

BUILDING AUTOMATION CONTROLS

Project:
Improvements to
Building Automation
System and Occupancy
Controls

Location: Enwayaang

Estimated Savings:
Electricity: 159,486kWh
GHGs: ~6.9t CO_{2e}



Trent University has many buildings to operate and maintain. One tool Trent staff use to improve the efficiency of this process is Trent's Building Automation System (BAS). This computerized system lets staff see what is happening in the building's mechanical system and enables them to make changes as needed from their computer. The BAS provides opportunity to improve efficiency compared to older systems.

In Enwayaang, facilities staff are using the concept of Demand Based Ventilation (DBV) which is using carbon dioxide and an indicator of air quality. Depending on CO₂ levels the BAS will automatically adjust to bring in more or less outside air to maintain indoor air quality. The result is that only the air that is needed is heated or cooled, providing energy savings and reducing Trent's GHGs.

Trent is also doing a pilot project in Enwayaang where the BAS system now can receive information from our room booking system. This allows ventilation to run minimally when rooms are unoccupied and to increase accordingly when rooms are in use. For this system to run most efficiently, devices called Variable Speed Drives (VSDs) have been installed to further fine-tune the system. VSDs allow the motors that run the fans moving the air through the building to run at lower speeds when not as much air is needed. This is an innovative and effective way to use only the energy that is needed to keep these spaces comfortable.