



INTELLIGENT
ENERGY
GROUP

CONSERVATION WITH INTELLIGENCE

Helping to Enable the
Zero-Carbon World.

Thermal Optical Window Insert Case Study:

Customer: Newmark on behalf of
United Methodist Women

Location: 777 United Nations Plaza, NY, NY

Building: 67,177 square foot, 12 story, commercial office building
constructed in 1963 with single-pane aluminum frame
windows.

Utility: The building is served by a down state NY electricity, natural
gas and district steam utility. A 300-ton on-site steam-driven,
absorption chiller generates chilled water for the building and hot
water needs are met by a steam heat exchanger. Additionally, the
building is served by a mix of air handlers and fan coil units.

Project Description: In June of 2022, IEG completed installation of 296
custom sized thermal optical window inserts directly onto the interior of
the existing glass and frame in floors 2 through 12 of the building with
the intent to reduce infiltration while simultaneously improving the
thermal and transmittance characteristics of the window assemblies,
resulting in significant energy savings from reduced cooling load in the
summer, less heating needed in the winter, street noise reduction and
increased occupant comfort.

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Pre-Install Annual Consumption Baselines:

7,302 Mlbs of Steam
610,800 kWh of Electricity

3rd Party Energy Model Predicted Savings:

20% Steam
17% Electricity

One Year Post-Install Consumptions:

5,257 Mlbs of Steam
482,400 kWh of Electricity

One Year Post-Install Savings:

28% Steam
21% Electricity



777 United Nations Plaza

Utility's Preliminary Incentive Offer:

\$162,760

One Year Post M&V Actual Incentive:

\$226,076

Performance Based Incentive Increase:

39%

1st Year Post Install Realized Bill Savings:

\$57,477

LL97 Penalty Reduction Through 2039:

\$411,680

(Pre and post consumption data compiled from customer provided utility bills)