



Savanna Environmental Policy 2016

Mission

It is Savanna's policy to assess the feasibility of environmentally efficient alternatives as it executes its business plans for various assets and to select any "green" options where Savanna believes it is appropriate and cost effective.

Policies and Practices

Savanna implements the above objective by conducting energy audits and environmental risk assessments of our properties, using the Energy Star Portfolio Manager system to track energy, water and GHG emissions when applicable, specifying guidelines for the building process for all ground-up and substantial redevelopment projects, and targeting LEED certification for all ground-up construction and substantial redevelopment projects.

Implementation

Savanna intends to consider sustainable options for both buildings in its current portfolio as well as new acquisitions that involve either ground-up construction or substantial redevelopment of existing buildings. For its standing investments, if applicable, Savanna uses Energy Star Portfolio Manager to track consumption on a regular basis in compliance with Local Law 84 and will certify all buildings that qualify as Energy Star buildings with an Energy Star plaque. Additionally, Savanna intends to perform energy audits of all buildings in the performance phase, in compliance with Local Law 87.

Since the majority of Savanna's properties are located in New York City, Savanna will aim to align with the City of New York's PlaNYC effort to conserve resources. Specifically, the PlaNYC initiative includes reducing energy consumption by 2%, reducing water consumption by 3%, increasing waste diversion from landfills by 5%, and reducing GHG emissions by 2%.

For ground-up construction and substantial redevelopment projects, Savanna intends to issue rules and regulations to all contractors which include guidelines relating to environmental issues such as energy consumption, GHG emissions, water consumption, waste management, and climate change. These guidelines will specify Savanna's goals to select and install high efficiency HVAC systems, highly reflective roofs, low flow fixtures, Energy Star appliances and other applicable environmentally efficient systems.

With these initiatives in mind, Savanna intends to target LEED certification for ground-up construction and substantial redevelopment projects, ensuring a sustainability focus throughout any of these new projects that we undertake.

Goals for Ground-Up Construction and Substantial Redevelopment Projects

The following are Savanna's goals for current and future ground-up construction and substantial redevelopment projects.

1. **Building Safety:** Appropriate lighting will be installed in all exits and staircases in an effort to help ensure building safety while attempting to appropriately manage energy consumption.
2. **Climate Change Adaptation:** When appropriate and cost effective Savanna will aim to ensure that no CFC based refrigerants will be used in HVAC & Refrigeration systems in any buildings. CFCs contribute to global warming and ozone layer depletion.
3. **Environmental Attributes of Building Materials:** When appropriate and cost effective, Savanna will aim to install local materials (sourced within 500 miles) and /or materials with recycled content. Savanna will also attempt to use materials such as paints, coatings, adhesives, sealants and flooring that are green seal compliant and that contain minimal VOC's compliant with LEED standards. Wherever feasible, Floor Score flooring will be specified and installed.
4. **GHG Emissions/Management:** Overall efforts will be made to reduce carbon footprint of the buildings and occupants, including installing HVAC systems that are not oversized and efficient mechanical systems, in an effort to reduce overall energy consumption of the building.
5. **Waste Management:** Savanna intends to recycle ongoing consumables such as glass, plastics, paper, cardboard and aluminum in all ground-up construction projects. Additionally, it is intended that all ground-up construction projects will aim to divert 50% of construction waste from landfills.
6. **Water Consumption/Management:** Low flow fixtures and faucets will be installed wherever Savanna determines it is feasible. Any replacement fixtures will also meet or exceed the UPC/IPC Standards and EPA WaterSense Standards.
7. **General Sustainable Operations:** When preparing development or redevelopment plans, Savanna will request that key service providers present sustainable or green options.
8. **Sustainable Materials Return on Investment:** When installing or replacing building systems, Savanna will consider options for energy efficient, green

systems that may provide operating cost efficiencies in the future that offset higher upfront costs.

Case Studies of Environmental Initiatives in Savanna's Current Portfolio

95 Evergreen Avenue - Brooklyn, NY: Targeting USGBC's LEED Core and Shell (CS) V3 'Silver' Certification

- **Energy Efficiency:** Several energy efficiency measures, such as efficient lighting and HVAC systems, are projected to reduce the energy costs of 95 Evergreen by 21% over the baseline ASHRAE 90.1 2007 Standard.
- **Water Use Reduction:** Savanna is installing water-sense fixtures and faucets throughout the building to result in a projected 30% water use reduction from LEED CS v3 baseline which derived from Uniform plumbing code/ International Plumbing Code (UPC/IPC) 2006 edition.
- **Conservation of Materials-** Savanna is attempting to reduce waste by reusing 97.7% of the existing building structure and materials, in an attempt to help preserve the heritage and history of Brooklyn.
- **Construction Waste Management:** Construction waste is being tracked throughout the project and 75% of waste is being diverted from landfills and sent to appropriate recycling centers.
- **Promotion of Emissions Reduction:** The building has dedicated bicycle storage space which facilitates occupants who want to use bicycles to commute to work, mitigating the CO2 emissions related with automobile commuting.
- **Improved Indoor Air Quality:** As a LEED certified building, 95 Evergreen will have improved Indoor Air Quality (IAQ) and better thermal comfort for occupants, meeting and exceeding regular code.

540 W 26th Street - New York, NY: Targeting LEED Core & Shell (CS) Silver Certification:

- **Energy Efficiency:** An energy analysis was conducted and the asset is projected to reduce building energy use by 20-22% over the baseline ASHRAE 90.1-2007 Standard. Measures contributing to this projected reduction include high efficiency base building HVAC systems, energy recovery units, high efficiency condensing boilers, reduced lighting power density (20% reduction over baseline) and occupancy sensors throughout.
- **Water Use Reduction:** Savanna intends to install water-sense fixtures and faucets which are projected to result in a 35% water use reduction from LEED CS v3 baseline which derived from Uniform plumbing code/ International Plumbing Code (UPC/IPC) 2006 edition.
- **Indoor Air Quality:** The intended use of low VOC paints, coatings and finishes as well as the installation of building products with no added urea-

formaldehyde should help to assure great indoor air quality of the building. In addition, ventilation requirements will meet and exceed code.

- **Sustainable Materials:** Overall, sustainable materials are planned to be used in this building including materials with recycled content and those that are regionally extracted and manufactured. Sustainably sourced FSC certified wood is also intended to be installed for finished carpentry.

110 William - New York, NY

- **Conservation of Water:** In order to minimize water use, low flow fixtures and sensor faucets were installed in rest rooms.
- **Energy Efficiency:** Savanna installed energy efficient LED lighting throughout the building.
- **Sustainable Materials:** Low emitting materials, such as low VOC paints and ceiling tiles, CRI certified carpet tiles, and Greenguard IAQ certified vinyl base, and materials with high recycled content were installed.
- **Sustainable Technology:** Savanna has implemented Cortex Building Intelligence, software which connects into a building's existing BMS system and provides real-time analytics on the building's HVAC efficiency, at 110 William Street. With this software, building managers can receive real-time data points on their iPhone with data driven recommendations on the most efficient times to turn on/off the heating and cooling at the building. Since implementing Cortex at 110 William Street in February 2016, Savanna has seen savings of about \$70,000 per month in utility billings.

434 Broadway - New York, NY

- **Energy Efficiency:** Air conditioning units were replaced with new energy efficient air cooled units throughout.
- **Conservation of Water:** Water efficient low flow fixtures and faucets were installed in all new restrooms.

Case Studies of Past Environmental Initiatives

245 & 249 West 17th Street - New York, NY: LEED Gold Certified

- **Energy Efficiency:**
 - Savanna installed a reflective and highly insulating roof to reduce the heating and cooling load on the building, saving energy for the owner and tenants.
 - Savanna hired an independent commissioning agent to test and verify proper installation of MEP equipment, resulting in reduced energy consumption and reduced operating costs.
 - Mechanical systems and lighting were specified so as to achieve a high level of energy savings (approximately 20% as compared to the original building) including the following:

- Variable Air Volume (VAV) HVAC systems
 - Efficient cooling towers with water-side economizer
 - Cooling towers, boilers, and supply air delivery are optimized via BMS programming
 - High efficiency pumps and fan motors fitted with VFD's
 - High efficiency lighting fixtures/lamps
- Tenant energy consumption will be sub-metered and monitored through the BMS.
 - Renewable Energy certificates will be purchased to offset base building energy usage.
 - **Clean Energy:**
 - Contractors were required to use low-emitting adhesives, sealants paints and interior finishes resulting in a healthier indoor environment.
 - The site is located in a dense urban neighborhood within easy walking distance to public transit and has no provisions for automobile parking.
 - **Conservation of Materials:** The project was a renovation of an existing structure which reused material and greatly reduced the demand for new materials.
 - **Recycled & Locally Produced Materials:** Interior fit out materials for the prebuilt spaces and lobbies were specified to have high levels of recycled content and be sourced locally.

5 Hanover Square - New York, NY

- **Energy Efficiency:** Base building chillers and cooling towers were replaced in order to achieve greater energy efficiency.
- **Conservation of Water:** New restrooms with low flow water fixtures and faucets were installed.

1375 Broadway - New York, NY

- **Energy Efficiency:** New roofing with greater insulation and new energy efficient air cooled AC units were installed.
- **Conservation of Water:** New restrooms with low flow water fixtures and faucets were installed.

31 Penn Plaza - New York, NY

- **Energy Efficiency:** New, more efficient elevators and new, energy efficient air cooled AC units were installed.
- **Conservation of Water:** New restrooms with low flow water fixtures and faucets were installed.

100 Wall Street - New York, NY

- **Resilience:** Following Hurricane Sandy, which particularly impacted 100 Wall Street, Savanna invested significant capital to repair damages sustained from flooding and took preventive actions to protect against future weather related risks. All vital electrical systems, such as electrical switchgear, fire alarm systems and security systems were moved to higher floors in order to preserve vital operations and significantly reduce potential downtime. In addition, wireless communication infrastructure was installed at the top of the building to allow for seamless communication and data transfer if landlines fail due to storm damage at any point in the future.
- **Conservation of Water:** New restrooms with low flow water fixtures and faucets were installed.

80 Broad Street - New York, NY

- **Energy Efficiency:** Savanna installed all new roof insulation.
- **Conservation of Water:** New restrooms with low flow water fixtures and faucets were installed.

104 West 40th Street - New York, NY

- **Conservation of Water:** New restrooms with low flow water fixtures and faucets were installed.

386 Park Avenue South - New York, NY

- **Energy Efficiency:** New energy efficient windows were installed.
- **Conservation of Water:** New bathrooms with waterless urinals and low flow water closets were installed.

141 5th Avenue - New York, NY

- **Conservation of Materials:** 141 5th Avenue was an adaptive re-use project. Existing structure, floors and various interior elements were reused in a major renovation of the existing building.
- **Clean & Efficient Energy:** 141 5th Ave utilizes a Con Edison steam plant. These steam facilities are operated and continuously monitored by Con Edison to minimize emissions. They utilize clean and efficient cogeneration technology and use low sulfur oil or clean burning gas. Con Ed implemented emission control technologies at steam generating facilities which have reduced emissions approximately 50% over the past 5 years. Steam is cleaner and produced from a central facility and delivered to the building without oil, trucks, etc.
- **Energy Efficiency:** Savanna installed energy star appliances in the property's units.

- **Locally Produced Materials:** Savanna also installed locally manufactured kitchen cabinetry in the units.

The Peninsula - Edgewater, NJ

- **Energy Efficiency:** Savanna assessed all common space lighting and installed compact fluorescents where possible at the property.

Dutchess Corporate Center - Wappinger Falls, NY

- **Energy Efficiency:** Savanna installed a more efficient boiler system with “variable capacity.” This means that the boiler can run at lower capacity as determined by how much is actually needed.

125 North 10th Street - Brooklyn, New York

- **Sustainable Materials:** Savanna used sustainably harvested “Ipe” Brazilian Walnut wood flooring as opposed to traditional wood flooring throughout the building.
- **Recycled Materials:** Savanna installed “Icestone” countertops made from recycled concrete and glass. These countertops were made locally in Brooklyn, New York.
- **Energy Efficiency:** Savanna installed Energy Star approved appliances in all units of the building.
- **Locally Produced Materials:** Local furniture fabricators and artisans were employed and used throughout the building, cutting down on material travel.

Bristol Business Center - Bristol, CT

- **Energy Efficiency:** A new 1 million square-foot roof was installed with new insulation.