

## Regulatory Impact Statement

1. Statutory Authority: Public Authorities Law (PAL) Section 1872(4) authorizes the Authority to promulgate rules and regulations setting standards for new and substantially renovated residential buildings that will qualify for an incentive to cover a portion of the incremental costs of building “green” and “sustainable”; PAL Section 1855 authorizes the Authority to promulgate rules and regulations; and State Administrative Procedures Act Section 102 generally authorizes the promulgation of rules and regulations.

2. Legislative Objectives: The Legislative objectives are to establish standards for “green” and “sustainable” residential building design and construction; and to provide an approximately 3-year incentive program to cover a portion of the incremental costs of incorporating such construction techniques in new and substantially renovated residential buildings of fewer than twelve dwelling units.

3. Needs and benefits: The U. S. Department of Energy (DOE) estimates that the residential building sector accounts for twenty-two percent of energy consumed, seventy-four percent of water used, and twenty-one percent of carbon dioxide emissions produced in the United States. Construction and renovation of residential buildings that use “green” design and construction techniques can result in lowered energy consumption, conservation of natural resources, promotion of healthy indoor living environments, reduction of pollutants and emissions, and incorporation of products that are environmentally responsible, in comparison to standard design and constructed. The green residential building program (Program) will increase access to green, residential buildings of fewer than 12 dwelling units in New York by providing an incentive to cover a portion of the additional incremental costs of constructing or substantially renovating such residential buildings.

4. Costs: The Authority established an Advisory Committee of representatives from the New York State Department of State, New York State Division of Housing and Community Renewal, New York State Department of Environmental Conservation, New York City Economic Development Corporation, the U.S. Green Building Council (USGBC), the U.S. Department of Housing and Urban Development, and the New

York State Builders Association, as well as affordable housing developers, builders, architects, project managers, and engineers with professional experience and expertise in green buildings.

The Program establishes the green residential building standards for residential buildings that are designed and constructed, or substantially renovated, to obtain the second (Silver) or higher level Leadership in Energy and Environmental Design (LEED) certification using either the LEED for Homes Rating System, or the LEED for New Construction Rating System, or obtain a second level (Silver) or higher certification from the National Green Building Standard, International Code Council 700-2008 (NGBS). LEED for Homes and NGBS generally apply to single-family residential buildings of 3 or fewer stories in height (low-rise), and LEED for New Construction applies to multi-family buildings of greater than 3 stories in height (mid-rise and high-rise). NGBS may be used for low-rise to high-rise residential buildings. Owners will be required to demonstrate 500 kilowatt/hours of annual electricity use reduction for each dwelling unit by installing a combination of more energy efficient household appliances and lighting. The incremental cost for achieving the 500 kWh incremental savings is about \$386. A residential building with four or fewer dwelling units and three stories or fewer in height above grade will also be required to demonstrate that it meets or exceeds the minimum energy efficiency and performance specifications of the Authority's separately administered New York ENERGY STAR<sup>®</sup> Labeled Homes program, which requires such buildings to demonstrate that they are approximately 30% more efficient than standard construction. As prescribed by the statute, the Program is available to single-family residential buildings and multi-family residential buildings and townhouse structures containing less than 12 dwelling units.

The following cost analysis is based on average additional costs for median-sized and median-priced residential buildings and dwelling units and the New York State average of 2.7 residents per household as determined by the Census Bureau for 2005-2007.

For single-family residential buildings, incremental costs for meeting the minimum energy efficiency requirements and obtaining a LEED-rating for a residential building in a development in New York State averages about \$8,000. Custom-built residential buildings and those undergoing substantial renovation, because of their unique characteristics, incur incremental costs of approximately double this amount.

For single-family residential buildings, based on a March 2008 National Association of Home Builders (NAHB) Research Center report, incremental costs for meeting the minimum energy efficiency requirements and obtaining the second-level NGBS (Silver performance level), an entry-level single-family residential building in a development, using the location adjustment factors provided in the report, result in incremental costs in the ranges of \$5,250-\$6,700 in the Syracuse, New York metropolitan area and \$6,400-\$8,165 in the White Plains, New York metropolitan area.

With respect to a multi-family residential building, incremental costs for meeting the minimum energy efficiency standards and obtaining a LEED-rating for a duplex total an average increase of \$11,100, incremental costs for a 5 dwelling unit LEED-rated residential building built-for-rent averages \$17,250, and one built-for-sale averages \$18,375. Incremental costs for an eleven unit LEED-rated residential building built-for-rent totals an average on \$27,150, and one built-for-sale totals an average of \$29,625.

For a multi-family residential building when dwelling units are built-to-rent, for LEED-rated residential building achieving the 500 kWh annual electric savings, total additional costs are projected to be \$17,636 for a 5 dwelling unit building, and \$27,536 for an 11 dwelling unit building; for dwelling units built-for-sale, these costs are projected to be \$18,761 for a 5 dwelling unit building and \$30,011 for an 11 dwelling unit building.

Counterbalancing these incremental up-front costs are life-cycle, money-saving benefits due to increased energy and water efficiencies. Average annual household energy costs for a single family residential building in New York State are estimated by the Authority to be \$2,830. A single-family residential building meeting the green building residential standards prescribed by these regulations is projected to yield an average

annual energy cost saving of approximately \$720. Water efficiency measures should reduce indoor and outdoor water use by 30%, providing an additional average annual savings of \$100 in water bills for single family residential buildings billed on usage, based on USGBC information. Total annual energy and water cost savings should approach \$820, or \$8,200 over 10-years.

Similar annual energy cost savings of 20% to 30% are projected for the multi-family buildings eligible to participate in this program. Average annual energy costs for a single dwelling unit within a multifamily residential building are projected to be \$1,230 for dwelling units built-for-rent, and \$1,845 for dwelling units built-for-sale. Average annual energy cost savings are projected to be in the range of \$210 to \$315 for dwelling units built-for-rent, and \$315 to \$470 for dwelling units built-for-sale, based on average energy use and occupancy patterns. As with single-family homes, water efficiency measures should reduce overall water use by 30%, providing additional average annual savings of \$50 in water bills, based on USGBC estimates referenced above, and reduced by half to reflect that per household water use for multifamily buildings is about half of the amount for single-family residential buildings, according to EPA data. Coupled with a \$50 annual water bill saving, total annual savings should approach \$260 to \$365 per dwelling unit built-for-rent to \$365 to \$520 per dwelling unit built-for-sale, or an average of \$3,100 to \$4,400 over 10-years, respectively.

The incentive levels are set at roughly 50%-60% of the additional costs associated with meeting the green building performance standards. Since most residential buildings have service lives much longer than this, benefits should continue to accrue for many years thereafter. U.S. Census Bureau statistics show that the average age of residential buildings in the U.S. in 2001 was 32 years.

Anticipated funding for the Program is \$19.3 million. At this funding level, the Program is projected to provide incentives to nearly 3,000 residential buildings during its three years of operations 2010-2013, including approximately 2,200 residential buildings of 1 and 2 dwelling units, 600 of 3 to 5 dwelling unit

buildings, and 100 of 6 to 11 dwelling units. Based on this level of funding, the Program could result in the creation of 4,600-8,500 green dwelling units.

5. Costs to the Agency: The Authority anticipates allocating up to \$19.3 million for the Program. No Stat appropriations are needed for the Program.

6. Local government mandates: There are no mandates placed directly on local governments. If a local government chooses to build a green residential building, such as affordable housing, and to participate in the Program, it would have to comply with Program requirements.

7. Paperwork: Owners will be required to complete and submit an Application that includes: a copy of the building owner's notification from the USGBC or NAHB that the residential building has successfully certified at the required minimum level or higher; a copy of the Certificate(s) of Occupancy; documentation showing that inspections pertaining to the applicable green building certification have been completed; and a description of the work performed that qualified the building(s) for the incentive(s), and other required information.

8. Duplication: The Authority has sought to minimize duplication by adopting widely accepted national standards or rating systems as the basis for the Program. To the extent that there are other State and Federal energy efficiency incentive programs that may be available to Owners, if an Owner chooses to participate in those programs, there may be additional incentives available. To the extent that the green building standards also include the minimum requirements of the ECCC, there might be minor duplication.

9. Alternatives: PAL 1872 authorizes the Authority and the Advisory Committee to consider and develop a New York State-specific standard or set of criteria for green residential buildings.

Three main criteria were used to evaluate the suitability of the various existing rating systems and standards for purposes of the Program. The first criterion was whether they could comprehensively and reliably measure green building performance in the areas of building site selection and preparation, energy- and water-

efficient design, indoor environmental quality, material selection, and occupant education on green operations and maintenance for residential construction. The second criterion focused on the various standards' relative rigor and the transparency of the certification process, including a requirement that an independent inspector be used to verify compliance. The third was whether the administering entity has sufficient organizational capacity to verify compliance within New York State. The two standards that sufficiently met all of these criteria were the LEED Rating Systems and the National Green Building Standard (NGBS).

After review of the subcategories of certification levels available through LEED and NGBS, the Authority determined that all LEED second (Silver) level or higher certification and the second-or higher level (Silver Performance or higher) NGBS standard certification were to be the green residential building standards that must be met or exceeded to receive an incentive through the program. These certification levels will likely result in both single-family and multi-family residential buildings that achieve energy efficiency improvements of 20% to 30% above ECCC minimum requirements, and address each of the goals of the legislation, while balancing the incremental costs associated with building or renovating a certified green residential building.

Based on projected participation in the Program over its term, residential buildings meeting minimum Program requirements will reduce heating fuel use by over 230,000 million Btus, and electricity consumption by over 5,860 megawatt hours. This translates to reducing greenhouse gas emissions by over 17,000 tons, the equivalent of taking 10,357 passenger cars off the road for a year, according to the EPA. The cost for a builder to meet the training requirements will vary from \$0 for those who already have sufficient green residential building experience, to \$600. The minimum level of training for Technicians would cost \$400-500. Continuing course work for builders will total approximately \$600, biannually.

10. Federal standards: Although the Federal Energy Policy Act (PL 109-58, as amended) provides \$2,000 in tax credits to builders who build homes achieving a 50% improvement in energy efficiency, there are no federal green residential building standards.

11. Compliance schedule: The Authority will begin implementing the regulations as soon as they are made final and funding is available to pay Program incentives. No applications will be accepted after October 31, 2013.