

Sustainability Plan Element

Prepared for the Borough of Glen Ridge



PHILLIPS PREISS GRYGIEL LLC
Planning & Real Estate Consultants

Adopted July 21, 2010


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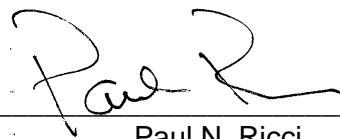
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INTRODUCTION

As per the Municipal Land Use Law (NJSA: 40:55D-28), the sustainability plan element of the master plan is required to identify and describe the efficient use of natural resources, the installation and usage of renewable energy systems and the impact of buildings on the local, regional and global environments. A sustainability plan must also plan for ecosystems to function naturally, conserve and reuse water, treat storm water on-site and optimize climatic conditions through site orientation and design. In this context, sustainability planning is the process of developing strategies and targets to help ensure the long-term sustainability of a community.

This Plan's primary objective is to raise awareness of sustainability planning through education and the Borough's commitment to support such goals and concepts. To this end, targets are created and actions are recommended, some of which are simple common sense alternatives to existing trends or the status quo.

GOALS and OBJECTIVES

This Sustainability Plan Element incorporates and endorses the purposes of the Municipal Land Use Law set forth at N.J.S.A. 40:55D-2, as its overall goals and objectives in addition to goals identified in the Borough's Master Plan. These are to be supplemented by more community-specific goals and objectives, specific to sustainability planning. These key goals and objectives are set forth below. Equal weight should be given to these goals in regard to guiding decisions regarding sustainability efforts in the community. They are as follows:

1. Improve the environment.
2. Reduce energy use.
3. Promote healthy living habits.
4. Create transportation choices.

TARGETS

Targets are measurable milestones and explicit endpoints identifying what must be achieved to meet the Plan's goals and objectives. The following identifies the initial sustainability targets for Glen Ridge to be met primarily through public education efforts and the development of further implementation mechanisms, and in general through the Borough's support of citizens and other public and non-profit organization efforts to promote more sustainable living and business practices. Targets within this Plan are based upon the need to establish obtainable milestones, many of which are consistent with plans and strategies in other New Jersey communities. This Plan stresses that there is no direct consequence for not obtaining each target.

1. Reduce Borough water use by a minimum of 1% each year from 2010 to 2020.ⁱ
2. Purchase a minimum of 50% of all municipal purchases consistent with EPA or NJDEP green purchasing guidelines.ⁱⁱ
3. Reduce greenhouse gas emissions by 20% in existing homes and businesses by 2020.ⁱⁱⁱ

4. Increase the number of Glen Ridge residences that conduct New Jersey Energy Star audit to 10% by 2015^{iv}.
5. Incorporate biofuels and increased efficiencies into municipal fleet operations by 2012.
6. Revise Borough ordinances to include sustainable landscape architecture requirements by 2012.
7. Adopt green pervious materials standards into municipal ordinances by 2012.
8. Increase public transportation ridership/carpooling to work to 40% by 2020^v.
9. Increase and maintain recycling rates to a minimum of 50% by 2015^{vi}.

RECOMMENDATIONS/ACTIONS

1. Water Quality/Stormwater Management

Objectives

- (a) Minimize change to natural systems.
- (b) Preserve and enhance water quality.
- (c) Preserve wetlands.
- (d) Implement responsible stormwater management practices.
- (e) Control excess runoff.
- (f) Promote innovation to eliminate runoff.

Actions to be taken

- (a) The Borough should continue to update applicable design and performance standards for stormwater management measures as presented in N.J.A.C. 7:8-5 to reduce the negative impact of stormwater runoff on water quality and water quantity and loss of groundwater recharge in water-receiving bodies. However, there are additional opportunities to increase groundwater recharge and reduce evaporation by using structural stormwater systems, such as a drywell. Other options include:
 - o Redirecting gutters to lawns;
 - o Creation of rain gardens;
 - o Using rain barrels;
 - o Promoting awareness of problems associated with soil compaction; and
 - o Encouraging public education.

To regulate infill development properly, this Plan specifically recommends the creation of regulations that require stormwater improvements for construction that substantially increases the building footprint. Revisions to the Borough's grading and disturbance requirements is one method to regulate infill development.

- (b) The Borough should work with the NJDEP to educate homeowners of the impacts of the overuse of fertilizers and pesticides. This discussion should include other techniques to

create a “green lawn” and preventing weeds without the over-utilization of synthetic fertilizers and pesticides.

2. Water Consumption

Objectives

- (a) Reduce potable water use for landscape maintenance.
- (b) Reduce potable water use for building occupants.

Actions to be taken

- (a) Glen Ridge can reduce water consumption through best management practices, common sense alternatives and education that encourages residents to employ water efficiency techniques both indoors and outdoors. Illustrative examples are as follows:
 - Install rain gardens and rain barrels.
 - Plant drought-resistant lawns, shrubs and plants.
 - Check for leaks in pipes, hoses, faucets and couplings.
 - Use your water meter to check for hidden water leaks.
 - Install water-saving shower heads and low-flow faucet aerators.
 - Use your dishwasher and clothes washer for only full loads.

3. Borough Green Purchasing

Objectives

- (a) To increase the use of recycled content products as a percentage of all products purchased.
- (b) To encourage the purchase of energy star compliant equipment.
- (c) To increase awareness of environmental issues associated with procurement through training.

Actions to be taken

- (a) Utilize U.S. Environmental Protection Agency (EPA) and NJDEP resource guides to assist in green purchasing.¹
- (b) Establish a green purchasing program, including purchase of only ENERGY STAR equipment and appliances for Borough use.
- (c) Consider attending U.S. EPA or NJDEP training seminars regarding green purchasing to assist in the purchases of non-toxic, sustainably-produced or recycled materials which require little energy to process. Purchasing longer-lasting and better functioning products that will have to be replaced less frequently will assist in reducing the impacts of producing replacements.

¹ http://www.epa.gov/opptintr/epp/pubs/buying_green_online.pdf

4. Recycling

Objectives

- (a) To exceed New Jersey State municipal recycling rate goals.
- (b) To increase the recycling rate of bulk household goods.
- (c) To expand the types of materials that may be recycled as part of municipal and county recycling programs.

Actions to be taken

- (a) As part of municipal mailings, educate residents on the environmental and cost savings associated with increased recycling rates.
- (b) Place recycling containers in addition to trash containers at public locations.
- (c) Include recycling demonstrations as part of public school curriculums.
- (d) Participate in seasonal county recycling efforts.

5. Energy

Objectives

- (a) Reduce the Borough's overall energy use and increase renewable energy usage.
- (b) Significantly decrease emissions of greenhouse gases from buildings by reducing consumption of fossil fuel-based energy by maximizing energy conservation and using renewable energy where possible.
- (c) Minimize greenhouse gas producing energy use in municipal government buildings, facilities and maintenance operations.
- (d) Optimize energy performance in all buildings and facilities.
- (e) Utilize emerging renewable energy technologies where feasible.
- (f) Minimize embodied energy in all construction and municipal purchases.

Actions to be taken

- (a) The Borough should adhere to LEED® (Leadership in Energy and Environmental Design) building standards for all public buildings and should encourage their use in new private development.
- (b) The Borough should become a New Jersey Clean Energy Program Community Partner.
- (c) The Borough should promote the use of all feasible municipal roofs for the development of Photovoltaic Panels.
- (d) Participate in NJ Energy Smart Start Buildings Programs and seek Energy Star for Buildings labels for all new construction and renovation of Borough buildings and facilities.
- (e) Enroll in the TEACH program from New Jersey's Clean Energy Program which provides hands-on curricula that faculty members can use to teach their students about energy efficiency.²
- (f) Through the New Jersey Clean Energy Program, conduct an energy audit of the municipal building and other public buildings. Costs of the audit may be subsidized up to

² NJTEACH@trcsolutions.com

100% (initially 75% is reimbursed, with the remaining 25% reimbursed if recommendations of the audit are implemented).

- (g) Encourage participation in the New Jersey Smart Buildings Program for free energy savings advice for commercial and industrial projects.
- (h) Revise ordinances to require major site plan applications to submit an energy efficiency plan as a condition of site plan approval.
- (i) Establish a green purchasing program, including purchase of only ENERGY STAR equipment and appliances for Borough use.

6. Biofuels as part of municipal fleet operations

Actions to be taken

- (a) Incorporate a 20% blend of biodiesel³ as part of municipal fleet operations where feasible (diesel engines only).
- (b) Evaluate replacing vehicles in the municipal fleet with new more fuel efficient modes each year.
 - o Incorporate hybrid and other vehicle technologies to replace older models to increase fuel efficiency.
 - o Purchase low emissions vehicles and where feasible and use the smallest vehicle possible for the task.

7. Air Quality

Objectives

- (a) Adopt clean air standards for indoor air quality, as provided in the National Ambient Air Quality Standards (NAAQS), 40 CFR part 50, and outdoor air quality as provided in Title 42, Chapter 85 of the U.S. Code.
- (b) Reduce greenhouse gas emissions.
- (c) Reduce dependency on fossil-fuel automobiles.

Actions to be taken

- (a) Promote the preservation and planting of trees and other vegetation that absorb carbon dioxide and air pollutants.
- (b) Organize community events to raise awareness about local air quality (i.e. EcoFair; Walk to School Day, Bike to Work Day, etc.).
- (c) Encourage residents and employees to bike or walk whenever possible; provide ample storage for bicycles and showers/changing facilities for those who bike to work.
- (d) Encourage residents to maintain vehicles efficiently.
- (e) Weatherize buildings/homes to meet energy efficient goals.
- (f) Purchase alternative fuel vehicles.
- (g) Integrate parking fee policies that support and fund alternative transportation options.

³ Biodiesel is made by combining raw vegetable oil with methanol to make a vegetable oil methyl ester (VOME). This can be used directly as fuel or blended with petroleum diesel.

8. Pervious materials and site design

Objective

To encourage groundwater recharge on sites having a high percentage of impervious coverage by minimizing the need for structural stormwater management systems.

Actions to be taken

- (a) Adopt ordinances that require the use of pervious materials on properties having a high percentage of impervious coverage. Pervious materials may be used for:
- Parking lots
 - Sidewalks and pathways
 - Patios
 - Tennis courts
 - Swimming pool decks
 - Foundations/floors for greenhouses and similar uses
 - Sound barriers
 - Tree grates in sidewalks
 - Low-volume pavements
 - Other appropriate uses as recommended by the Borough

9. Transportation

Objectives

- (a) Develop a full range of community transportation options.
- (b) Develop of comprehensive and interconnected transportation system, locally and regionally, that includes all forms of mobility – walking, biking, automobile, public transportation, etc.
- (c) Maintain a safe and efficient transportation network.

Actions to be taken

- (a) Adopt a “complete streets” program.
- (b) Support and sustain the Glen Ridge Jitney as a successful, green transportation alternative. NJ Transit has historically provided funding for the purchase of a community shuttle buses to increase public transportation and Glen Ridge is considered a state-wide success of this practice.
- (c) Promote the use of public transportation by Borough residents.
- (d) Monitor the planning options for the use of former Boonton Line and involve citizens in any future restoration either as commuter or light rail service, or a ‘rails to trails’ bike path.
- (e) Support pedestrian mobility and safety for both school children and commuters, especially in the downtown.
- (f) Develop a plan to restore the Sherman Avenue pedestrian bridge.
- (g) Develop integrated parking fee policies that support and funds alternative transportation options.
- (h) Encourage bicycle usage throughout the Borough by designating lanes and routes. Expand locations of bicycle racks around public and private buildings throughout the

Borough. Draft Borough ordinances to require bicycle racks associated with all major mixed-use and non-residential developments.

- (i) Develop a pedestrian and bicycle plan for the Glen.
- (j) Support innovative programs, such as ride-sharing, to reduce the number of cars on local roadways.

10. Shade Tree Management

Objectives

- (a) To maintain and manage the Borough's street trees on an intergenerational life cycle basis.
- (b) To ensure that each street tree planting space in the Borough is planted, unless conditions prohibit doing so.

Actions to be taken

- (a) The Borough's street trees are in critical condition. It is estimated that the town will lose most of its maples as well as its mature red oak population along Ridgewood Avenue by 2015. Thus, a more aggressive management plan needs to be undertaken, elements of which are as follows:
 - Inventory the location, variety and condition of each street tree;
 - Preserve streetscapes by sustaining mature trees while planting for age- and bio-diversity;
 - Maintain the Borough's Approved Status in the DEP's Community Forestry Program;
 - Plant a tree for every tree removed as soon as practical;
 - License tree-service companies and landscapers to better monitor unwarranted and reckless damage to street trees;
 - Encourage residents to take stewardship over the street trees planted in front of their houses;
 - Promote tree planting on private property.
- (b) The Borough should also endeavor to educate residents about the environmental importance of trees. They should also be informed about ways in which they can promote tree growth through irrigation and by making sure that young trees are not damaged by power mowers, wire whips or the pyramiding of mulch.

NATIONAL, REGIONAL, STATE, COUNTY AND LOCAL SUSTAINABILITY INITIATIVES

The following section describes national, regional, state, county and local initiatives designed to promote sustainability planning efforts. A better understanding of these programs and initiatives may allow Glen Ridge to further plan its own sustainability path.

Proposed Cap and Trade System

The Regional Greenhouse Gas Initiative (RGGI) is the first mandatory, market-based effort in the United States to reduce greenhouse gas emissions. Ten states will cap and then reduce carbon dioxide (CO₂) emissions from the power sector by 10% by 2018. Regulated power plants will be required to use a CO₂ allowance issued by any of the ten participating states to demonstrate compliance with an individual state program. Under this regulatory framework, the ten-state program will function as a single regional compliance market for CO₂ emissions.

New Jersey will sell emission allowances through auctions and invest proceeds in consumer benefits such as: energy efficiency, renewable energy, and other clean energy technologies. It is anticipated that RGGI will spur innovation in the clean energy technologies. It is further anticipated that communities undertaking their own green initiatives may benefit most in the form of incentives, grants and other measures.

Sustainable Jersey⁴

According to the Sustainable Jersey™ website, Sustainable Jersey™ is a certification and incentive program for New Jersey municipalities to encourage sustainability efforts. The program includes required and elective “actions” that municipalities can implement to receive the certification. These include, but are not limited to actions addressing issues such as global warming, pollution, biodiversity, buying locally, community outreach, green building, and sustainable agriculture.

Sustainable Jersey™ provides municipalities that enter the program with a comprehensive package of tools, guidance materials, training, and financial incentives, to support and reward progress.

It is anticipated that the Mayors’ Committee for a Green Future and NJ State League of Municipalities will provide recognition to “sustainable communities” - those communities that adopt, support, and implement a specified set of sustainability and greening initiatives.

Sustainable Jersey accepted the first municipal participants into the program in 2009. It is anticipated that municipalities that complete the certification requirements will be recognized at an annual awards event. Glen Ridge is in the process of becoming a Sustainable New Jersey Certified community.

State Energy Master Plan

The need to encourage sustainable energy practices is a local, national and global need. At the State level, New Jersey’s legislature adopted an Energy Master Plan in October 2008. The State Energy Master Plan’s goals are as follows:

- GOAL 1: Maximize the State’s energy conservation and energy efficiency to achieve reductions in energy consumption of at least 20% by 2020.

⁴ <http://www.sustainablejersey.com/about.php>

- GOAL 2: Reduce peak demand for electricity by 5,700 MW by 2020.
- GOAL 3: Strive to surpass the current RPS goals with a goal of achieving 30% of the State's electricity needs from renewable sources by 2020.
- GOAL 4: Develop a 21st century energy infrastructure.
- GOAL 5: Invest in innovative clean energy technologies and businesses to stimulate the industry's growth in New Jersey.

Leadership in Energy and Environmental Design (LEED)⁵

The U.S. Green Building Council has established a green building certification process to certify energy efficiency buildings and projects. It sets forth specific standards for site suitability, water efficiency, energy and atmosphere conservations, building materials and resources, and indoor environmental quality for new construction, existing buildings, commercial interiors, core & shell (spec buildings), schools, retail, health care, homes and neighborhood development. The LEED certification system offers four certifications for new construction: certified, silver, gold and platinum. LEED certified projects are currently being built in New Jersey.

Targets within this Plan encourage the adoption of ordinances that require new public buildings to become LEED certified.

The Municipal Land Use Law

The Municipal Land Use Law (MLUL) identifies the encouragement "to promote utilization of renewable energy resources" as one of the fifteen purposes of the Municipal Land Use Law [NJSA 40:55 D-2].

The creation of on-site renewable energy in Glen Ridge, would substantially serve the public interest by meeting energy needs through renewable sources and by increasing the sustainability of existing businesses in the Borough. However, the placement and design of such structures may negatively impact the existing character within the Borough's historic district. As part of future planning efforts, the Borough should further evaluate this issue and create policies to address the design and placement of photovoltaic (solar) panels, wind turbines and other similar renewable energy structures.

U.S. Mayor's Climate Protection Agreement⁶

On February 16, 2005 the Kyoto Protocol, the international agreement to address climate disruption, became law for 141 countries. While the United States did not sign the agreement, Seattle Mayor Greg Nickels created the US Mayors Climate Protection Agreement to advance the goals of the Kyoto Protocol. In response, the U.S. Conference of Mayors launched the Mayors Climate Protection Center to administer and track the agreement. Under the Agreement, participating cities commit to take the following three actions:

1. Strive to meet or beat the Kyoto Protocol targets in their own communities, through actions ranging from anti-sprawl land-use policies to urban forest restoration projects to public information campaigns;
2. Urge their state governments, and the federal government, to enact policies and programs to meet or beat the greenhouse gas emission reduction target suggested for the United States in the Kyoto Protocol -- 7% reduction from 1990 levels by 2012; and

⁵ <http://www.usgbc.org>

⁶ <http://www.seattle.gov/mayor/climate/>

3. Urge the U.S. Congress to pass the bipartisan greenhouse gas reduction legislation, which would establish a national emission trading system.

As part of future sustainability planning efforts, the Borough should further evaluate the agreement and consider signing the U.S. Mayor's Climate Protection Agreement.

Sustainability Initiatives in Adjoining Communities and Essex County

More and more communities are recognizing the environmental, fiscal and healthier living benefits associated with the creation and implementation of sustainable planning practices. The following identifies actions being undertaken or in the planning stages within several adjoining communities. Given the recent popularity of sustainability planning efforts, an exhaustive listing would be voluminous and would more appropriately fit into a separate planning background study. Rather, the following provides a representative listing and illustrates a broad range of sustainability actions currently being undertaken. These include:

- Becoming a New Jersey Sustainability Certified community
- Preparing Sustainability or "Green Plans" to establish environmental policy
- Creating community established targets and indicators to measure success or lack of success when implementing programs
- Creating downtown farmers' markets to encourage the consumption of local products
- Purchasing alternative fuel vehicles for parking enforcement and other municipal uses
- The creation of education programs, e.g. home composting
- Further regulating stormwater management for activities not regulated by State stormwater rules and regulations
- The installation of photovoltaic (solar) panels on public buildings
- Requiring the incorporation of LEED building design certification into public buildings and redevelopment projects
- Using a biodiesel blend within municipal vehicles
- Creating incentive zoning, e.g., providing a density bonus for projects which achieve LEED certification

Endnotes

ⁱ The proposed reduction is based upon professional judgment and the need to quantify the goal to reduce water consumption. Additional benefits of this policy are located at: http://www.epa.gov/watersense/water_efficiency/environmental_benefits.html

ⁱⁱ Green Purchasing: A Guide for Local Governments and Communities provides recommendations for which the 50% percentage goal was partially developed. The 50% target is consistent with the City of Summit's green purchasing target to be achieved by the year 2012. <http://www.state.nj.us/dep/dsr/bscit/epp.pdf>

ⁱⁱⁱ The 2008 State Energy Master Plan creates the following energy goal: Maximize the State's energy conservation and energy efficiency to achieve reductions in energy consumption of at least 20% by 2020.

^{iv} Benefits and incentives to conduct a New Jersey Energy Star Audit may be found at: <http://www.njcleanenergy.com/residential/programs/home-performance-energy-star/benefits-and-incentives>. The proposed 10% target is a starting point to encourage participation in a program designed to assess energy efficiency improvements for residential properties. Given that the majority of properties in Glen Ridge are residential and the median year structure built is prior to 1940, significant energy efficiency improvements could result from Energy Star audits.

^v According to the 2000 U.S. Census, a total of 35% of Glen Ridge residents carpooled, walked, worked at home or used public transportation as a means of getting to work. The proposed target proposes a 5% increase over existing conditions as reported by the U.S. Census in 2000.

^{vi} The Municipal Land Use Law of 1975 (N.J.S.A. 40:55D-1 et. seq.) specifies that municipalities shall create an implementation mechanism to meet and exceed Statewide and County recycling goals. As set forth in N.J.S.A. 13:1E-99.13.3.b.(4)(c), the goal of 50% recycling of municipal solid waste shall be recycled by 2015 is established.