

Code to Zero Initiative Market Evaluation Report: Baseline Estimates and Progress Toward Goals

Deliverable 1 – Executive Summary

Prepared for:

New York State Energy Research and Development Authority

Albany, New York

Patricia Gonzales, Ph.D.

Senior Project Manager, Performance Management

Prepared by:

Cadmus

Portland, Oregon

Jerica Stacey, Associate

Project Manager

Allen Lee, Ph.D., Executive

Principal Investigator

Notice

This report was prepared by Cadmus in the course of performing work contracted for and sponsored by the New York State Energy Research and Development Authority (hereafter “NYSERDA”). The opinions expressed in this report do not necessarily reflect those of NYSEDA or the State of New York, and reference to any specific product, service, process, or method does not constitute an implied or expressed recommendation or endorsement of it. Further, NYSEDA, the State of New York, and the contractor make no warranties or representations, expressed or implied, as to the fitness for particular purpose or merchantability of any product, apparatus, or service, or the usefulness, completeness, or accuracy of any processes, methods, or other information contained, described, disclosed, or referred to in this report.

NYSERDA, the State of New York, and the contractor make no representation that the use of any product, apparatus, process, method, or other information will not infringe privately owned rights and will assume no liability for any loss, injury, or damage resulting from, or occurring in connection with, the use of information contained, described, disclosed, or referred to in this report.

NYSERDA makes every effort to provide accurate information about copyright owners and related matters in the reports we publish. Contractors are responsible for determining and satisfying copyright or other use restrictions regarding the content of reports that they write, in compliance with NYSEDA’s policies and federal law. If you are the copyright owner and believe a NYSEDA report has not properly attributed your work to you or has used it without permission, please email print@nyserda.ny.gov.

Information contained in this document, such as web page addresses, are current at the time of publication.

Executive Summary

NYSERDA's Code to Zero Initiative aims to overcome barriers impeding code compliance and enforcement, establish a path toward the development of a stretch-to-zero energy code, and assist in the enactment of New York State (NYS) and local energy codes. The Initiative builds on NYSERDA's past efforts to help support the adoption of energy codes with higher performance goals and strengthen compliance and enforcement. Initiative activities will increase the percentage of buildings that are energy code compliant and the number of jurisdictions adopting stretch codes; improve energy code enforcement by increasing the number of jurisdictions that adopt alternative code enforcement structures; and accelerate the advancement of the energy code and stretch codes to achieve greater carbon reductions.

ES.1 Project Objectives

This report presents the Market Evaluation Team's evaluation findings for the Code to Zero Initiative based on a Delphi Panel process, representative jurisdiction in-depth interviews, and a broad literature review conducted from March 2019 through March 2020. Through this research, the Team established baseline measurements for and evaluated progress toward the three main Initiative goals: code compliance reaches 90% throughout New York State; twenty jurisdictions adopt a stretch code; and jurisdictions that adopt alternative code enforcement structures or receive training and supplemental services report improved enforcement of the energy code.

In late 2019, the Market Evaluation Team convened a Delphi Panel of 12 experts (panelists) in building energy codes and code compliance working across NYS. The Delphi Panel process used the judgement of this group of experts to establish metrics for baseline compliance with the 2016 Energy Conservation Construction Code of New York State (ECCCNYS); estimate the rate of adoption of more stringent local energy codes, such as NYStretch; provide insight into energy code enforcement practices; and discuss the use of new technologies and building practices.

The Team then selected nine individuals from three representative jurisdictions (an urban jurisdiction, a suburban jurisdiction, and a rural jurisdiction) for in-depth interviews. Throughout the interviews, the Market Evaluation Team presented findings from the Delphi Panel process and noted differences between the experiences of each jurisdiction and the statewide baseline estimates established by the Delphi Panel.

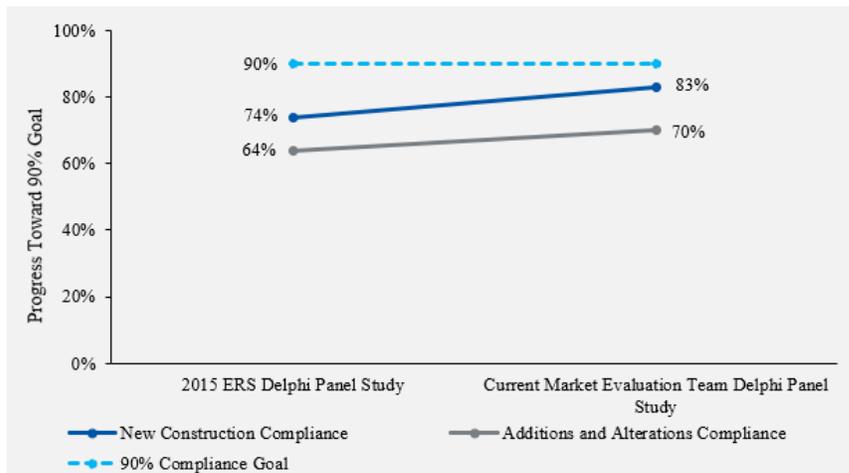
Where appropriate, this report compares findings from the 2015 Delphi Panel estimate of energy code compliance, completed as part of ERS’ impact evaluation of the Energy Code component of the Advanced Energy Codes and Standards program, to the compliance estimate developed in the current evaluation.

ES.2 Findings and Recommendations

Overall compliance increased significantly in the commercial sector for both new construction and additions and alterations. The Delphi Panel estimated overall compliance for commercial new construction at 83%, a 9% increase from the baseline estimate established through the 2015 ERS Delphi Panel. New construction compliance with commercial building envelope provisions increased most notably, from an estimated 70% in 2015 to 85%. The compliance estimate for commercial additions and alterations also increased compared to the 2015 ERS Delphi Panel estimate, from an average of 64% in 2015 to an estimated 70% currently. Figure ES1 illustrates the current estimated compliance rate in relation to the 2015 ERS Delphi Panel and the goal of 90% compliance.

Figure ES1. Progress Toward 90% Compliance Goal – Commercial

Sources: ERS. February 2016. *Advanced Energy Codes Impact Evaluation Interim Report: First Delphi Process Results*. Cadmus. June 2020. *Code to Zero Initiative Market Evaluation Report: Baseline Estimates and Progress Toward Goals*.

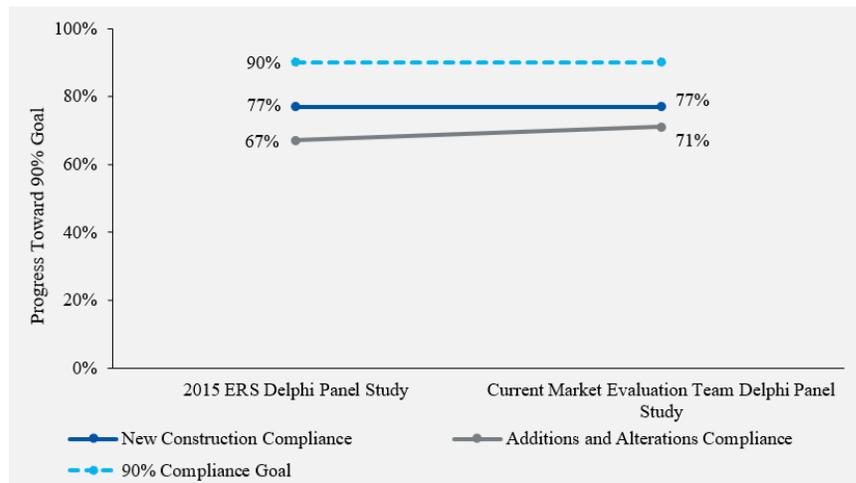


The Market Evaluation Team recommends the Initiative continue offering training and education focused on the areas of low compliance and ensuring code compliance enhancement efforts are focused on additions and alterations as well as new construction.

The Delphi Panel estimate for compliance in the residential sector has not had the same level of improvement as compliance in the commercial sector. The panelists’ overall weighted estimate of energy code compliance for single-family residential new construction in NYS was 77%, showing no improvement over the 2015 ERS Delphi Panel study estimate. The panelists’ overall weighted estimate of compliance for single-family alterations and additions was 71%, which is in the range of compliance estimated in the 2015 ERS Delphi Panel study (62% to 71%). Figure ES2 illustrates the current compliance rate in relation to the 2015 ERS Delphi Panel and the goal of 90% compliance.

Figure ES2. Progress Toward 90% Compliance Goal – Residential

Sources: ERS. February 2016. Advanced Energy Codes Impact Evaluation Interim Report: First Delphi Process Results. Cadmus. June 2020. Code to Zero Initiative Market Evaluation Report: Baseline Estimates and Progress Toward Goals.



The Team recommends that the Initiative continue offering training and education focused on the areas of residential low compliance. This is especially relevant because the focus areas identified in the 2015 ERS Delphi Panel study have seen little improvement. The Team suggests making training easily accessible across the state and providing education in innovative ways that may better reach homebuilders and contractors and involve the greater community.

The Code to Zero Initiative made slow progress toward its goals of 20 jurisdictions adopting a stretch code and implementing alternative code enforcement structure pilots to interested jurisdictions. Progress of the Code to Zero Initiative in the first year was slowed in large part due to a delay in the adoption of the 2020 ECCCNY; further delays resulted from the coronavirus pandemic, which limited in-person training opportunities and impacted the economy throughout NYS.