CASE STUDY: NEW YORK CITY - BUILDINGS TECHNICAL WORKING GROUP

SUMMARY:

In April 2016, NYC Mayor Bill de Blasio announced a suite of new building energy efficiency initiatives to address the largest source of citywide greenhouse gas (GHG) emissions and place the city on a pathway to meeting the Mayor's commitment to cut emissions by 80 percent from 2005 levels by 2050 (80 x 50). The 80 x 50 goal is one part of the City's comprehensive OneNYC plan to make New York more sustainable, resilient and equitable. The building energy efficiency initiatives were based on the most comprehensive analysis of New York City building energy use to date and incorporated feedback from over 50 building sector leaders from the city's world-class real estate, engineering, architecture, labor, affordable housing, academic, and advocacy sectors, who served on the Buildings Technical Working Group (TWG). As part of the analysis, the City conducted a comprehensive analysis of current energy use in existing buildings and growth projections under business as usual conditions. The City then analyzed the citywide GHG and cost impacts of nearly 100 energy conservation measures (ECMs), identified deep energy retrofits for eight typical building typologies in New York City that could achieve 40-60% reductions in energy use, and potential GHG reductions from various Energy Code update processes. Based on the findings from the analysis, the City will implement strategic measures to reduce building-based emissions that include developing a new local Energy Code that requires holistic energy performance, requiring comprehensive upgrades to heating distribution systems, integrating capital planning for deep energy reductions into existing energy audit requirements, and incorporating all ECMs identified into the City's local building and energy codes.

RESULTS:

Collectively, the new body of research presented in the final TWG report provides a roadmap of the next steps building owners and operators will need to take in order for the city to achieve 80 x 50. The City will begin implementing all strategic measures outlined in the report by 2022. The most immediate measures are projected to reduce GHG emissions by 2.7 million metric tons and save building owners roughly $900 million in energy costs each year. These measures also have the potential to create an estimated 1,300 direct construction-related jobs. Combined with the policies and programs announced in *One City: Built to Last*, the City's preceding ten-year action plan to improve energy efficiency in buildings, current initiatives are now expected to reduce GHG emissions from existing buildings by a total of six million metric tons by 2025. Additional reductions will be achieved as the City incorporates cost-effective ECMs and performance-based standards into New York City codes.

The full report, *One City: Built to Last Technical Working Group Report: Transforming New York City Buildings for a Low-Carbon Future* is available here: ***www.nyc.gov/twg***

REASONS FOR SUCCESS:

The TWG process included both comprehensive data-driven analysis and extensive stakeholder engagement to create a buildings-specific roadmap for 80 x 50 that has broad stakeholder support for major new initiatives.

New York City utilized its unique datasets to analyze building emissions by typology, energy end use, and system type and assess the GHG reduction potential of nearly 100 ECMs, which will now be incorporated into the City's local laws and codes. The City partnered with leading architects and engineers to develop and model deep energy retrofit paths for the most common building typologies in New York City, ultimately leading to agreement among stakeholders that energy reductions of 40-60% are possible using existing technologies and strategies in typical buildings. The results will be utilized to develop a template for large buildings to assess retrofit options as part of required energy audits, setting the foundation for future deep carbon reductions. The City also worked with leading technical experts to assess GHG reductions from incremental Energy Code updates out to 2050 and documented that these would not yield the reductions needed to achieve 80 x 50, leading to broad stakeholder support for developing a new performance-based Energy Code.

The stakeholders that served as members of the TWG were key to the success of the plan. The recommended actions are the product of more than a year's worth of engagement with these stakeholders. The full group met on twelve occasions, the four subcommittees met on twenty-two occasions. Staff of Mayor's Office of Sustainability also met with a smaller group of strategic advisors on a biweekly basis and communicated with volunteer subcommittee leads on a weekly basis. The City also hosted one-on-one briefings with all organizations represented on the TWG that requested one and briefed every commissioner of a City agency with staff participating in the TWG twice.