

# The City of Summit Community Energy Plan



**ADOPTED - December 5, 2023**

## Table of Contents

### I. Introduction

### II. Community Overview

- 1) Electricity and Natural Gas Usage Data
- 2) Community Greenhouse Gas (“GHG”) Emissions from Energy Use
- 3) Municipal Operations GHG Emissions

### III. Work Plan\*

Strategy 1: Reduce Energy Consumption and Emissions from the Transportation Sector

Strategy 2: Accelerate Deployment of Renewable Energy and Distributed Energy Resources

Strategy 3: Maximize Energy Efficiency and Conservation and Reduce Peak Demand

Strategy 4: Reduce Energy Consumption and Emissions from the Building Sector

Strategy 6: Support Community Energy Planning and Action with an Emphasis on Encouraging and Supporting Participation by Low- and Moderate-Income and Environmental Justice Communities

Strategy 7: Expand the Clean Energy Innovation Economy

### IV. References

### Appendix. Data Sources

*\*Strategy 5 of the New Jersey Energy Master Plan has not been included in Summit’s Community Energy Plan because Strategy 5 encourages changes to state-level energy distribution.*

## **Figures**

- I. Maps
  - 1. Public EV Charging Stations in Summit Area
- II. Charts
  - 1. Amount of Electricity Purchased by Sector
  - 2. Amount of Natural Gas Purchased by Sector
  - 3. Overall GHG Emissions of Summit by Subsector
  - 4. Municipal Facilities 2019 GHG Emissions
  - 5. Housing Units in Summit by Structure Type
- III. Tables
  - 1. Population Characteristics
  - 2. Energy Efficiency Incentives Utilized in Summit's Municipal Buildings

## I. Introduction

The City of Summit is committed to addressing climate change and reducing greenhouse gas emissions. This Community Energy Plan (the “Plan”) details the specific strategies Summit will pursue in the coming years to reduce greenhouse gas emissions from the local energy system. The Plan covers municipal operations such as the municipal vehicle fleet and buildings, as well as public policies and programs designed to support the community in reducing emissions.

Summit ratified this Community Energy Plan on December 5, 2023. During the creation of this plan, Summit provided several opportunities for public input. In-person and virtual stakeholder and public comment meetings were held at various points to incorporate community input.

Starting in July 2022, the Summit Environmental Commission, City staff, Common Council members and resident volunteers began reviewing the Sustainable Jersey [Guide for Sustainable Energy Communities](#) and [Community Energy Plan Workplan Template](#) and meeting with municipal staff to determine how to prioritize and implement the high-impact initiatives. Relevant community data was gathered from the [Sustainable Jersey Data Center](#). The Environmental Commission presented the draft Plan at public meetings on November 13, 2023 and December 5, 2023. The final Plan was adopted by municipal resolution on December 5, 2023.

Summit’s Plan establishes how the municipality will promote the transition to sustainable energy over the next several years. Initiatives were selected based on demonstrated effectiveness, unique local opportunities, and benefits for the community as a whole, such as improved local air quality, energy savings for residents, and workforce development.

Climate change is one of the greatest threats to our future prosperity in Summit, and globally. New Jersey is both a significant source of greenhouse gas (GHG) emissions and a state particularly vulnerable to climate change. Increasing heat waves, intense storms, and sea-level rise caused by climate change will dramatically alter our coastal state for many years to come (NJDEP, *Scientific Report on Climate Change*). According to the New Jersey Department of Environmental Protection’s [NJ Greenhouse Gas Emissions Inventory Report](#), New Jersey adds almost 100

### Benefits of Sustainable Energy

The sustainable energy transition offers an opportunity to realize various benefits in our community and beyond. Besides reducing GHG emissions, implementing this Plan will improve:

- Public health
  - Lower concentrations of ground-level outdoor air pollutants
  - Removal of indoor air pollution sources
- Social equity
  - Better affordable transportation
  - More affordable renewable energy
- Resiliency
  - More dependable electric grid
  - Decreased reliance on imported energy

million metric tons of CO<sub>2</sub>e to the atmosphere annually. New Jersey can mitigate the local and global impacts of climate change with a rapid transition from the current GHG-intensive energy system to one that optimizes energy use and produces energy with minimal GHG emissions.

Recognizing New Jersey's role in climate change mitigation, the State of New Jersey has established a goal of 100% clean energy in the state by 2050. [\*The New Jersey Energy Master Plan: Pathway to 2050\*](#) outlines the state's strategies for achieving that goal while also addressing issues of social and economic inequity. To promote action at the local level in support of the state's goals, the New Jersey Board of Public Utilities (NJBPU) launched the Community Energy Plan Grant Program, offering support and funding for municipalities to develop a community energy plan. Summit received the Community Energy Plan Grant in the amount of \$10,000.00, and adopting this Plan as part of Summit's energy goals is a requirement of the grant program to receive funding.



## II. Community Overview

The City of Summit is a 6 square mile suburban community of 7,734 households located in Union County. According to the 2020 US Census American Community Survey, the racial composition of Summit's 21,913 residents is 76% White, 6% Black, 8% Asian or Pacific Islander, and 10% multiracial or "other," and 12% of the population is Hispanic/Latinx.

Summit's median household income is \$142,845, with 5.1% of households below the U.S. poverty threshold. Summit's Municipal Revitalization Index (MRI) score, a measure of a municipality's economic conditions, is 13 out of a possible 100, which ranks 517th of New Jersey's 564 municipalities (Sustainable Jersey Community Profile Data by Municipality). In other words, Summit's overall economic conditions are better than most New Jersey municipalities.

**Population Characteristics for Summit, NJ**

Population	Households	Median Household Income	Percent of Population in Poverty	NJ DCA MRI Score*	NJ DCA MRI Rank*
21,913	7,734	\$142,845	5.1%	13	517

Table 1. 2020 Population Characteristics

Source: Sustainable Jersey. Community Profile Data by Municipality

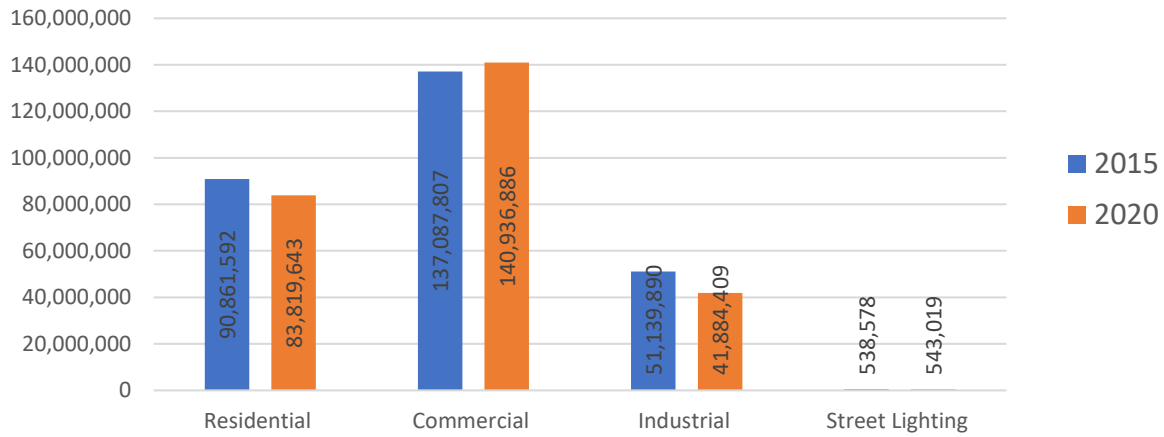
\*MRI = Municipal Revitalization Index (MRI)

### Electricity and Natural Gas Usage Data

Most electricity and natural gas use is currently associated with buildings. Utility companies generally organize electricity and natural gas use into four sectors – residential, commercial, industrial, and street lighting. The commercial sector includes nonprofits and government entities such as schools and municipal buildings, as well as businesses.

As illustrated in the charts on the next page, the commercial sector accounts for the majority of electricity use and the residential sector accounts for the majority of natural gas use in Summit. In other words, both commercial and residential buildings present opportunities for energy use reductions.

Amount of Electricity Purchased by Sector (kWh)



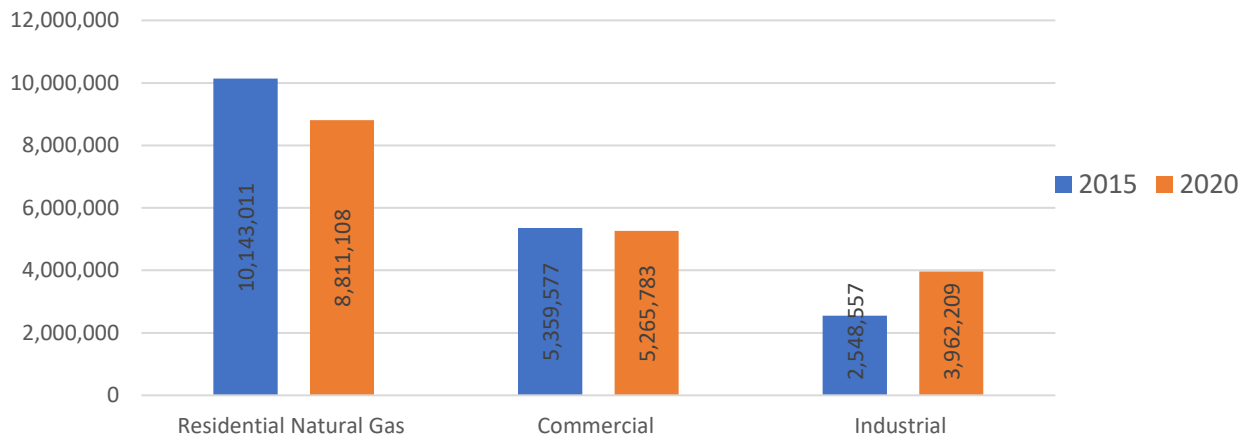
**Chart 1. Amount of Electricity Purchased by Sector (kWh)**

Source: Sustainable Jersey. Utility Energy Data by Municipality.

Original Source: JCPL

*Note: electricity values represent purchased electricity and do not include customer-generated electricity, such as from rooftop solar.*

Amount of Natural Gas Purchased by Sector (Therms)



**Chart 2. Amount of Natural Gas Purchased by Sector (Therms)**

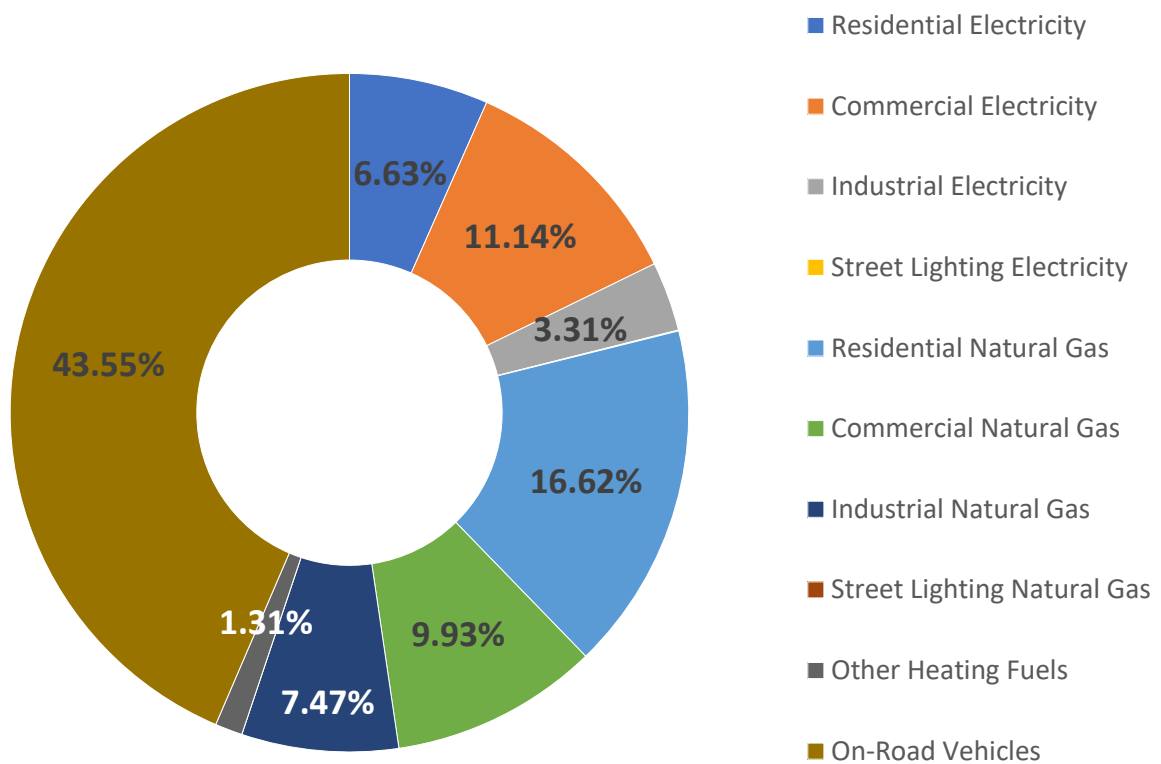
Source: Sustainable Jersey. Utility Energy Data by Municipality

Original Source: PSE&G

### Community GHG Emissions from Energy Use

In 2020, the total community-wide greenhouse gas emissions from electricity, natural gas/heating fuel, and transportation energy use in Summit was **282,433 metric tons CO<sub>2</sub>e**. The largest share of community emissions came from On-Road Vehicles, followed by Residential Natural Gas Use.

2020 Community-Scale Energy-Related GHG Emissions  
by Sector and Energy Type (MT CO<sub>2</sub>e)



**Chart 3. Overall GHG Emissions of Summit by Subsector**

Source: Sustainable Jersey. Community-Scale Greenhouse Gas (GHG) Emissions Data



## Municipal Operations GHG Emissions

In 2018, Summit's municipal buildings produced 3,079 metric tons of CO<sub>2</sub>e, and Summit's municipal fleet produced 1,127 metric tons of CO<sub>2</sub>e (Chart 4 below), for a **total of 4,207 metric tons of CO<sub>2</sub>e**.

### GHG Emissions from Electricity and Natural Gas Use for Municipal Operations

Municipality:		Summit	complete applicable cells highlighted in yellow, grey cells contain formulas						
STEP 1: Establish a Baseline Year - 2018									
STEP 2: Scope 1 Emissions from Stationary Fuel Consumption in Baseline Year									
Municipal Operation - Natural Gas	Total Therms	converted to Million BTU	CO2 Emissions (lbs)	CO2 (Metric Tons CO2e)	Emissions (Metric Tons)	CH4 (Metric Tons CO2e)	N2O Emissions (Metric Tons)	N2O (Metric Tons CO2e)	Total Emissions (Metric Tons CO2e)
Building & Facilities	65,047.89	6504.789	761580.6961	345.447444	0.032523945	0.813098625	0.000650479	0.19384271	346.4543856
Street Lights & Traffic Signals			0	0	0	0	0	0	0
Water & Wastewater Treatment Facilities			0	0	0	0	0	0	0
Natural Gas Total	65047.89	6504.789	761580.6961	345.447444	0.032523945	0.813098625	0.000650479	0.19384271	346.4543856
Municipal Operation - Heating Oil	Total Gallons	converted to Million BTU	CO2 Emissions (lbs)	CO2 (Metric Tons CO2e)	Emissions (Metric Tons)	CH4 (Metric Tons CO2e)	N2O Emissions (Metric Tons)	N2O (Metric Tons CO2e)	Total Emissions (Metric Tons CO2e)
Building & Facilities	4380.8	607.61696	98060.87071	44.4796951	0.00607617	0.15190424	0.00036457	0.10864191	44.74024126
Street Lights & Traffic Signals			0	0	0	0	0	0	0
Water & Wastewater Treatment Facilities			0	0	0	0	0	0	0
Heating Oil Total	4380.8	607.61696	98060.87071	44.4796951	0.00607617	0.15190424	0.00036457	0.10864191	44.74024126
STEP 3: Scope 2 Emissions from Purchased or Acquired Electricity in Baseline Year									
Municipal Operation - Electricity	Total Kwh	Total MWh	CO2 Emissions (lbs) *	CO2 (Metric Tons)					Total Emissions (Metric Tons CO2e)
Building & Facilities	4,463,906	4463.906	5856644.672	2656.53127					2656.53127
Street Lights & Traffic Signals	52,972	52.972	69499.264	31.5243588					31.5243588
Water & Wastewater Treatment Facilities			0	0					0
Electricity Total	4516878	4516.878	5926143.936	2688.05563					2688.055629
* includes CO2, CH4 and N2O emissions preconverted to carbon dioxide equivalents (CO2e)									
STEP 4: Scope 1 Emissions from Mobile Fuel Combustion in Baseline Year									
Municipal Operation - Vehicle Emissions	Total Fuel Units	CO2 Emissions (lbs/fuel unit)	CO2 Emissions (lbs)	CO2 (Metric Tons CO2e)					
CO2 emissions by fuel usage									
Motor Gasoline (per gallon)	67,652.95	19.54	1325846.643	601.394359					
Diesel Fuel (per gallon)	51,839.15	22.37	1159641.786	526.005049					
Compressed Natural Gas (per 1000 cubic feet)		120.36	0	0					
Municipal Operation - Vehicle Emissions					Emissions (Metric Tons)	CH4 (Metric Tons CO2e)	N2O Emissions (Metric Tons)	N2O (Metric Tons CO2e)	Total Emissions (Metric Tons CO2e)
CH4 and N2O emissions by mileage		Total Mileage							
Totals from Worksheet 3, "Vehicle CH4 & N2O"									
Vehicle Fuel Total			2485488.429	1127.39941	0	0	0	0	1127.399407
TOTALS									Total Emissions (Metric Tons CO2e)
MUNICIPAL CARBON FOOTPRINT									4206.649662

**Chart 4. Municipal Facilities 2019 GHG Emissions**

Source: Sustainable Jersey. [Municipal Carbon Footprint Calculator](#) populated with 2018 data

### III. Work Plan

The Summit Community Energy Plan is primarily an implementation and action plan. This section details all of the initiatives selected as priorities for the next five years (2024-2029). These initiatives will generate significant greenhouse gas emissions reductions for both municipal operations and the wider community while providing numerous local benefits, such as improved air quality and creation of local jobs.

The initiatives are organized by the Strategies of the [\*New Jersey Energy Master Plan: Pathway to 2050\*](#). Each Strategy section includes one or more initiatives. Implementation details are provided for each initiative, including the initiative lead person/entity, the time frame for implementation, and any significant Potential Issues to successful implementation.

#### **Strategy 1: Reduce Energy Consumption and Emissions from the Transportation Sector**

- 1.1 Adopt Supportive Zoning and Regulations for EV Infrastructure
- 1.4 Purchase Alternative Fuel Vehicles
- 1.6 Install Public EV Charging Infrastructure
- 1.8 Encourage Workplace EV Charging Infrastructure

#### **Strategy 2: Accelerate Deployment of Renewable Energy and Distributed Energy Resources**

- 2.1 Adopt Supportive Zoning and Permitting for Solar
- 2.6 Install On-Site Municipal Renewable Generation
- 2.7 Buy Renewable Energy for Municipal Facilities
- 2.10 Implement Renewable Government Energy Aggregation (R-GEA)

#### **Strategy 3: Maximize Energy Efficiency and Conservation and Reduce Peak Demand**

- 3.1 Upgrade Energy Efficiency for Municipal Facilities
- 3.2 Residential Energy Efficiency Outreach Campaign

#### **Strategy 4: Reduce Energy Consumption and Emissions from the Building Sector**

- 4.3 Require Developers to Complete Green Development Checklist

#### **Strategy 6: Support Community Energy Planning and Action with an Emphasis on Encouraging and Supporting Participation by Low- and Moderate-Income and Environmental Justice Communities**

- 6.2 Conduct Energy Efficiency Outreach to Low- and Moderate-Income Residents

#### **Strategy 7: Expand the Clean Energy Innovation Economy**

- 7.2 Install an Energy Storage Project
- 7.3 Develop Local Microgrid

## Strategy 1: Reduce Energy Consumption and Emissions from the Transportation Sector

Transportation accounts for over 40% of New Jersey's greenhouse gas emissions, primarily due to on-road gasoline consumption (NJDEP, "Transportation & Emissions"). Fossil fuel-powered transportation also produces local air pollution that significantly harms the health and quality of life of residents. Summit can electrify municipal fleet vehicles and promote transportation electrification in the community to lessen the negative impact of our transportation system on our community and the world.



### *Initiative 1.1: Adopt Supportive Zoning and Regulations for EV Infrastructure*

**Description:** Pass NJDCA’s Model Statewide Municipal EV Ordinance specifying electric vehicle charging stations as a permitted accessory use, establishing the permitting process for charging stations, and requiring Make-Ready and EVSE (Electric Vehicle Supply Equipment) parking in new multifamily developments and parking lots. Modify the model ordinance standards for safety, signage, etc. as needed.

Lead	Start Date	Priority	Anticipated Length	Funding Sources
Department of Community Services (DCS)	Dec 2023	Medium	8 Months	N/A

#### Departments involved:

- City Administrator
- Department of Community Services (DCS) – Construction and Code Enforcement, Planning and Zoning, Engineering Divisions
- Municipal attorney
- Parking Services
- Police Department

#### Potential Issues/Barriers:

- No significant barriers were identified

#### Community notes:

The Model Statewide Municipal EV Ordinance went into effect in September 2021 as specified by state law, and staff are examining the policies to prepare for full integration into Summit’s municipal code. Code Enforcement currently requires applications for new developments to comply with the Model Ordinance.

As of July 2023, 4.2% of passenger vehicles in Summit were electric. As EV adoption accelerates, demand for charging infrastructure will also.

#### Measures of Success:

The goals for this initiative are new regulations regarding EVSE site design, such as accessibility and signage, and integration of the Model Statewide Municipal EV Ordinance into Summit’s land-use code and permitting documents.

Vehicles and Electric Vehicles in Summit			
Year Updated	Estimated Total Passenger Vehicles	# of EVs	% Electric
2015	13,018	32	0.25%
2020	13,912	224	1.61%
2023	16,758	716	4.2%

**Table 2. Vehicles and Electric Vehicles in Summit**

Source: Sustainable Jersey. Community Profile Data by Municipality; NJDEP

#### Next steps:

1. DCS staff research, identify and present findings and recommendations to Capital Projects and Community Services Committee (CAPS) on best avenues of integration into code and community.
2. Capital Projects and Community Services Committee (CAPS) and DCS works with the municipal attorney to create Summit-specific information from Model Statewide Municipal EV Ordinance and edit the “Reasonable Standards” section to fit municipal needs for ordinance consideration and eventual adoption.
3. DCS finalizes ordinance with municipal attorney and CAPS.
4. CAPS introduces ordinance to elected body for review and approval.
5. City Administrator and DCS Director works with Code Official, Communications and appropriate parties to publicize new permitting application and inspection processes on the municipal website and other communication vehicles.

## Initiative 1.4 Purchase Alternative Fuel Vehicles

**Description:** Replace appropriate, existing municipal fleet vehicles through attrition with plug-in hybrid, battery electric, or other sustainable alternative fuel vehicles, using fleet and industry analysis to inform purchases.

Lead	Start Date	Priority	Anticipated Length	Funding Sources
DCS Director, Administrator, Qualified Purchasing Agent (QPA)	Jan 2024	Medium	3 months for procurement plan, then 3 years to implement plan	NJBPU Clean Fleets Electric Vehicle Incentive Program; NJEDA Zero-Emission Incentive Program

### Departments involved:

- All departments operating fleet vehicles
- Administration
- Finance Department

### Potential Issues/Barriers:

- No EV charging infrastructure at municipal buildings to date.
- Some vehicle users may be concerned that EVs do not have enough range for their needs.
- Availability of vehicles through state and national purchasing cooperatives.
- Grant/funding availability.

### Community notes:

Summit's municipal fleet currently consists of 149 vehicles. A fleet inventory was completed in 2023.

### Measures of Success:

The goal of this initiative is to replace existing municipal fleet vehicles with hybrid or electric models as appropriate and create a fleet purchasing policy moving forward. Charging infrastructure for municipal vehicles will need to be installed.

### Next steps:

1. DCS and DPW staff establish process for annual fleet inventory analysis, including evaluating fuel usage and mileage of every vehicle in the municipal fleet.
2. Administration with QPA and DCS Director create five-year procurement plan that includes requirement that all appropriate vehicles be replaced with plug-in or fully electric counterparts. Procurement plan will also include EV charging infrastructure.



## Initiative 1.6: Install Public EV Charging Infrastructure

**Description:** Install electric vehicle charging infrastructure, including chargers, signage, and safety and accessibility features, for public use.

Lead	Start Date	Priority	Anticipated Length	Funding Sources
DCS	April 2024	Medium	12 months	It Pay\$ to Plug In, Summit Electric Make-Ready Incentives

### Departments involved:

- Parking Services
- Administration
- DCS – Public Works and Engineering Divisions
- Communications
- Finance Department

### Potential Issues/Barriers:

- Grant availability and expense.
- Possible objections to funding community EVs with taxpayer money.
  - Besides utilizing installation incentives to reduce initial costs, Summit will charge a fee for use of the charging station to gradually recuperate the costs and subsidize maintenance expenses.

### Community notes:

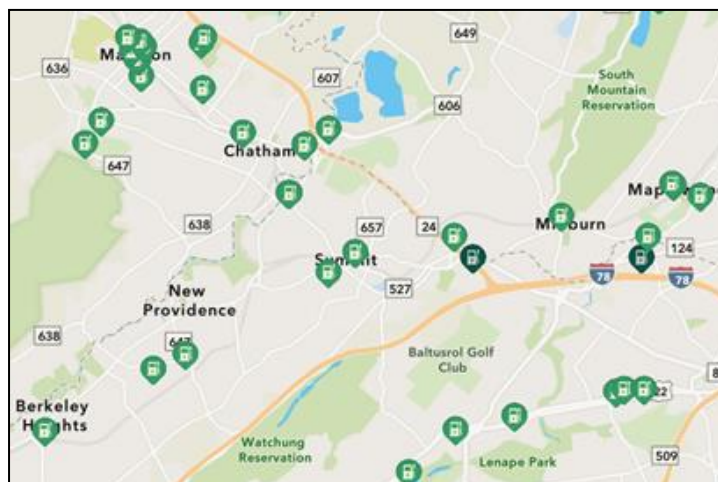
There are three Level 2 public EV charging stations within Summit and more than 10 within a five-mile radius. There are 2 Level 3/DCFC public charging stations within five miles of Summit (at the Wawa and Nissan World in Springfield).

#### Public EV Charging Station Locations:

1. Deforest Lot #1, Summit, NJ
2. Grand Summit Hotel, Summit, NJ
3. Smythe Dealership, Summit, NJ

#### Map Legend.

Light green tags (not shown) – Level 1  
Medium green – Level 2  
Dark green – Level 3/DCFC



**Map 1. Public EV Charging Stations in Summit Area**  
Source: NJDEP. Public EV Charging Locator Map

### Measures of Success:

The goal of this initiative is to install an additional public charging station in Summit.

### Next steps:

1. DPW and City Engineer determine which aspects of installation can be completed in-house and report to DCS Director.
2. DCS Director works with City Administrator and Finance Department to finalize analysis of costs, which will inform final site selection and action items.
3. Grant writer applies for It Pay\$ to Plug In grant and explores all funding options based on the final needs.
4. DCS sets up follow-up meetings with DPW, Parking, Environmental Commission, and City Engineer to discuss next steps including charger types and siting options.
5. DCS works with Purchasing Agent finalizes purchase of charging station(s).



## Initiative 1.8: Encourage Workplace EV Charging Infrastructure

**Description:** Meet with local employers to ask them to install workplace EV charging. If possible, offer incentives such as promotion in municipal communications, a “ribbon cutting” event with public officials, and/or a fast-tracked permitting process for new businesses.

Lead	Start Date	Priority	Anticipated Length	Funding Sources
Mayor & Environmental Commission	April 2024	Medium	6 months	It Pay\$ to Plug In, Summit Electric Make-Ready Incentives

### Departments involved:

- Communications
- DCS – Code, Planning & Zoning, Engineering
- Parking Services

### Potential Issues/Barriers:

- Public promotion.
  - City Communications Office will draft a press release and social media campaign.
- Some vehicle users may be concerned that EVs don’t have enough range for their needs.
  - A growing number of vehicles with adequate range are available, including many with a range over 200 miles. Awareness raising of the increasing range of EVs among vehicle users and purchasing departments will be undertaken.

### Community notes:

There are three Level 2 public EV charging stations within Summit and more than 10 within a five-mile radius. There are two Level 3/DCFC public charging stations within five miles of Summit (at the Wawa and Nissan World in Springfield). Additional EV public charging can differentiate Summit as a destination and attract customers for shopping and other services. Chargers should be a “destination charger” of at least Level 2.

### Next steps:

1. Mayor and Environmental Commission will work with City staff to explore incentives and engage new business owners early in the construction process.
2. City Communications Office will develop and execute communications campaign.
3. Engage with larger employers in Summit and new business owners/developers.

## Strategy 2: Accelerate Deployment of Renewable Energy and Distributed Energy Resources

Expanding renewable energy generation is necessary to eliminate greenhouse gas emissions from our energy system. New Jersey's most readily available renewable resource is sunlight, which more and more utility customers can now access thanks to declining prices and new systems like community solar. Summit can continue to refine local policies regarding solar and other renewable resources to promote local growth of renewable generation capacity.



## *Initiative 2.1 Adopt Supportive Zoning and Permitting for Solar*

**Description:** Provide clear guidance/standards for solar developers and limit barriers to solar adoption such as lengthy permitting and multiple reviews.

Lead	Start Date	Priority	Anticipated Length	Funding Sources
DCS & Municipal planner	Jan 2024	High	Three months	N/A

### Departments involved:

- City Clerk
- DCS – Construction and Code Enforcement, Planning & Zoning (Zoning Officer), Engineering Divisions
- Municipal attorney

### Potential Issues/Barriers:

- Some residents may inquire about aesthetic regulations on rooftop solar PV.
  - City press release will cite studies that show solar panels create less glare than other common building materials such as steel and glass ([NREL](#)).

### Community notes:

Summit has a solar ordinance (35-9.9(O)) that includes standards for setbacks and height. The Environmental Commission is confirming that the existing solar ordinance follows best practices from [Sustainable Jersey Guidance for Creating a Solar-Friendly Ordinance](#). The municipality has no special permitting process for solar system applications.

### Measures of Success:

The goal of this initiative is a revised ordinance, if necessary, that removes or reduces any aesthetic restrictions on rooftop solar and establishes flat fees for solar permitting.

### Next steps:

1. Planning and Zoning staff, including Zoning Officer and City Planner, examines restrictions regarding visibility and glare of rooftop solar systems, recommends updates to municipal ordinance as appropriate and flat fees for solar permitting.
2. DCS Director and municipal attorney reviews and sends ordinance to CAPS Committee, relevant stakeholders, and Common Council for approval and introduction.
3. New permitting fees implemented.
4. City Clerk publishes notice of new ordinance and Communications Office will publicize.

## *Initiative 2.6 Install On-Site Municipal Renewable Generation*

**Description:** Host a solar, wind, or geothermal project on municipal property to generate renewable energy for municipal facilities. Such projects can be leased from a developer or purchased and owned outright.

Lead	Start Date	Priority	Anticipated Length	Funding Sources
DCS and Environmental Commission	Sept 2024	Medium	One year	N/A

### Departments involved:

- Finance Department
- DCS – Construction and Code Enforcement, Planning and Zoning (Zoning Officer), Engineering Divisions
- Municipal attorney

### Potential Issues/Barriers

- Grant availability.
- Operational funding as municipal budget may not be able to cover upfront costs.
  - Staff will consider alternative ownership models that minimize upfront costs.

### Community notes:

Summit has no current existing on-site solar systems.

### Measures of Success:

The goal of this initiative is a contract to install onsite solar arrays supplying at least 5% of the total annual electricity used for municipal operations.

### Next steps:

1. DCS works with Environmental Commission on potential projects.
2. DCS and Finance Department works with Finance and CAPS Committees to determine which ownership model to pursue based on financial analysis.
3. Purchasing Agent and DCS uses American Cities Climate Challenge template to create RFP for solar PV array(s) that includes site feasibility analysis.
4. DCS sends RFP to municipal attorney for review works with Purchasing Agent to release final RFP.
5. Winning bid confirmed by DCS and Purchasing Agent.
6. Common Council approval is sought and construction contract awarded.

## *Initiative 2.7 Buy Renewable Energy for Municipal Facilities*

**Description:** Buy renewable electricity for municipal facilities directly from a green energy supplier or participate in a buying pool that supplies electricity with high renewable content. The accompanying renewable energy certificates (RECs) should be certified as PJM Class I.

Lead	Start Date	Priority	Anticipated Length	Funding Sources
DCS	March 2024	N/A	18 months	N/A

### **Departments involved:**

- DCS
- Finance
- City Administrator

### **Potential Issues/Barriers:**

- This is dependent on the general electricity market pricing.

### **Community notes:**

Summit has been evaluating the potential for electricity with a greater portion of renewable content for several years without favorable market conditions.

### **Measures of Success:**

The goal of this initiative is to contract with third-party supplier or buying pool with a greater proportion of renewable content than current Renewable Portfolio Standard (22.5% for 2021).

### **Next steps:**

1. DCS and Finance will continue to advocate for the purchasing pool to seek out, evaluate, and seriously consider fiscally appropriate electricity contracts with a greater proportion of renewable content.

## *Initiative 2.10 Implement Renewable Government Energy Aggregation (R-GEA)*

**Description:** Establish a Renewable Government Energy Aggregation (R-GEA) program. R-GEA is a third-party electric supply contract negotiated by a municipality (or group of municipalities) on behalf of its residents. Utilizing their size, municipalities can negotiate for a supply that is more sustainable, often less expensive, and with better and more secure terms than can typically be achieved by individual residents.

Lead	Start Date	Priority	Anticipated Length	Funding Sources
Environmental Commission & CAPs Committee	Jan 2024	High	1 year	N/A

### **Departments involved:**

- Environmental Commission
- City Clerk
- Municipal attorney
- DCS

### **Potential Issues/Barriers:**

- Recent pricing for JCP&L electricity has not been favorable to an aggregation.

### **Community notes:**

The Environmental Commission has been evaluating the potential for an R-GEA for several years without favorable market conditions. Summit can take anticipatory steps, such as adopting a municipal ordinance authorizing an R-GEA, which it has not to date.

### **Measures of Success:**

The goal of this initiative is to secure electricity for Summit residents with a greater percentage of renewable energy than that required by the state.

### **Next steps:**

1. DCS and Environmental Commission develop appropriate municipal ordinance authorizing an R-GEA.
2. Municipal attorney finalizes ordinance wording.
3. Presented to Common Council for adoption.
4. Consider joining existing R-GEA or attempting to price it singly.
5. Go out to bid for favorable pricing.

### Strategy 3: Maximize Energy Efficiency and Conservation and Reduce Peak Demand

Energy efficiency and conservation are the most cost-effective methods of reducing greenhouse gas emissions from the energy system. Improving energy efficiency also generates local jobs, reduces local pollution, improves health and comfort, and adds resiliency to the energy system. Summit can utilize energy efficiency to lower costs in municipal operations and encourage the community to follow suit to realize these many benefits.



### Initiative 3.1 Upgrade Energy Efficiency for Municipal Facilities

**Description:** Upgrade municipal facilities to be more energy efficient. New Jersey’s Clean Energy Program and electric and natural gas utilities offer incentive programs that guide municipalities through the upgrade process, starting with free audits to establish the most effective measures to reduce energy use. Following implementation, showcase upgrades in energy efficiency outreach to local businesses.

Lead	Start Date	Priority	Anticipated Length	Funding Sources
DCS and Administration	Jan 2024	Medium	18 months	PSEG commercial energy efficiency incentive programs

#### Departments involved:

- All departments

#### Potential Issues/Barriers:

- No significant barriers were identified.

#### Community notes:

Four municipal buildings will be audited in 2023-2024 via the Local Government Energy Audit program. These include City Hall, Summit Free Public Library, the Community Center and the Department of Public Works buildings. Summit last upgraded energy efficiency in municipal buildings in 2011-12 using the NJCEP Direct Install (DI) program (see Table 2 below).

Property	Year Built	Year of Last Upgrade	NJCEP Program	Invoiced Incentive	Premise Sq. Ft
Community Center – 100 Morris Ave	2019	--	--	--	23,590
DPW Facilities – 41 Chatham Road	1960	--	--	--	23,300*
City Hall – 512 Springfield Ave	1995	2011-12	Direct Install	\$15,472	58,000
Free Public Library – 75 Maple St	1964	1999/2016	Direct Install	\$7,272	35,734
New Fire Station – 301 Broad St	2024	--	--	--	33,500

**Table 2. Energy Efficiency Incentives Utilized in Summit’s Municipal Buildings**

Source: Sustainable Jersey. NJCEP Local Government Projects; City of Summit Data

\* The DPW Facilities square footage consists of Main Building (9,912), Parks (5,000), Garbage & Trash (6,624) and Sewer Jet (1,764).



Summit staff gathered 14 months of recent utility data to review for upgrade opportunities. This process may result in Direct Install assessment recommendations for the Summit buildings.

#### Measures of Success:

The goal of this initiative is Direct Install assessments for all municipal buildings.

#### Next steps:

1. DCS works to fill out and submit applications for appropriate Summit buildings for PSEG's Direct Install program in concert with Sustainable Jersey.
2. DCS completes Direct Install assessment process and reviews Direct Install Scope of Work proposals.
3. DCS, Finance and Administration analyze short-term financial implications and long-term savings.
4. DCS and Administration meet with PSEG energy efficiency representatives and Sustainable Jersey staff to determine next steps.

### *Initiative 3.2 Residential Energy Efficiency Outreach Campaign*

**Description:** Implement an outreach effort to help residents take advantage of energy efficiency incentive programs offered by New Jersey’s electric and natural gas utilities, including Home Performance with ENERGY STAR and Comfort Partners.

Lead	Start Date	Priority	Anticipated Length	Funding Sources
DCS	December 2023	Medium	One year	N/A

#### **Departments involved:**

- Communications
- City Clerk
- DCS

#### **Potential Issues/Barriers:**

- As this is the third round of home energy audit offerings with Ciel Power, there may be challenges in identifying potential customers who have not already taken advantage of this opportunity.
- According to 2020 data, 29% of Summit’s housing is renter occupied. Renters are not technically utility customers which is a requirement to participate in utility energy efficiency programs (Sustainable Jersey, Community Profile Data by Municipality).
  - Outreach campaign will emphasize that renters must work with building owners to get enrolled in utility incentive programs.

#### **Community notes:**

Chart 3 “Overall GHG Emissions of Summit by Subsector” on page 5 shows that the residential building sector is the second most significant source of emissions for Summit, behind only transportation.

The Summit Home Energy Insight Program is a comprehensive residential energy efficiency program offered by Summit and Ciel Power. The program offers participants a home energy audit at a reduced rate of \$49 and incentives for completing recommended energy efficiency upgrades under the Home Performance with ENERGY STAR (HPwES) program. All residential utility customers residing in buildings with four or fewer units are eligible for HPwES. As shown in Chart 5 below, the majority (at 73%) of Summit’s residential properties are single unit homes, and 81% of households live in buildings with four or fewer units.

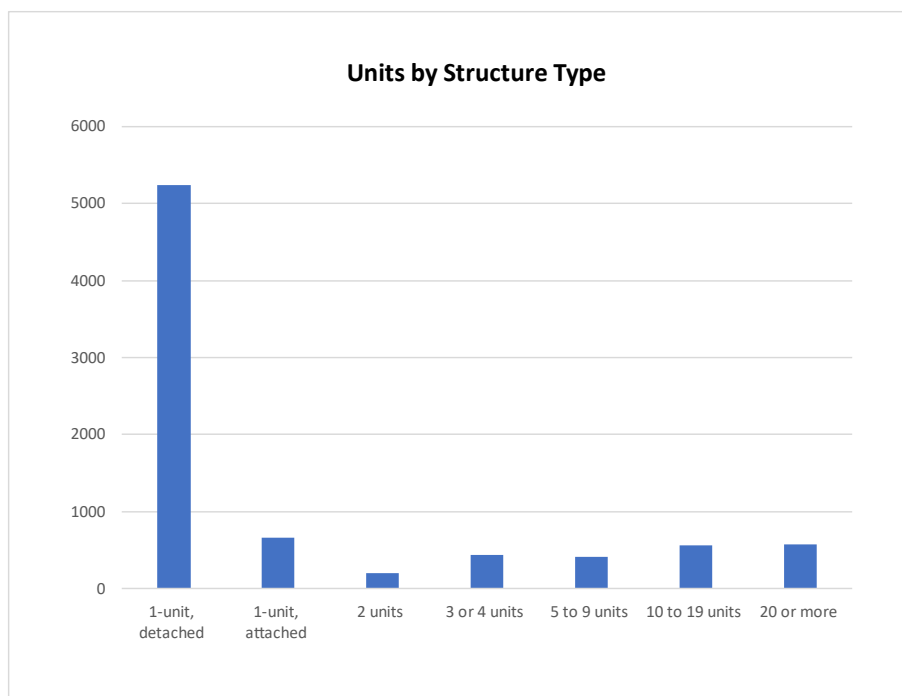
589 residential energy efficiency projects were completed in Summit from 2008 to 2021, which is 7.3% of the total housing units. This number includes projects from the HPwES, Comfort Partners, Weatherization Assistance Program, and PSEG Whole House programs (Sustainable Jersey, Lifetime Residential Energy Efficiency Program Participation Rate (2021)). Summit residents also may be eligible for newer or updated incentive programs, such as Energy Efficiency Alliance’s [Heat Pump Incentives & Financing for New Jersey Homeowners](#).

### Measures of Success:

The goal of this initiative is to implement an outreach campaign promoting the utilities' residential energy efficiency incentive programs.

### Next steps:

1. Environmental Commission identifies residents that have already utilized residential energy efficiency programs to be advocates in outreach campaign.
2. Environmental Commission finds venue to hold workshop and coordinates with utility reps and advocates to determine date/time of workshop.
3. City Communications Office and Environmental Commission develop and distribute flyers and digital materials to promote residential incentive programs and advertise the workshop.
4. Environmental Commission hosts workshop.
5. City Communications Office and Environmental Commission provides text about residential incentive programs to be published on municipal website and sent out through communication channels.



**Chart 5. Residential Units in Summit by Structure Type**

Source: Sustainable Jersey. Community Profile Data by Municipality

## Strategy 4: Reduce Energy Consumption and Emissions from the Building Sector

According to New Jersey's Energy Master Plan, 62% of the state's total end-use energy consumption is associated with buildings, with space heating, water heating, appliances, and industrial uses accounting for 28% of New Jersey's greenhouse gas emissions. Decisions made during new construction and building retrofits have significant and long-lasting impacts on this energy use. Summit can reduce energy use and emissions from buildings by prioritizing green design in new construction and utilizing municipal buildings as models for the community.



### *Initiative 4.3 Require Developers to Complete Green Development Checklist*

**Description:** Pass a Green Building Policy or Resolution that requires developers to submit a completed Green Development Checklist with Site Plan Applications. Checklist should refer developers to NJCEP's Commercial and Residential New Construction Energy Efficiency programs.

Lead	Start Date	Priority	Anticipated Length	Funding Sources
Environmental Commission	March 2024	Low	Four months to pass policy, then ongoing	N/A

#### **Departments involved:**

- DCS – Planning and Zoning, Engineering
- Administration

#### **Potential Issues/Barriers:**

- Some residents may oppose adding more steps to the permit process.
  - If residents raise this issue, the Environmental Commission will create and distribute materials explaining the benefits of green building practices.

#### **Community notes:**

Summit currently has no required green development checklist.

#### **Measures of Success:**

The goal of this initiative is to create a Green Development Checklist to be completed as part of the permitting process for variances and new construction.

#### **Next steps:**

1. Environmental Commission drafts Green Development Checklist, using the Sustainable Jersey Sample.
2. Environmental Commission presents draft to City Administrator, DSC, CAPS Committee, and municipal attorney for feedback.
3. Environmental Commission finalizes Green Development Checklist.
4. Proceeds to Common Council approval.



## Strategy 6: Support Community Energy Planning and Action with an Emphasis on Encouraging and Supporting Participation by Low- and Moderate-Income and Environmental Justice Communities

New Jersey's Energy Master Plan calls for Community Energy Plans like this one to drive a rapid shift to a clean energy system that specifically benefits low- and moderate-income (LMI) and environmental justice (EJ) residents. Under the current system, low- and moderate-income residents often struggle to afford energy resources such as electricity and gasoline. Meanwhile, environmental justice communities suffer from health problems caused by pollution from the fossil-fuel-based energy system. By integrating the needs of LMI and EJ communities with local energy initiatives, Summit can alleviate burdens on these communities caused by the current system while mitigating global climate change.

### *Initiative 6.2 Conduct Energy Efficiency Outreach to Low- and Moderate-Income Residents*

**Description:** Promote state/utility energy efficiency programs for low- and moderate-income residents using community-serving institutions as messengers, providing non-English promotional materials where appropriate, and emphasizing benefits of energy efficiency upgrades (health, safety, and comfort).

Lead	Start Date	Priority	Anticipated Length	Funding Sources
Environmental Commission	August 2024	High	8 months	N/A

#### Departments involved:

- DCS – Code Enforcement
- City Clerk
- Health Department

#### Potential Issues/Barriers:

- Target audience may be skeptical of utility programs such as Comfort Partners.
  - Summit will ask trusted community organizations to promote Comfort Partners, including GRACE and houses of worship.
  - Outreach campaign will include materials featuring statements from Summit residents that have participated in Comfort Partners.

#### Community notes:

Data on the participation of Summit's low- and moderate-income residents in residential energy efficiency programs is unavailable. However, overall participation in these programs has been encouraging. 589 residential energy efficiency projects were completed in Summit from

2008 to 2021, which is 7.3% of the total housing units. This number includes projects from the Home Performance with ENERGY STAR, Comfort Partners, Weatherization Assistance Program, and PSEG Whole House programs (Sustainable Jersey, Lifetime Residential Energy Efficiency Program Participation Rate (2021)).

Summit endeavors to conduct an energy efficiency outreach specifically targeting low- and moderate-income residents. Summit currently links to resources for help with paying utility bills on the municipal website: <https://www.cityofsummit.org/518/Utilities-Information>. There are additional links when “utility assistance” is searched, including a poster with information: <https://www.cityofsummit.org/DocumentCenter/View/3683/Energy-Assistance-Poster-2020-?bidId=>.

The Environmental Commission will coordinate this initiative with outreach on Home Performance with ENERGY STAR (Initiative 3.2).

### Measures of Success:

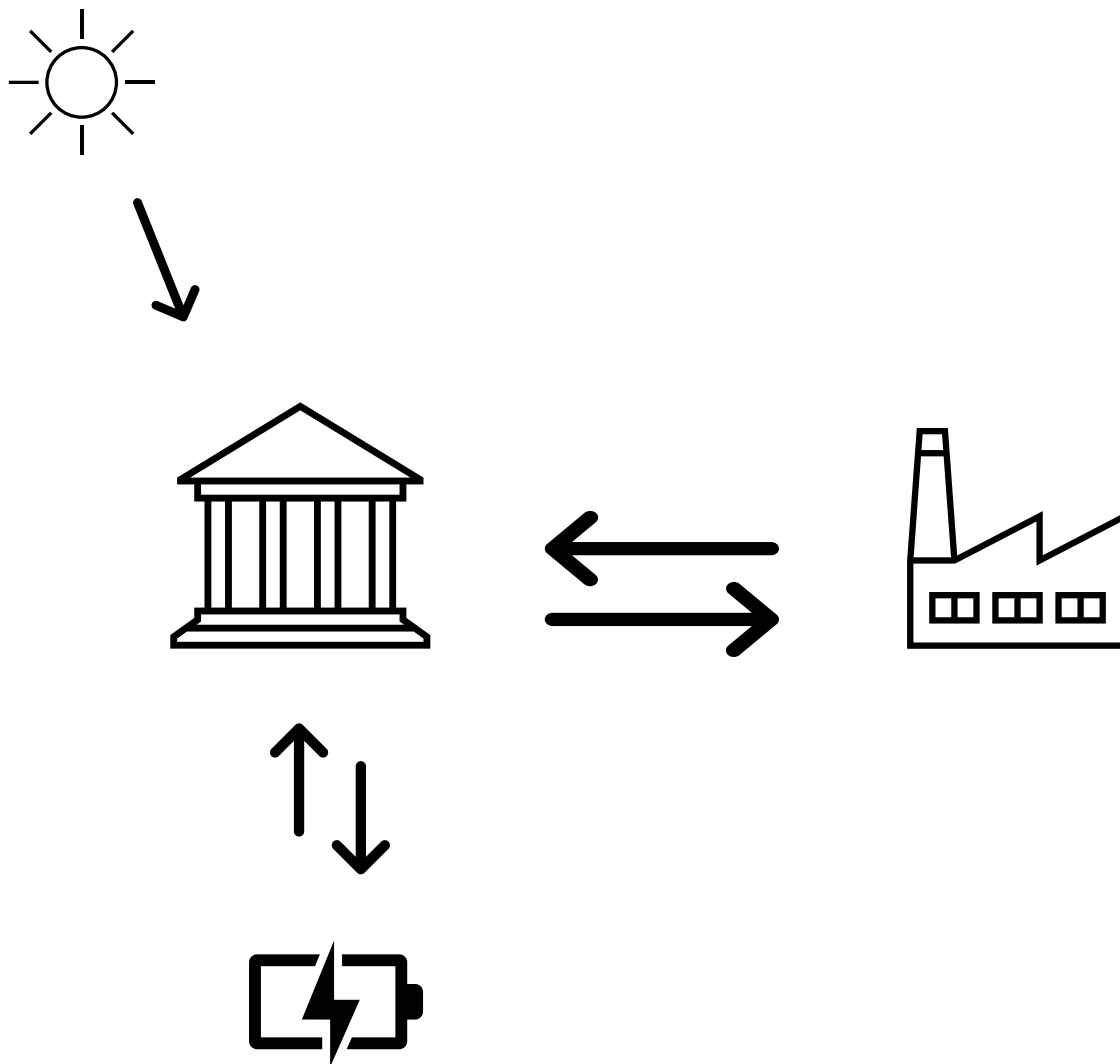
The goal of this initiative is to create awareness in Summit of the energy efficiency and utility assistance resources available to low- and moderate-income residents.

### Next steps:

1. Environmental Commission contacts Comfort Partners outreach coordinator to request assistance in planning a Comfort Partners outreach campaign.
2. Environmental Commission schedules meeting with representatives from at least three community organizations to discuss partnering on outreach to low- and moderate-income residents.
3. Environmental Commission creates plan with timeline for completing several forms of outreach to inform residents about state/utility energy assistance and energy efficiency resources. Outreach will be integrated with broader residential outreach (Initiative 3.2) where possible.

## Strategy 7: Expand the Clean Energy Innovation Economy

Clean energy industries already employ thousands of residents in the state and will employ thousands more to implement the transition to 100% clean energy. Innovation in clean energy technology can generate further high-quality job growth while developing new tools for tackling greenhouse gas emissions. Summit can lead the charge in developing New Jersey's clean energy innovation economy through forward-thinking policies and development of clean energy resources.





## Initiative 7.2 Install Energy Storage Project

**Description:** Install on-site energy storage, such as batteries, compressed air, or thermal storage, for municipal facilities. Following construction, showcase the project with on-site kiosks and municipal webpages to encourage others to follow suit.

Lead	Start Date	Priority	Anticipated Length	Funding Sources
DCS	January 2025	Low	1-2 years	Grants

### Departments involved:

- DCS – Construction and Code Enforcement, Public Works, Engineering Divisions
- Environmental Commission

### Potential Issues/Barriers:

- Cost of battery storage is high.
- Familiarity with storage technology is low, leading to misconceptions about safety.

### Community notes:

The Clean Energy Act of 2018 set ambitious energy storage targets for New Jersey – 600 MW by 2021 and 2,000 MW by 2030 ([State of New Jersey, 2020](#)). Summit expects interest in installing battery energy storage systems locally, especially as a way to handle power outages.

### Measures of Success:

The goal of this initiative is to install a battery energy storage system at a municipal building.

### Next steps:

1. Research into specific battery storage options.
2. Grant writer applies for battery energy storage system grant.
3. DCS identifies best usage/placement.
4. Purchasing Agent finalizes purchase of battery energy storage system.
5. City Communications Office writes and publishes press release about battery energy storage system.
6. Fire Chief/Office of Emergency Management will procure and distribute training for first responders to learn about responding to incidents involving energy storage systems.

### *Initiative 7.3 Develop Local Microgrid*

**Description:** Participate in development of a microgrid. Microgrid development generally starts with a feasibility study, followed by project design, then project implementation. Following construction, showcase the project with on-site kiosks, a municipal webpage, and/or ribbon-cutting event.

Lead	Start Date	Priority	Anticipated Length	Funding Sources
DCS	January 2025	Low	Two years	Grants

#### **Departments involved:**

- DCS
- Environmental Commission

#### **Potential Issues/Barriers:**

- High cost to battery storage and microgrid switch technology.
- Familiarity with storage technology is low, leading to misconceptions about safety.

#### **Community notes:**

Local microgrids are a key tool for resiliency. Microgrids provide a way to provide power during power outages, whether from a storm or cyberattack or any other cause.

#### **Measures of Success:**

The goal of this initiative is to install a microgrid at a municipal building.

#### **Next steps:**

1. Research into specific microgrid options (in conjunction with a municipal renewable energy project and the battery energy storage system).
2. Grant writer applies for grants for the microgrid switch piece of the project.
3. Purchasing Agent finalizes purchase of microgrid.

## IV References

- EIA (U.S. Energy Information Administration). 2021. *New Jersey State Profile and Energy Estimates*. <https://www.eia.gov/state/analysis.php?sid=NJ>.
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## Appendix. Data Sources

Almost all data used in this plan is sourced from the [Sustainable Jersey Data Center](#).

Community Overview Data		
Section, Map, or Table	Original Source(s)	Link to data
General Information Section	U.S. Census American Community Survey (ACS)	<a href="#">SJ Community Profile Data by Municipality</a>
Current Housing Units by Year Built Chart	U.S. Census ACS	<a href="#">SJ Community Profile Data by Municipality</a>
Number of Units by Structure Type Chart	U.S. Census ACS SJ Community Profile Data by Municipality	<a href="#">SJ Community Profile Data by Municipality</a>
Commercial & Industrial Properties Map	NJ MOD IV Tax Data	<a href="#">SJ Commercial &amp; Industrial Properties Map</a>
Commercial & Industrial Properties Data	NJ MOD IV Tax Data	<a href="#">SJ Commercial &amp; Industrial Properties Data</a>

Energy Use Data		
Section, Map, or Table	Original Source(s)	Link to data
Amount of Electricity Used by Sector (kWh) Chart	NJ Investor-Owned Utilities	<a href="#">SJ Aggregated Community-Scale Utility Energy Data</a>
Amount of Natural Gas Used by Sector (Therms) Chart	NJ Investor-Owned Utilities	<a href="#">SJ Aggregated Community-Scale Utility Energy Data</a>
Number of Occupied Housing Units by Primary Heating Fuel	U.S. Census ACS	<a href="#">SJ Community Profile Data by Municipality</a>
Greenhouse Gas (GHG) Emissions Charts	SJ GHG Emissions by Municipality	<a href="#">SJ Community-Scale Greenhouse Gas (GHG) Emissions Data</a>

Energy Efficiency and Renewable Energy Data		
Section, Map, or Table	Original Source(s)	Link to data
Solar Installations Chart	NJCEP Solar Installation Data	<a href="#">SJ Solar Installation Data</a>
Commercial Energy Efficiency Program Participation Data	New Jersey Clean Energy Program (NJCEP) Data	<a href="#">SJ Energy Efficiency Program Participation (2008-2021) Data - Lifetime Commercial Participation</a>
Residential Program Participation Data	NJCEP Data	<a href="#">SJ Energy Efficiency Program Participation (2008-2021) - Lifetime Residential Participation</a>
Energy Efficiency Projects Completed by Municipality Data	NJCEP Data	<a href="#">SJ NJCEP Local Government Projects 2008-2021</a>



This report was made possible through a grant from New Jersey's Clean Energy Program™. New Jersey's Clean Energy Program is brought to you by the New Jersey Board of Public Utilities.

#### **ABOUT THE NEW JERSEY BOARD OF PUBLIC UTILITIES (NJBP)**

The New Jersey Board of Public Utilities ("NJBP" or "Board") is the state agency with authority to oversee the regulated utilities, which provide critical services such as natural gas, electricity, water, telecommunications, and cable television. The law requires the Board to ensure safe, adequate, and proper utility services at reasonable rates for customers in New Jersey.

#### **ABOUT THE NEW JERSEY CLEAN ENERGY PROGRAM (NJCEP)**

NJCEP, established on January 22, 2003, in accordance with the Electric Discount and Energy Competition Act (EDECA), provides financial and other incentives to the State's residential customers, businesses and schools that install high-efficiency or renewable energy technologies, thereby reducing energy usage, lowering customers' energy bills and reducing environmental impacts. The program is authorized and overseen by the New Jersey Board of Public Utilities (NJBP).

#### **ABOUT SUSTAINABLE JERSEY**

Sustainable Jersey is a certification program for municipalities in New Jersey. Launched in 2009, Sustainable Jersey is a nonprofit, nonpartisan organization that supports community efforts to reduce waste, cut greenhouse gas emissions, and improve environmental equity. It provides tools, training and financial incentives to support and reward communities as they pursue sustainability programs. Sustainable Jersey is one hundred percent voluntary and each town can choose whether it wants to get certified and the actions it wants to do in order to achieve enough points to get certified.