



## Overview of Gold Star Standard in Energy

The Gold Star in Energy identifies the specific actions and levels of performance that municipalities can and must achieve for us to reach our goals for a sustainable New Jersey. The award of a Gold Star indicates that a municipality is making a fair and timely contribution to the collective achievement of our sustainability goals.

The [New Jersey Sustainable State of the State Report](#) sets for the goals for sustainability in the Energy Dimension:

1. Decrease **greenhouse gas emissions** in time to avoid catastrophic climate impacts (minimize environmental harm).
2. Increase the **renewable energy** fraction (decrease vulnerability of energy system).
3. Increase **affordability** of energy.
4. Increase **resilience** (decrease outages and vulnerability to disruptions).
5. Decrease **risk to human health** from the energy system.

The primary goal is reducing greenhouse gas (GHG) emissions. Responding to this overarching imperative will help achieve all the other goals. New Jersey's Global Warming Response Act calls for an **80% reduction of GHG emissions from 2006 levels by the year 2050**. To meet this target, New Jersey will have to reduce GHG emissions at a rate of **3.6%** a year, every year.

### *The Dual Municipal Role*

Not only do municipal operations contribute significantly to GHG emissions, municipalities also play a key role in influencing GHG-emitting behavior in the broader community. Our analysis indicates that known municipal strategies can achieve 100% of the reduction of emissions from municipal operations at the **3.6% per year** rate mandated statewide. Municipal governments have less control over the businesses and residents in their communities, so they can be held responsible for a lower rate (**1% per year**) of GHG reductions expected from the community as a whole.

To reflect this dual role, the Gold Star in Energy will be awarded when a municipality meets two standards:

1. **Municipal Operations Standard:** Demonstrate reductions in GHG emissions from municipal operations and facilities at an average annual rate of 3.6% per year for 3 years (i.e., a rate amounting to 10.8% over 3 years or less).
2. **Community-wide Emissions Standard:** Take effective steps to bring down energy consumption, and thus emissions in the broader community, by implementing the following Sustainable Jersey actions at the specified Gold level of performance (or approved alternatives):
  - a. [Make Your Town Electric Vehicle Friendly](#)
  - b. [Public Electric Vehicle Charging Infrastructure](#)
  - c. [Make Your Town Solar Friendly](#)
  - d. [Community-led Solar Initiatives](#)
  - e. [Residential Energy Efficiency Outreach](#)
  - f. [Commercial Energy Efficiency Outreach](#)

Sustainable Jersey will accept alternatives to one or more of the above actions. We will be rigorous in assessing proposed substitutes to ensure that, as a whole, the package of actions would result in at least 1% annual reduction in community-wide emissions.

The [Energy Gold Technical Document](#) details the research and rationale supporting the determination of the target rates of GHG emissions reduction, the assessment of their feasibility in NJ, and the verification that cumulative Sustainable Jersey actions will enable municipalities to achieve the Sustainable Jersey Gold Star in Energy.

## **Municipal operations standard**

### *Scope*

The scope of operations covered by this standard is the same as for the Sustainable Jersey [Municipal Carbon Footprint Action](#), that is: emissions from energy use in buildings, (including water, wastewater and waste management plants owned and/or operated by the municipality), exterior and street lighting, and the municipal fleet (including emissions from vehicles under major contracted services).

## Effective Actions

As shown in the table below our research demonstrates that the required rate of reduction can be achieved each year, and sustained for roughly the next decade, by implementing the slate of Sustainable Jersey actions in three broad areas: renewable energy generation, vehicle fleet management, and building energy efficiency. At the same time, municipalities are encouraged to innovate and implement other GHG-reducing actions they deem suited to their local conditions.

<b>MUNICIPAL OPERATIONS: GHG REDUCTION STRATEGIES AND GOAL</b>		
STRATEGIES AND ACTIONS TO ACHIEVE GOLD	TIME TO IMPLEMENT	IMPACT ON MUNICIPAL GHG
<b>Renewable Energy Generation</b>		<b>4-38%</b>
On-Site Solar System	1-2 years	1-35%
On-Site Wind System	3-5 years	<1%
Geothermal System	2-3 years	3%
<b>Greening the Municipal Fleet</b>		<b>15-18%</b>
Purchase Alternative Fuel or Efficient Vehicles	3-7 years	4%
Convert Vehicles to Alternative Fuel	1 year	2%
Trip Optimization Software	1 Year	3-6%
Proper Vehicle Maintenance	1 Year	6%
Driver Training	1 year	3%
<b>Buildings and Street Lighting Efficiency</b>		<b>12-19%</b>
Implement Energy Efficiency Measures	2-4 years	10-17%
Energy Tracking & Management	1 year	2%
<b>Estimated Impact from Reduction Strategies</b>		<b>31-75%</b>

## Community-wide emissions standard

### Scope

The community-wide Gold standard covers the same scope of energy usage and emissions covered in the Sustainable Jersey [Community Carbon Footprint Action](#). The community carbon footprint measures the amount of greenhouse gas emissions produced by the municipality's residents, businesses, schools and other institutions in a given year, including: (a) direct GHG emissions from stationary combustion of fossil fuels, including natural gas, heating oil, coal, and diesel; and (b) indirect emissions from consumption of purchased or acquired electricity.

## Effective Actions

The table below lists key strategies available today that municipalities can implement to impact GHG emissions from the broader community. This evidence demonstrates that the required rate of reduction in GHG to meet the Gold Star Standard is achievable for most municipalities. It provides a representative sample of the broad array of potential strategies to influence residents and businesses to bring down their emissions, including the six actions comprising the community standard. Municipalities are encouraged to innovate and implement the actions most effective under local circumstances.

For each strategy, a rough estimate of the potential impact is shown in the table. For example, *community purchase of green energy* alone can achieve a reduction in GHG emissions that would qualify a municipality for 4-7 years of approved Gold Star Standard status (i.e., a 1% reduction per year over 4-7 years). The Sustainable Jersey action, [Renewable Government Energy Aggregation](#), provides guidance for implementing this strategy.

COMMUNITY-WIDE GHG EMISSIONS: REDUCTION STRATEGIES AND GOAL		
STRATEGIES AND ACTIONS TO ACHIEVE GOLD	TIME TO IMPLEMENT	IMPACT ON MUNICIPAL GHG
<b>Renewable Energy Generation</b>		<b>6-11%</b>
Community Purchase of Green Energy (Aggregation)	1-2 years	4-7%
Community-led Solar Initiatives	1-2 years	2-4%
<b>Mobile Sources (vehicles)</b>		<b>10-18%</b>
Public Alternative Fuel Vehicle (AFV) Refueling Station	1 year	5-10%
AFV Infrastructure Permitting and Zoning	1-2 years	
Development Patterns/Intensity	5-10 years	5-8%
Promoting Walking and Bicycling	2-10 years	
<b>Building Energy Efficiency</b>		<b>3-4%</b>
Commercial Sector Outreach (Direct Install)	1-2 years	≈1%
Outreach to Residents (Home Performance w/Energy Star)	1-2 years	≈1%
Tree Canopy (Shading Effect)	1-10 years	1-2%
<b>Estimated Impact from Reduction Strategies</b>		<b>19-33%</b>