portable CO2 monitors (TBC).
How deployed at the school	Specific placement/usage based on CVP assessment.	Following general guidance on higher risk areas.
How many units the school will receive	One or more units depending on the nature and scale of the issue.	Small schools (<250 students) = x1 Med schools (<1000 students) = x2 Large schools (>1000 students) = x3
Who owns the units?	The Ministry – may be recalled and redeployed as underlying ventilation issues are addressed. Or Ministry decision to gift them to the school.	Gifted to the school.
When the deployment begins	Mid-February 2022.	From 1 March 2022, but more substantially from April 2022.

20. This approach will result in the first 400 units that arrive from mid-February being reserved for targeted deployment. At time of writing, we only have one school for which we have confirmed an immediate deployment of portable air cleaners. This is St James School in Aranui, Christchurch, a Decile 1 school who will receive six portable air cleaners to mitigate the smell issues caused by the 2021 treatment plant fire, which is resulting in them being less able to fully open their windows and doors (refer <https://www.stuff.co.nz/the-press/news/127226222/bad-smells-from-christchurchs-fireravaged-wastewater-plant-to-continue-for-years>).

21. As the general deployment will be staggered while the bulk of the units arrive in country, within this tranche there will be a further prioritisation of schools. The following table presents our intended prioritisation of the Tranche 2 general deployment, based on the situation today:

Priority	Description
1.	Priority Targeted Deployments (tranche 1 – included here for avoidance of doubt)
2.	Schools in areas with low vaccination rates (as advised by the Ministry of Health)
3.	Schools in areas with sustained numbers of cases (as advised by the Ministry of Health)
4.	Low decile schools
5.	Schools in highly variable or very cold climate areas



22. These priorities are not mutually exclusive, and it is possible to get very specific on modelling and analysing the multitude of considerations. We are advocating a more straightforward assessment for the general deployment that will likely result in areas such as Northland, Tairāwhiti and Auckland being the first recipients. We will however continue to monitor how the situation is evolving and make pragmatic refinements to ensure equity is maintained across all schools.
23. The deployment strategy does not include portable air cleaners being urgently deployed in direct response to infection occurring within a school, as was suggested by the November 2021 Education Report [*METIS 1277412 refers*]. Our understanding of the most appropriate use of portable air cleaners has improved based on our VTAG advice and emerging approaches in other jurisdictions. The requirements of schools with current or growing levels of COVID-19 infection can be urgently assessed and addressed, as part of the Tranche 1 priority deployments process.
24. Across all considerations there is a perception risk that the resources are not being fairly distributed or prioritised, for the Tranche 2 deployment. This will need to be actively managed through supporting proactive and reactive communications.

### ***Logistics and Implementation***

25. We have negotiated with Samsung to manage the storage and dispatch of the portable air cleaners we have purchased from them. Samsung can hold stock for up to four weeks with no additional charges.
26. Additional CVP project management resourcing will be needed to support the air cleaner deployment process. An existing internal resource is being assigned for this work, reporting to CVP Programme Director, Scott MacKenzie.
27. There will also be a need for comprehensive guidance in the form of website and bulletin content to schools about how to use the product safely and effectively, including what scenarios and spaces would most benefit from the use of a portable air cleaner. As Victoria use the same Samsung models, we intend to leverage its published material.
28. We will work through the option of requiring schools to confirm they want to receive the portable air cleaner(s) prior to dispatch, as we did with portable CO2 monitors. This process provides much greater certainty regarding the use of and expectation for the technology, however does come with an additional overhead effort. We will return to you with a subsequent recommendation once the options have been investigated.
29. Some schools who have the financial resources may elect to purchase additional portable air cleaners through leveraging of the Ministry's sourcing arrangements, which may give the impression of the presence of inequity. The topic of ensuring equity will be elevated for discussion with the wider COVID-19 teams and we will report back with any implications on this deployment strategy.

### ***Next steps***

30. Following your approval, we will inform the Minister's Office of the confirmed deployment strategy for portable air cleaners.
31. Media reactives will be prepared and the deployment strategy will be summarised via our web site. A proactive media release may be considered.

32. We will continue to keep you updated and seek your support for any change in our approach before it is confirmed.

**Recommendations**

33. I recommend that you:

- a) **Endorse** the deployment approach outlined in this paper

**Agree**



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**Scott Evans**  
Deputy Secretary –Infrastructure & Digital

Date 18/02/22