

Lakewood Resiliency Task Force



Objective Category: *Energy – Working toward net positive energy*

Last Revised: July 6, 2018

Our Purpose Statement:

To understand current and emerging forces that can impact Lakewood and the wellbeing of its citizens. Examining environmental, political, social and economic forces through the lens of resiliency, the Task Force will pursue and recommend systemic process enhancements that will allow Lakewood to identify, prioritize, execute and measure solutions that will lead to a continuously improving and thriving city for all, especially the most vulnerable among us, for generations to come.

Indicators of the “Current State” in Lakewood:

- **50% purchased power from renewable sources (NOPEC)** – Carbon? Attributable? Additional?
- **__ kWh used per month average Lakewood home**
- **__% up-time for First Energy grid**
- **6200 kWh generated by renewables at City properties (Solar + digester)**
- **__ kWh generated by residential renewables**
- **Gasoline consumption for auto use in city (where do residents work & play?); Vehicle Miles Traveled**
- **__% Tree canopy**

City Energy Usage: 11,891,169 kWh / \$1.37M last year

What is total kWh load? Age/layout of distribution?

Relevant highlights from previously adopted City of Lakewood Plans:

Vision Commercial Development “Support environmentally sustainable development practices such as energy efficiency”

Vision Housing: “Promote energy efficiency upgrades including the installation of new furnaces, adequate insulation, and Energy Star appliances”

Vision Community Wellness: Educate residents on energy-efficient options such as compact fluorescent light bulbs, and appropriate home insulation and air sealing.

Vision Mobility: “Ensure all streets are well lit”

Park System Strategic Plan “Evaluate alternative power for facilities and consider demonstration projects”

Systems Level Connections to other Priorities:

- Mobility – 31 plug-in electric cars registered in City (2016) (what is impact on the grid)
- Smart Cities – Opportunity to integrate IoT into new street lights
- Diverse Opportunities – Economic / Jobs impacts of solar installation, home renovation, etc.
- Housing – How to retrofit the 100 year old house for efficiency
- Materials / Smart Buildings – How do we ensure that new structures are more efficient

Current and Proposed Projects and Programs in Lakewood:

- LED Streetlight Conversion
- Anaerobic digester at WWTP

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Primary Goal or Objective: (the change we seek):

A more diversified energy generation and transmission mix to provide greater reliability and self-reliance that, combined with energy efficiency improvements, results in less carbon and greenhouse gas emissions.

Illustrative indicators, baseline measurements and performance targets:

- 1.) A target of 100% renewables and a 10% reduction in city wide energy consumption (from today's baseline) within 10 years.
- 2.) Greenhouse Gas inventory and current city wide energy demand to establish baseline
- 3.) Number of residents: a) with rooftop solar, b) that are enrolled in a utility financial assistance program, c) living or working in energy efficient buildings (e.g., LEED)

Strategies and Interventions, Projects and Programs to meet the targets:

- Conduct a greenhouse gas inventory using a tool like the GHG Protocol
- Consider cost-effective efficiency/technology upgrades with reasonable payback for city buildings/uses
- Investigate purchasing Renewable Energy Credits to offset electricity use
- Initiate programs (including incentives) to encourage city, residential, and commercial installations of renewable energy systems, including offshore wind, battery storage, and alternative fuel vehicles
- Provide incentives to encourage energy efficient building for new construction and substantial rehabs and energy audits to residents/businesses
- Encourage increased public transit ridership including a circulator/shuttle; Work with RTA to create pilot programs that make paying fares easier/stops more interactive/better customer experience
- When improving energy infrastructure, consider above and below grade improvements, leverage this work with other technology upgrades, and measure public safety improvements through systems like LED streetlights to increase walking and biking
- Increase the tree canopy to reduce the urban heat island effect/overall heating/cooling demand
- Initiate a public education and awareness campaign to accelerate change; promote apps like Gohio Commute

Necessary and desirable stakeholders and partners, within Lakewood and beyond Lakewood:

Business community, CEI/First Energy, State, County, NOPEC, NEOCG, homeowners

Required Changes to Policies and Procedures:

Changes to permitting and zoning to encourage community and rooftop solar, energy efficient building, and public transit improvements; leverage First Energy and drive performance improvements

Resources required vs. resources available and the time frame: