Frequently Asked Questions

Do schools need to take part?

Yes, we recommend schools participate because the information collected will be used to assess how the school property is performing and to inform property planning.

Internal Environment Monitoring (IEM) devices

Why are you installing these devices in classrooms?

We know that good indoor air quality, thermal, acoustics, and visual comfort all support better educational outcomes.

The biggest benefit to schools of having these installed is that they gather data on indoor air quality that can be read in real time. Poor quality air significantly increases the risk of airborne diseases and impacts your students' ability to learn. There is a raft of research supporting this. Contact Teharatau.mailbox@education.govt.nz if you'd like to receive links to this research. Understanding air quality was a big driver of the Covid-19 response where the Ministry deployed CO2 monitors and air purifiers as a temporary and immediate response to help mitigate the risk of staff and students getting and spreading Covid.

Equally importantly, these devices report the data captured back to the Ministry. Indoor environments can often be improved through behavioural or low-cost operational changes, but this data also informs decisions in property plans as well, which will continue to involve collaboration with schools. As a result of this temporary monitoring project, several studies have been developed and published online: https://temahau.govt.nz/covid-19/advice-schools-and-kura/ventilation-schools/covid-19-ventilation-research-and-studies/.

Without such devices, indoor environmental factors cannot be perceived accurately. When you're busy teaching it's difficult to notice when CO2 levels are rising until the levels become very high – that's when you can feel that the room is stuffy, and that students are becoming sleepy. The IEM devices allow teachers to track shifts in air quality before it reaches that stage so they can take immediate steps to improve air quality and maintain a suitable teaching and learning environment.

What do IEM devices measure?

These devices help to assess and improve acoustics, lighting, thermal comfort and indoor air quality, which all support better educational outcomes

What's the difference between an IEM device and a CO_2 monitor?

As a part of the immediate response to the COVID-19 pandemic, the Aranet portable CO_2 monitors were distributed to schools to help schools spot-check how their ventilation was performing.

In addition to CO_2, the IEM devices also measures sound and light levels. And IEMs are fixed and permanent as a part of a long-term Ministry solution to assess and improve learning environments. The data recorded is continuously reported back to the Ministry to be analysed centrally.

Who will install the devices?

IEM devices are installed by qualified technicians (the IEM installers) through Network For Learning (N4L) who are familiar with all Ministry deployment requirements.

All our installers have been police vetted and have been briefed on health and safety standards via their panel requirements with N4L. More information and practices about Standards, Regulations, Policies and Practices can be found here: https://support.n4l.co.nz/s/panel-member

My IEM device seems inactive. What should I do?

IEM devices may appear 'inactive' for many reasons:

- **Power loss** – This is the most common cause. If it is a USB powered model, before you take any action, check to see if the USB charger is damaged. If internal components are exposed, contact your Property Advisor and/or Te Haratau (teharatau.mailbox@education.govt.nz) for advice. If the charger isn't damaged, check if the plug socket is tripped (check your RCD panel), if not and **only when it is safe to do so**, try rebooting the device by unplugging and re-plugging the charger. If the IEM is a battery-powered model, please contact Te Haratau to check battery readings and replacement if needed.
- **Network outage** – If the power goes off in the whole building, the device will typically lose Wi-Fi connectivity immediately. It is reasonably common for power to be switched off in some schools overnight, and devices will reconnect as expected when the power is turned back on the next morning.
- **Device relocated/removed** – If you move the device, this may result in a change in Wi-Fi signal strength (RSSI) impacting its ability to transmit data. For this reason, please don't remove your device after installation.

The USB charger seems damaged. What should I do?

Mechanical damage (the damage caused by external impacts and/or actions) to USB chargers can happen.

If you know how, isolate/switch off the plug socket first ASAP. Please contact your Property Advisor and/or Te Haratau for advice immediately. **DO NOT** reuse a damaged charger.

Note that damage is not always obvious. Check regularly for wear and tear. Please contact your Property Advisor and/or Te Haratau immediately if the installation is in damp or wet areas.

The USB charger and/or cable is missing. What should I do?

If only the USB chargers are missing and it is safe and practical to replace with a new one, please contact Te Haratau for new chargers.

If the cable of a Monkeytronics device is missing, replacing it will require an untypical screw head/driver to remove the device from the wall, due to its anti-tempering design. Please contact Te Haratau for advice.

My IEM device does not show readings for all factors. What should I do?

This is most likely a manufacturing defect. Please contact Te Haratau for advice. Note that, to best utilise the display, AirSuite Glance devices measure relative humidity but do not show its readings on the display by default.

Who will maintain them if needed?

The Ministry is your first point of contact if your devices need attention.

Please contact your Property Advisor or Te Haratau (teharatau.mailbox@education.govt.nz) for guidance on what to do.

Why do we need to keep the devices powered on?

Once installed, it is important that the devices:

- Are not touched or moved.
- Remain on 24/7 either via mains power or battery.
- Remain connected to either the dedicated Wi-Fi network or cellular network.
- Remain clear of obstructions or coverings.

The devices need to remain online so that they can collect data that helps us to understand the performance of the indoor environment of teaching spaces.

Please let us know if your devices are not online, or we will contact you if we notice discrepancies in the data collection.

Can schools see the data collected?

Te Haratau is collecting IEM data to assess how school property is performing which will also inform property planning. The data will be used to identify trends, inform effective business decisions, and help meet the Ministry's target of quality learning environments by 2030.

You can see "live" data collected by IEM devices in real time.

At your school or kura, you will have either AirSuite or Monkeytronics devices installed on the wall of your classroom.

The devices tell you the different measures of Indoor Environmental Quality, such as how stuffy the room is from the CO_2 level or how loud the room is from the sound level.

IEM devices with a screen show the real-time quality of the classroom. When there is no screen on the device, download the AirSuite Monitor App and pair your devices via Bluetooth to view the results.

Scan to download the AirSuite Monitor app

Device without a screen

Devices with a screen

Te Haratau is also working on a reporting dashboard for kura and schools to access the data collected centrally. In the first half of 2024, we will begin engaging with kura and schools to understand how to best support the daily operations using this data via the reporting dashboard and by providing operational and behavioural guidance. This will include things like the best ways to ventilate and operate heating systems, similar to those on Te Mahau (https://temahau.govt.nz/covid-19/advice-schools-and-kura/ventilation-schools/ventilation-resources).

Where are they be placed?

Placement of IEM devices within teaching spaces is vital for ensuring that the data collected by the sensors is reliable. Our install partners will consider all of the following factors when choosing the most appropriate location for a device to be installed, and they'll do their best to minimise any disruption during their visit:

- proximity to direct sunlight
- location of power sources
- proximity to windows, heating and cooling systems, TVs and computer screens
- location of windows and doors

If you would like to request IEM devices to be installed in a particular classroom(s) which you think are performing particularly well or poorly, please discuss this when the installer contacts you. Otherwise, the installers will place the device in the most appropriate locations.

How many devices are likely to be installed in schools?

We aim to instal one IEM device per two teaching spaces and up to 20 devices in each school due to the limited number of devices currently available.

What is the installation process?

The process will start with the Network For Learning (N4L) sending you the Agreement to Proceed (ATP) form. Then, N4L will carry out some work remotely to prepare your school's network.

Once you return the ATP form, N4L's partners - Aotea or Online Communications - will be in touch to book a time for the installation.

Depending on many factors, such as the number of devices to be installed, the installation process would usually last a couple of hours to a day. During the process, the installers will:

1. Request the site plans
2. Confirm the classrooms to be monitored
3. Register all devices on the deployment portal through their phone/tablet
4. Mount the devices on the wall of classrooms to be monitored
5. Record the location information by taking three photos about the classroom and noting building and room names

All devices being online and active mark the end of the installation process.

When will installation take place?

We'll aim to install all devices between the hours of 9am to 5pm, Monday - Friday. Any disruption to teaching will be kept to a minimum.

What do you need from my school before installation?

To ensure this process works as seamlessly as possible and to minimise any disruption to your school, we would appreciate the following being available for our technical team:

1. Admin access to your school's Wi-Fi controller and switches. Should we run into any issues while configuring the devices, we may need to make some minor changes to your network.
2. Support from your IT provider for information relating to your network if your school has its own firewalls and/or routers (in addition to N4L provided equipment).
3. Prompt return of any information requested, or support from your IT provider or nominated contacts where requested.
4. Access to all areas of the school so our install partners can identify the correct locations for the devices. They may need to enter classroom(s) during teaching time to achieve this.
5. On installation day, the installers will require support to access buildings and classrooms and carry out testing.
6. Once the devices are installed, please ensure they are not touched or unplugged as this will provide inaccurate readings/data.

Does my IT provider need to be involved?

We may need to ask a few more technical questions specific to your school's environment as we work through the next steps. We therefore strongly recommend you involve your IT provider to work alongside us if you have one.

What can we do to help on installation day and afterwards?

On installation day, our installers will require support to access buildings, classrooms, carry out testing and sign-off the work. Once the devices are installed, please ensure they are not touched or unplugged to avoid skewing your data.

Will my school's network be affected?

Before installing the IEM devices, we may need to make additional network changes which could result in a small network outage while the work is being done. We'll discuss this with you beforehand to minimise any impact to your school.

Who covers the cost associated with the installation of IEM devices if my IT provider needs to make changes to my network?

The Ministry will cover all costs associated with the installation of IEM devices.

Should the school IT provider need to make changes to the school network, the installer and the Ministry will cover the costs and will agree this with the IT provider when they are asked to make changes.

Please get in contact with us via email to discuss.

Condition Assessments

How long will a condition assessor be on-site?

The length of the assessment can vary and will depend on the number and size of buildings at your school. Many schools can be assessed in a single day or less, but the assessment may span a few days at larger schools.

Will the condition assessment be completed during term time or school holidays?

Assessments will occur both during term times and school holidays. Schools may express a preference for when the assessment is conducted, and assessors will do their best to accommodate these. Assessors will also need to plan their assessments to minimise travel, so they may not be able to accommodate all requests for specific date ranges.

How disruptive is the assessment to teaching? Will they be walking through classrooms, for example?

Assessors will need to access all rooms within each building on site, including classrooms. They should only need to spend up to 15 minutes in most classrooms, but this may vary.

Will the assessors be police vetted?

The school board is responsible for determining the conditions of access for contractors. Boards are required to obtain a Police vet of every contractor and sub-contractor, including their employees, who has, or is likely to have, unsupervised access to students at the school during normal school hours. More information is on the Education website Police vetting for school property contractors – Education in New Zealand

How will we know who our assessor is?

The assessors will contact you to schedule a suitable date for a site visit.

Will someone from the school need to be available to talk to the assessor or walk around the school with them?

We recommend that a staff member who is familiar with your school's property is available to show the assessors around your site and discuss any issues or observations. It's not necessary to accompany assessors throughout the entire assessment unless they'd like to. Assessors will need to access all rooms within all buildings on your site, including mechanical or service rooms, and it's important to confirm that keys or appropriate access arrangements are in place before they arrive.

Operational Efficiency

Why does the board have to provide authorisation for the school?

The board is the governing entity of the school, therefore has the power to provide the authorisation.

Does our school have to complete this survey?

Yes, we need all state schools to complete this to support Carbon Neutral Government Programme reporting on behalf of schools.

What will you be doing with the data that you're measuring?

As the funder of schools and the owner of most school property, the Ministry wants to better understand all schools' energy usage. This will help us provide better advice to schools and consider options to improve efficiency across the portfolio. If you keep track of your energy use, you can see where it is being wasted.

Benefits of monitoring include:

- o Knowing your energy consumption.
- o Comparing your school with other schools.
- o Monitoring energy use over time.
- o Setting targets.
- o Supporting property planning decisions.

How many invoices do I need to provide when completing the survey?

Schools only need to provide their most recent invoice from each energy supplier. For example, if your school consumes electricity, gas and wood, then you would provide the most recent invoice for each of these fuel sources. This has all the information we need to collect consumption data on an ongoing basis.

Why am I still getting emails about this even though I have completed the survey?

The data can go out of date due to things like an energy retailer change, changing accounts etc. We will reach out to your school to update information if this is necessary.

Will this penalise our school?

No, this information is being used to better support a school's energy decisions and property planning processes.

Where can I find this email?

The request emails for the authorisation and survey will go to the board or school email addresses that we have on file. If this isn't appearing, make sure to check in spam or junk folders too.

When can we see this information?

Schools can see this information as an electricity benchmarking report (EBR) in the Helios Portal if they have gone through the 10YPP process and completed the Energy Survey.

What information do we need?

For electricity and piped gas, we need to know three things:

- The name of the company you get it from
- Your customer/account number

- The ICP number (this will be on your invoice, further detail is below)

The Installation Control Point (ICP) number can be found on your electricity invoice. This is generally a 15-digit number with both letters and numbers. When entering these into the survey, please include <u>only</u> letters and numbers, not any other special characters (e.g. a dash "-"). The ICP is used by energy retailers to measure energy consumption and invoice consumers based on how much energy they use.

ICP numbers tell you how your property is connected to the electricity network. There is generally one at each property, but there's often more at schools since they usually take up more land than a standard property. It's used by the Ministry to collect data from energy retailers about how much energy is being used at each ICP, for each school.

When completing the Energy Survey, it's important to include every ICP where possible so that the Ministry can capture all the consumption data for each school.

For bottled gas we need to know:

- The name of the company you get it from

- Your customer/account number

For all other energy sources, such as wood pellets, coal, and diesel, we just need to know:

- If your school uses it;

- And if so, the company you get it from

If you have solar panels, we need to know:

- Who installed the solar panels, we may use this to investigate accessing solar data

Can a member of school staff send the survey to someone else to complete for the school?

Yes, but please email the Te Haratau team the new email address so that we can resend the survey request. Unfortunately, forwarding the email to another staff member won't work. This is because we have designed the survey request link within the email to only be accessed by the person to whom the email was sent as a security measure.

Who do I contact if I have any questions?

For questions on any of the above topics, please email teharatau.mailbox@education.govt.nz or contact your School Property Adviser.