



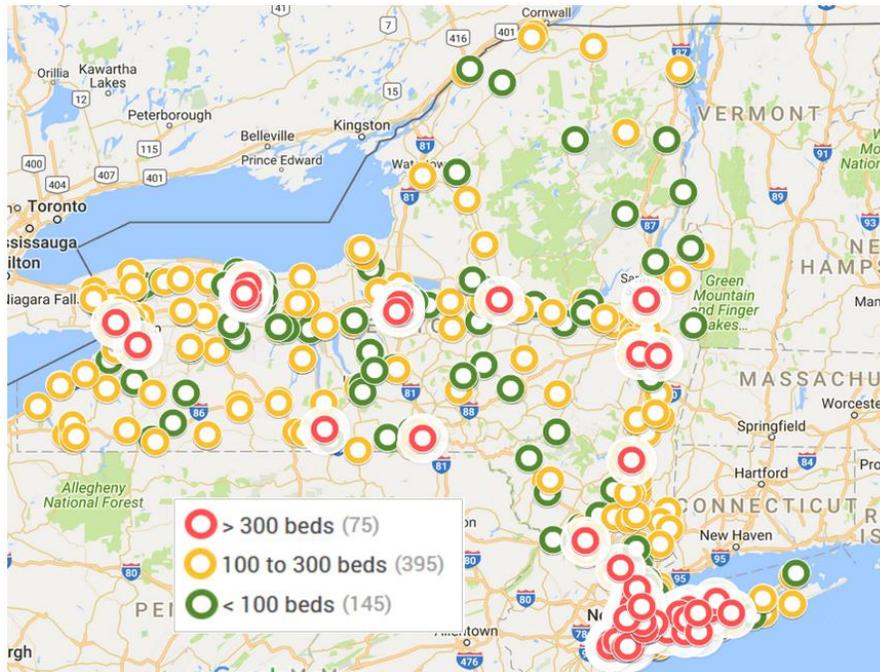
# Nursing Homes Clean Energy Initiative

PHASE ONE:  
ECONOMIC POTENTIAL AND STRATEGY

EXECUTIVE SUMMARY • JANUARY 2018

BUILDING TOWARDS A  
SUSTAINABLE FUTURE

The 615 nursing homes in New York State together spend almost \$240 million annually on electricity, natural gas, other heating fuels and water, responsible for nearly 850,000 tons of greenhouse gas emissions per year.



Analysis of 2015 energy use reveals a wide range of energy efficiency across the individual homes, with the most intensive using several times as much energy and water per bed as the most efficient. The variation is attributed mostly to differences in operations and adoption of more efficient technologies.

Site-specific energy and water use targets were set for each nursing home to determine its energy, emissions and utility cost savings potential. This in turn highlighted the 77 high-potential homes which account for 45% of the total savings, and are the target for the next phase of the program. Bringing all homes up to the energy efficiency already achieved by the higher performing homes will deliver between \$82.6 million and \$115.7 million in annual savings, representing 35% - 49% of actual 2015 utility costs. These levels of savings will lower greenhouse gas emissions by 30% - 44%, making an important contribution to the State Energy Plan’s commitment to 40% emissions reduction by 2030. Successful implementation of the recommended program will also provide a model for other building sectors to follow.

Category	Savings Range \$/year	Number		Total Savings		Average
		Number	% of Total	Million \$/year	% of Total	\$/home
High-potential	> \$250,000	77	12.5%	\$37.4	45.3%	\$485,333
Mid-potential	\$100,000 - \$250,000	181	29.4%	\$29.7	36.0%	\$164,291
Low-potential	\$10,000 - \$100,000	304	49.4%	\$15.2	18.4%	\$50,058
Least-potential	< \$10,000	53	8.6%	\$0.2	0.2%	\$3,148
<b>TOTAL</b>		<b>615</b>	<b>100.0%</b>	<b>\$82.5</b>	<b>100.0%</b>	<b>\$134,133</b>

A structured, multi-year program is recommended to engage the sector and provide the resources needed by individual nursing home owners and managers to quantify and deliver on the full energy and water savings potential of their facilities. The program will provide training and technical support along with facilitation of project financing. Engineering audits will be expanded to collect key data such as renewable energy feasibility, infrastructure condition and remaining life, and emergency preparedness.

Improving access to utility data is a primary recommendation coming out of this report, not just for the nursing home sector but to support all building owners working to increase energy efficiency in New York State. Regular reporting of ongoing energy use and actual savings achieved will verify results and guide continuous improvement.

The scale and structure of the initiative also present the opportunity for advancing knowledge of health effects of energy systems in nursing home facilities. Discussions are underway with potential academic partners to conduct multi-year research into the effects of upgrading building systems on vulnerable nursing home residents.

The next phase of this initiative comprises a pilot project with 20 high-savings potential nursing homes, along with development of standards and processes to support the overall program delivery. The pilot will deliver a significant part of the savings and economic benefits, while testing the delivery model and providing case study results to help engage the rest of the sector.

Over a ten-year period, with rational assumptions for participation rates, timing, utility price escalation and other factors, the program is projected to deliver an overall return on investment of 14.8% percent, and a net positive economic benefit after recovery of all implementation costs worth \$83 million. The total investment of \$233 million will support the growth of New York State’s clean energy industry while creating an estimated 2,300 person-years of direct employment. \$125 million of the total investment will go to energy efficient renewal of heating, ventilation, lighting, plumbing, and air-conditioning systems, offsetting the demand for infrastructure renewal funding.

