

# Medical College in New York City

Airflow optimization project helped the institution comply with LL97 and avoid carbon penalties.

## AT A GLANCE

### Goals

- Lower energy use in labs and vivaria
- Avoid carbon penalties
- Access utility rebates

### Results

- 1,262,000 reduction in kWh
- 53,000 reduction in Therms
- \$800,000 utility rebate
- 752 MTCO2E carbon reduction
- \$ 201,000 in LL97 tax savings



## NYC Medical College Research Building

Thrive Buildings partnered with a medical college in New York City to build on the success of their installation of Aircuity's demand control ventilation (DCV) platform and expand the system beyond the 8th floor throughout the research building's remaining labs and vivarium spaces. The goal was to further reduce the building's carbon footprint and ensure compliance with New York City's Local Law 97 (LL97) thereby avoiding significant fines.

### FDNY Compliance Pathway

The New York City Fire Department (FDNY) enforces the NYC mechanical code as it relates to lab air change rates to safely manage the explosive and flammable risks associated with lab chemicals. The combination of a detailed chemical analysis and the Aircuity DCV system allowed the affected spaces to receive an FDNY exception to the code. For the first time in NYC history, this enabled the safe lowering of the minimum airflow required in these spaces, as long as they are constantly monitored by Aircuity. Working with FDNY during the prior 8th floor fit-out paved the way for reduced airflows in this project and created a new performance pathway to allow for lower lab ACH in all NYC lab and research spaces. This new pathway will be utilized across the campus as a key lever to decarbonize lab and research spaces and become LL97 compliant.

## Additional Airflow Adjustment

During the balancing efforts, it was noted that some variable air volume (VAV) units struggled to maintain lower airflows. To address this, Thrive retrofitted transducers with a lower pressure range, ensuring accurate control to lower setpoints and optimizing the performance of the Aircuity DCV systems.

## Installation and Impact

The implementation of this second-phase airflow optimization program with Aircuity across the building's labs and vivaria resulted in energy savings of \$272,068 annually and a 752 MTCO2E carbon reduction. Thrive also worked with the local utility to secure a rebate of over \$800,000 and avoided over \$201,000 in carbon penalties.

	LAB	VIVARIUM	TOTAL
Aircuity Zones	66	82	148
Annual Energy Savings	\$82,190	\$189,880	\$272,070
ConEd Rebate	\$163,710	\$664,900	\$828,610
kWh Savings	448,350	814,230	1,262,580
Therms Savings	4,680	48,420	53,100
Equivalent MBTUs	2,000	7,620	9,620
MTCO2E Savings	130	620	750
ROI w/ LL97 Fines Included	5.6 yrs	1.3 yrs	3.48 yrs (avg.)

## Conclusion

Thrive's turnkey installation of Aircuity DCV systems in both lab and vivarium spaces not only set new standards for energy efficiency and carbon footprint reduction but also paved a pathway for other New York City lab owners to install Aircuity for energy savings while complying with FDNY regulations.

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