

Clean Energy Communities Impact Evaluation 2016–2018

Executive Summary

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Executive Summary

NYSERDA's Clean Energy Communities program is an opportunity for local governments to earn recognition and grant funding by demonstrating leadership in the area of clean energy.¹ Table ES-1 shows the program reported and verified gross annual impacts for the Program and for each high impact action (HIA).

The Clean Energy Communities program reported gross annual impacts of 140,028 MWh of electricity, 341,760 MMBtu of natural gas, 73,464 MMBtu of fuel oil, 26,370 MMBtu of gasoline, and 68,126 MWh of renewable energy generation in the program years 2016–2018.

Verified direct gross annual impacts from participating communities totaled 110,781 MWh of electricity, 311,346 MMBtu of natural gas, and 71,719 MWh of renewable energy generation. The evaluation also verified direct gross annual impacts from delivered fuels; 70,509 MMBtu of fuel oil and 32,427 MMBtu of gasoline.²

Indirect impacts associated with the program, but occurring in non-participating communities, were estimated to be 21,007 MWh of electricity, 19,179 MMBtu of natural gas, 2,685 MMBtu of fuel oil, 10,711 MMBtu of gasoline, and 478,683 MWh renewable energy generation.

For Climate Smart Communities, DNV and NYSERDA chose to pursue a top-down model followed by a bottom-up analysis for evaluating the Climate Smart Communities HIA. The top-down model compared gas and electric energy consumption trends of the 13 certified Climate Smart Communities with communities that did not complete HIAs over 3.5 years.

The top-down analysis found that electric and gas impacts for this HIA were too low to quantify using this evaluation method. The bottom-up evaluation corroborated the findings of the top-down model and found that the 2016–2018 cohort of CSC communities were early adopters whose results are not generalizable to later cohorts of participating communities. Therefore, although CSC has generated impacts for those communities, the current program realization rate for this action is 0%.

¹ [PON 3298 Clean Energy Communities Program](#) – NYSERDA

² Gasoline impacts were claimed and verified for the Clean Fleets high impact action.

Table ES-1. Clean Energy Communities: Program reported, verified direct, and indirect gross annual impacts

Clean Energy Communities Program Impacts by Source	Program Reported Gross Annual Impacts	Verified Gross Annual Impacts*	Verified Gross Realization Rate	Indirect Impacts	Total Annual Impacts
Electric Impacts (MWh)	140,028	89,135	64%	21,007	110,141
Beneficial Electrification (MWh)	-1,266	-1,885	149%	-730	-2,615
Natural Gas Impacts (MMBTU)	341,760	76,869	22%	19,179	96,048
Gasoline Impacts (MMBTU)	26,370	32,427	123%	10,711	43,138
Fuel Oil (MMBTU)	73,464	19,361	26%	2,686	73,195
Renewable Generation (MWh)	68,126	50,073	74%	478,683	528,756
Renewable Capacity (MW)	47	11.99	26%	58	71
Total MMBTU	1,000,176	577,841	58%	1,732,343	2,310,181

Key Findings And Recommendations

The Clean Energy Communities program used HIA-specific approaches to develop total program impact estimates. While most of these methods were reasonable for forecasting purposes, they were not appropriate for claiming program reported gross annual impacts. Using forecasted estimates to report gross annual impacts led to low realization rates for some HIAs. Second, insufficient measure-level documentation resulted in a challenging verification process.

Program Recommendations are as follows:

1. Future forecasting/planning efforts should adopt the per-capita verified gross annual impacts resulting from this evaluation. Following project completion, program-reported gross annual impacts should be based on implemented measures rather than the Investment Plan forecast/planning estimates.
2. For the majority of completed measures, the data submitted to Salesforce did not inform savings estimates. To improve documentation, consider increasing the level of detail in the post-installation documentation submitted to NYSEERDA and for the key impact parameters used to claim gross annual impacts. Priority should be given to HIAs that produce the highest future anticipated contribution of savings for the program overall.
3. Program indirect impacts were assessed using the verified per-unit estimates developed in this study and applied to findings from a separate market study. Given the magnitude of indirect impacts found, an independent, integrated study of impacts from a sample of indirect communities is recommended to verify that per capita savings in indirect communities is comparable to the magnitude of savings per capita from participating (direct) communities.

4. The majority of indirect impacts result from the growth of CCA in the state of New York and the Clean Energy Communities program's position as a primary information source that helps communities get started on the path to CCA. A follow-on study of CCA is recommended that focuses primarily on CCA's impacts (both direct and indirect) to confirm that all projects provide 100% renewable energy on an opt-out basis, and to understand the renewable mix within the HIA.