

9.0 ENERGY

9.1 Vision

[The City will be in compliance with the states adopted renewable energy goals and be carbon neutral by 2035.](#)

9.2 Introduction

This chapter includes a summary of existing conditions regarding current energy utilities, systems, usage, and renewable energy in Cranston. Energy, within the context of this chapter, refers to utility services which generate electricity, transmit, distribute, and meter energy usage. The existing conditions summary is intended to help develop meaningful actions that support and sustain adequate energy service, emergency back-up energy, and identify potential opportunities for the creation of renewable energy. Adequate energy services are a crucial component of everyday City functions to sustain essential facilities and services, economic activities, school system, and food supply systems. Energy service is an essential aspect of emergency preparedness and response, and utilities may be impacted by climate change, due to severe weather events which cause service disruptions or extreme temperatures that cause outages due to brownouts. By understanding current energy usage, the City can better predict future needs and potential vulnerabilities.

9.3 Existing Conditions

The production and continuous supply of energy is critical for sustaining everyday activities in Cranston. [Energy](#). Understanding existing conditions as they relate to energy production and supply will help the City develop meaningful actions to support and sustain adequate energy service, enhance energy efficiency, and identify potential opportunities for the creation of renewable energy.

The Rhode Island Comprehensive Planning Handbook describes energy as: “three sectors - electricity, heating and cooling, and transportation - and the resources used to create the energy for those sectors.” Within the context of comprehensive planning, those sectors can be described as follows.

- Electricity is power produced with fossil fuels or renewable energy technologies and used to run electric equipment, appliances, lighting, and electronic devices.
- Heating and Cooling includes natural gas, heating oil, propane, electricity, and renewable technologies, like geothermal.
- Transportation refers to the energy used to fuel vehicles, including petroleum, biofuels, electricity, natural gas, and hydrogen.

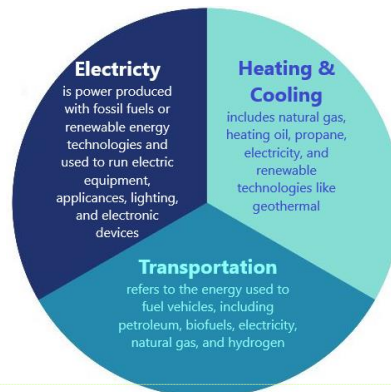


Figure 1: The three sectors of energy

Commented [PB1]: Rhode Island Comprehensive Planning Handbook, section on energy.

Comprehensive planning can help municipalities assess their energy expenditures to pinpoint ways to reduce spending, enhance access and redundancy, and meet net zero emissions goals.

9.3.1 Energy Supply & Use

Rhode Island is a part of the New England power system managed by ISO New England that distributes power to Electric Distribution Companies (EDC). The major electric company in Cranston is Rhode Island Energy, the largest EDC in Rhode Island, which is owned by PPL Corp. National Grid was purchased by PPL Corp in June of 2023, ending their twenty-three-year reign as the largest EDC in the state. However, customers can also buy electricity from Pascoag Utility District, and Block Island Power Company in certain areas of the state. The Central Power Plant is located at 11 Power Road, [within the State's Pastore complex.](#)

****WILL ADD PHOTOGRAPH OF POWER PLANT FOLLOWING SECTION 9.3.1**

According to the U.S. Energy Information Administration, the residential sector has the highest energy usage in Rhode Island (2021).

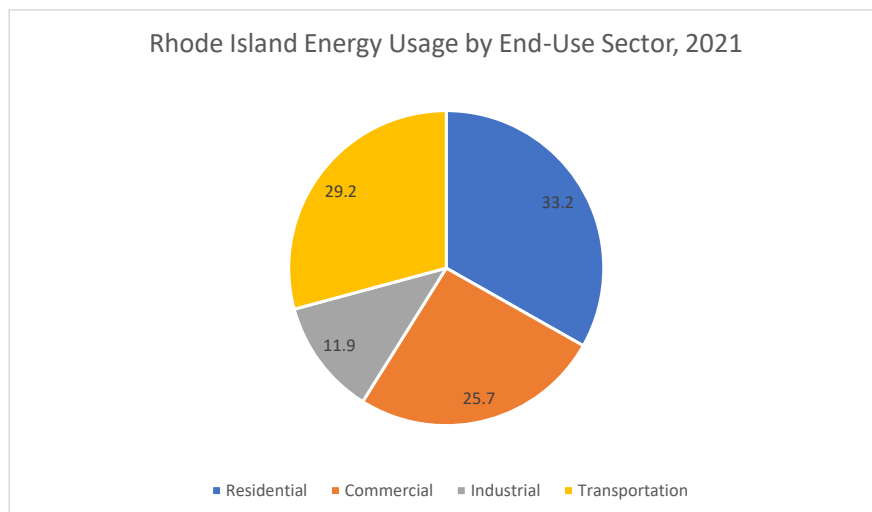


Figure 2: Rhode Island Energy Usage by End-Use Sector, 2021
Source: Energy Information Administration, State Energy Data System

In June of 2022, Governor McKee passed historic legislation requiring that one hundred percent of Rhode Island's energy is offset by renewable energy by 2033. This is the first legislation of its kind in the United States. Renewable energy sources are sources that naturally replenish, such as solar, wind, or geothermal. Renewable energy sources do not require combustion of fossil fuels.

To help achieve this goal, the Department of Environmental Management completed a greenhouse gas emissions (GHG) inventory for the years 1990-2019. The 2019 inventory found that the majority of GHG emissions in 2019 were from the transportation sector (39.7%), followed by the residential heating sector (19.3%) and the electricity sector (18.9%). An update to the emissions inventory will be published in

Commented [EH2]: [The Road to 100% Renewable Electricity](#)

Commented [PB3]: https://dem.ri.gov/sites/g/files/xkqbu_r861/files/2022-12/ridem-ghg-inventory-2019.pdf

2024 Comprehensive Plan

(DRAFT 4/10/24)

December 2025; “GHG emissions inventories published by RIDEM provide the foundational information needed to develop and implement the Act on Climate’s emission reduction mandates.” Cranston has completed recent actions that support this mandate. **beyond solar installations, what has Cranston done ?... should be listed

9.3.2 Energy Efficiency

Cranston is taking steps to conserve energy and use energy more efficiently. These steps help reduce municipal energy expenditures and help mitigate carbon emissions.

The City’s 2012 Comprehensive Plan recognized the importance being strategic regarding energy production and consumption, strategies related to energy efficiency included the following:-

1. Adopting energy conservation standards as a long-term means of lowering energy costs for the City. (as of 2024: not accomplished)
- ~~1-2~~ Establish and maintain a Facilities Maintenance Fund for roadway pavement repairs and upgrades, sidewalks, street trees, signs, snow plowing and energy efficiency in public buildings. (as of 2024: on-going)
- ~~2-3~~ Promote a ‘green’ building program for all new construction: Consider a LEED-type program to analyze energy efficiency and sustainability. (as of 2024: not accomplished)
- ~~3-4~~ Create Ongoing Capital Programs Pavement maintenance, energy conservation and street signage are programs that should be continuously funded. (as of 2024: on-going)

State Office of Energy Resources (OER)

The [State of Rhode Island Office of Energy Resources](#) is the state’s hub for resources related to energy efficiency and renewable energy: “The Rhode Island Office of Energy Resources’ (OER) mission is to lead the state toward a clean, affordable, reliable, and equitable energy future. OER develops policies and programs that respond to the state’s evolving energy needs, while advancing environmental sustainability, energy security, and a vibrant clean energy economy. OER is committed to working with public- and private-sector stakeholders to ensure that all Rhode Islanders have access to cost-effective, resilient, and sustainable energy solutions.”

Rhode Island Energy Efficiency Program

Cranston residents have access to Rhode Island Energy Efficiency, a state program that provides residents with no or low-cost energy saving measures. Rhode Island Energy offers many energy efficiency rebates, incentives, and services to help Rhode Island residents, businesses, and institutions manage their energy usage. These programs are funded by an energy efficiency charge on all customers’ gas and electric bills, in accordance with Rhode Island law.

Rhode Island Efficient Buildings Fund (RIEBF)

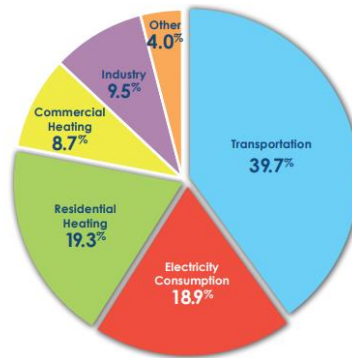


Figure 3: Rhode Island Emissions by Sector from 2019 GHG Inventory

Commented [PB4]: Has this been used for property's in Cranston ? Question for locality.

The RIEBF is a revolving loan fund with low-interest loans for energy efficiency and renewable energy projects in which the annual energy savings achieved exceeds the annual debt service. This funding program is jointly administered by Rhode Island Infrastructure Bank (RIIB) and Office of Energy Resources.

Mayor's Emergency Fuel Program

While the Mayor's Emergency Fuel Program does not align with sustainability goals, it does help continuity of critical services to those in dire situations. The Department of Community Development offers a one-time annual delivery of 100 gallons of oil or propane for emergency situations only. Oil tank must be below ¼ of a tank and meet household eligibility requirements.

9.3.3 *Renewable Energy*

Cranston is taking steps to enable the production of renewable energy, which enhances energy resilience and redundancy and reduces carbon emissions outputs. Many of these actions are initiated by the State's Office of Energy Resources, but available to residents, businesses, and community-based organizations.

Solar Facility Along Pawtuxet River

Revity Energy is leasing a parcel from the Pawtuxet River Authority and Watershed Council to build a 0.4-megawatt solar development. The project funds are coming from the State's Renewable Energy Growth Program. The project received Master Plan approval from the City Plan Commission in July 2023.

Natick Avenue Solar Farm

A planned 30-acre solar project was put on hold due to a Rhode Island [Supreme-Superior Court Decision](#), [which will delay the project](#). The project, which is sited by Natick Avenue, is estimated to produce eight megawatts of energy. The masterplan was initially approved in 2019, with a final approval in 2020.

Hope Farm Solar

[Hope Farm Solar is a 60-acre, 10-megawatt facility along Hope Road in Western Cranston. It received final approval in 2017 and construction was completed in 2018.](#)

Gold Meadow Farms SSRE

[This 23-megawatt facility is one of the largest solar installations in Rhode Island. Construction on the final phase of the site was completed in 2019.](#)

Seven Mile Road Solar

[This nearly 1-megawatt facility was approved and constructed in 2020.](#)

Pontiac Land Fill

[In 2021, a 3.4-megawatt community solar facility was constructed on the Cranston Sanitary Landfill, a remediated EPA Superfund site along the Pawtuxet River.](#)

Clean Heat Rhode Island

Clean Heat Rhode Island is a heat pump program for households, small to mid-sized businesses, and non-profit organizations. The program offers incentives for the installation of high efficiency heat pumps. The Clean Heat program is the largest energy rebate program for constituents offered by OER. According to

Commented [PB5]: <https://ecori.org/cranston-planning-commission-gives-solar-project-along-pawtuxet-river-the-ok/>

the State Energy Commission, thermal emissions account for one-third of Rhode Island's greenhouse gas emissions. Heat pumps are an economically and energy efficient mechanism for heating and cooling buildings.

Property Assessed Clean Energy (PACE)

PACE is a financing program that allows property owners to repay the costs of energy efficiency or renewable energy projects in conjunction with property tax payments.

Commented [PB6]: Has this been used for property's in Cranston? Question for locality.

9.3.4 Energy & Land Development

Cranston amended its Comprehensive Plan in ~~2017-2015~~ to include measures related to land development and siting of solar and renewable energy facilities. Amendments included the following.

Commented [BP7]: <https://web.cranstonri.org/clerkdocs/2017Ordinances/Proposed/1-17-11CompPlanSolarPerfStandardsAmend2017.pdf>

LU-10: "Temporarily remove the development potential of the land located in western Cranston [land banking] by allowing the land to be used for passive alternative energy generation, such as solar power."

LU-17: "Encourage the development of renewable energy facilities- Short Term (1 Year)."

** These Amendments were repealed in 2019

~~The City has a significant amount of undeveloped land (add in total acreage) that has the potential for solar development. However, open space and natural resources should be preserved as much as possible to mitigate the impacts of tree clearance.~~

Solar Ordinance

In ~~2020~~2019, the City adopted a solar ordinance to help regulate solar energy systems (SESs) by providing standards for application requirements. These standards will help ensure that solar development is properly sited in relationship to project type and scale, and that the developments limit adverse impacts on scenic, natural, and historic resources. Additionally, the guidelines in the ordinance ensure that solar developments include screening or other measures to reduce the visual impact on the surrounding areas.

Commented [PB8]: https://library.municode.com/ri/cranston/codes/code_of_ordinances?nodeid=CO_TIT17ZO_CH17.24PESTGE_17.24.020SOENSY

Commented [SA9]: Do we want to go over the whole tortured history here? Can you assist with a short summary of the life of the Cranston solar ordinance?

9.3.5 Transportation

~~The transportation sector plays a significant role in the City's energy consumption and overall environmental impact. There is an inherent link between our transportation choices, energy consumption, and environmental impact. Although Cranston's transportation currently hinges heavily on personal vehicle use, there are many opportunities to improve public transit, increase non-motorized transport infrastructure, and adopt alternative energy sources for transportation throughout the City. Those opportunities would aid in the reduction of vehicle miles traveled, improving fuel efficiency, and reducing greenhouse gas emissions; both meeting the States Goals as outlined in the "State Guide Plan Element: Energy 2035" and improve the quality of life of the City's residents.~~

Car Usage & Commuting Trends

~~Most residents rely on cars for daily travel, which significantly contributes to the City's energy usage and emissions. This heavy reliance on cars has led to traffic congestion in some areas of the City, especially during peak hours, which in turn affects both fuel efficiency and emissions.~~

Public Transit

Public transit, when fully utilized and supported, is well known to be a more fuel-efficient method of transportation than cars. Cranston is served by the Rhode Island Public Transit Authority, (RIPTA) which provides bus services throughout the City. There is much potential to enhance these services to make them a more attractive alternative to driving for many of the City's residents.

Road Network & Infrastructure

Cranston's road network mainly caters to vehicular traffic. While there are bike lanes and sidewalks in certain areas, they are not uniformly spread across the City, highlighting a need for more comprehensive non-vehicle-friendly infrastructure.

Walking & Cycling

The City has been making improvements in accommodating cyclists and pedestrians, but the infrastructure still falls short of creating a fully accessible, city-wide network for non-motorized travel.

Energy Sources for Transportation

The predominant energy source for transportation is currently fossil fuels. Alternative energy sources, like electricity or biofuels, are not yet widely used.

Electric Vehicles (EVs)

Electric vehicle usage and the availability of EV charging stations is gradually increasing throughout the state and in Cranston; however, the availability of EV charging stations is still limited, indicating early stages of EV adoption in the City.

Strategies from State Guide Plan:

- Reduce Vehicle Miles Traveled
 - Transit-Oriented Development (TOD)
 - Improving Public Transit
 - Pedestrian and Bicycle Infrastructure
 - Mixed-Use Development
 - Traffic Calming Measures
 - Parking Policies
 - Remote Work and Flexible Hours Policies
 - Education and Outreach
- Improve fuel efficiency and reduce vehicle emissions.
 - Reduction of Vehicle Miles Traveled
 - Smart Traffic Management
 - Developing Intelligent Traffic Systems
 - Optimizing traffic flow through smart signaling systems
 - Promoting Fuel Economy and Efficient Driving Habits
 - Outreach promoting fuel economy and efficient driving habits.
 - Local educational campaign

- [Fleet Efficiency](#)
- [Support Electric Vehicle Infrastructure](#)
- [Sustainable Community Initiatives](#)
- [Promote alternative fuel and electric vehicles.](#)

9.4 Challenges & Opportunities

9.4.1 Challenges

What needs improvement?

- Need more support to implement state programs, policies, and incentives.

Where is the City struggling?

- There has not been a high percentage of solar or renewable energy facility development in western Cranston, despite the 2017 Comprehensive Plan amendment to the Land Use strategies and the adoption of the solar ordinance.
 - ◆ **[**This is a controversial statement](#)**

Are renewable energy systems meeting future needs for energy consumption?

- Need [a significantly](#) higher rate of implementation to meet state net-zero emissions goals.

9.4.2 Opportunities

What can the City capitalize on?

- The City can make use of the Rhode Island state programs to help achieve net-zero emissions goals.

What are the City's strengths?

- Diversity of land uses and physical characteristics to uptake a variety of renewable energy and clean energy strategies in dense residential and commercial areas as well as less dense, more rural areas.

9.5 Current Measures

9.5.1 Regulations

What existing regulations, ordinances, and plans does the City implement?

[The City allows residential and commercial solar installations by-right; without a special permit. Minor accessory is allowed with special use permit in the rural residential zones only.](#)

9.5.2 Policy

What are they currently doing to help their situation?

[The City has made the uses allowed by-right without special approvals.](#)

Commented [SA10]: These are initial considerations we have based on our existing conditions assessment. These are not final and need further discussion and development.

Commented [SA11]: Still being developed

9.6 Community Engagement (Optional)**9.6.1 Meetings/Workshops/Events**

What did the City have to say about this section?

What were their concerns?

What are the public engagement highlights to discuss?

9.6.2 Survey

Are there any survey results you could report here?

9.7 Goals & Policies

What goals and policies can we suggest that will help them progress sustainably?

- Goal: Utilities are well-maintained in a financially and environmentally stable manner
 - Policy: Protect utilities
 - Action Item: Create standards in DPR that limits street tree species under utility lines to slow and low growing species
- Goal: Less emissions in transportation
 - Policy: Promote EV infrastructure
 - Action Item: require EV charging stations for large multifamily, commercial, and industrial development
 - Policy: Increase usage of active transportation**rephrase (trip share=usage of)
 - Action Item: create and enforce active transportation plan (Should also relate to circulation.
 - Action Item: identify high-fatality public roads for bicycle and pedestrian infrastructure upgrades
 - Policy: increase usage of public transportation**rephrase (trip share=usage of)
 - Coordinate with RIPTA on bus transportation related items in Cranston such as bus shelter improvements and bus route upgrades
 - Consider pedestrian access to bus stops from new developments along existing bus routes
- Goal: 100% Renewable energy production by 2035
 - Policy: Promote adoption of renewable energy; Annual usage of State energy: 7,000 megawatts
 - Action item: Create performance standards for renewable energy production of new development and redevelopment
 - Action item: Require solar installations for all large parking lots
 - Action item: Create performance standards and promote on-site energy storage
- Goal: X% reduction in fossil fuel usage
 - Policy: reduce fossil fuel usage of new and existing buildings
 - Action item: require electric heat pumps in new single and small multifamily developments
 - Action item: Create performance standards to maximize thermal insulation of buildings including passive heating and cooling

Commented [LL12]: Standard 9.1 INCLUDE GOALS THAT EMBODY THE STATE'S GOALS FOR ENERGY AND POLICIES TO SUPPORT EACH GOAL

- [Action item: Create performance standards that promote low-carbon construction techniques](#)
- [Action Item: Promote electric kitchen fixtures](#)
- [Action Item: Reduce fossil fuels in new home heating installations](#)
- [Policy: Decrease energy usage of new and existing buildings](#)
 - [Action item: require shade tree planting near all new construction](#)
 - [Action item: Require high-efficiency HVAC systems for large housing, commercial, and industrial developments](#)
 - [Action item: Create/fund/promote programs to make houses more energy efficient \(RI Energy and RI Department of Energy?\)](#)
 - [Action item: Implement performance standards for water conservation and use reduction such as water-efficient fixtures, rainwater harvesting systems, and greywater recycling technologies](#)
 - [_____](#)