



Resilience, Health and Energy: Three Peas in a Pod

City of Cleveland's Climate Action Plan Perspectives

2019 Midwest Energy Solutions Conference

February 20, 2019

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Office of Sustainability

- Save the City money and reduce its ecological footprint
- Use sustainability and climate action as a tool for economic development
- Provide tools and resources to make sustainability business-as-usual
- Foster a culture that embraces sustainability



June 22, 1969



2019: Surprise and Amaze with our Transformation



SUSTAINABLE CLEVELAND 2019

Leadership Structure

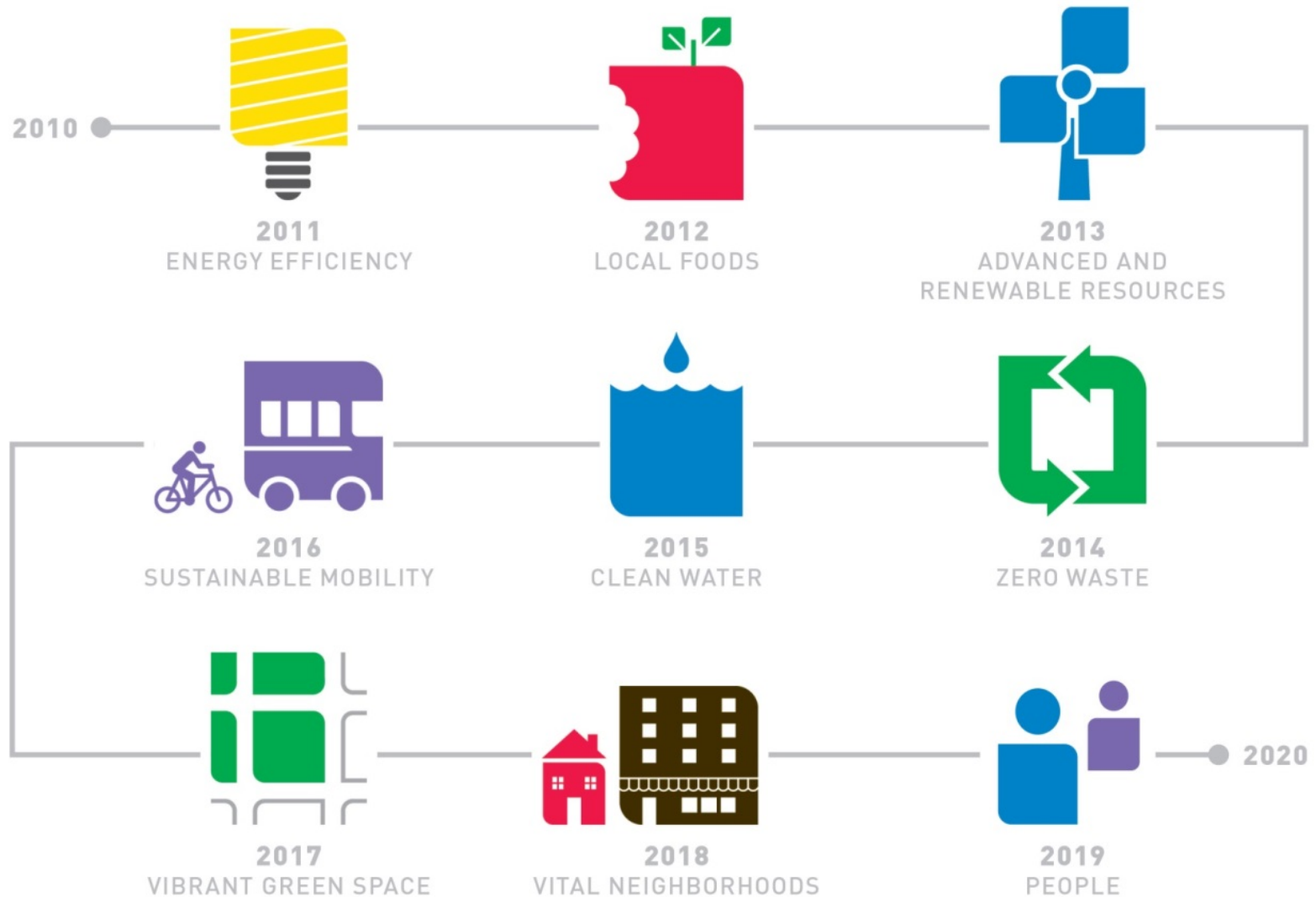
- Founded by Mayor Jackson
- Guided by Steering Committee
- Administered by Mayor's Office of Sustainability
- Powered by Citizens
- Funded by government, foundations, and organizations

Get Involved...

1. at Home,
2. at Work, and
3. in your Community



Celebration Years



SustainableCleveland.org/dashboard

[ABOUT ▾](#)[YEAR OF SUSTAINABLE TRANSPORTATION](#)[LEARN MORE ▾](#)[DO MORE ▾](#)[STAY UPDATED ▾](#)

1 CHOOSE AN ENVIRONMENT

[Business](#)[Personal/
Social](#)[Built](#)[Natural](#)[Sustainable Cleveland Engagement](#)[Summit Participants](#)[Working Groups](#)[Education](#)[Population](#)[Health](#)[Cost Of Living](#)[Local/National Recognition](#)

Health

When we create a sustainable community, we create a place where people can be healthier. For this reason, many of the actions in the [Cleveland Climate Action Plan](#) were prioritized for improving health outcomes. This indicator tracks life expectancy, adults reporting poor/fair health, obesity, population in food deserts, and asthma.

Source: Compiled by Cuyahoga County – more info at www.healthdatamatters.org/health-overview

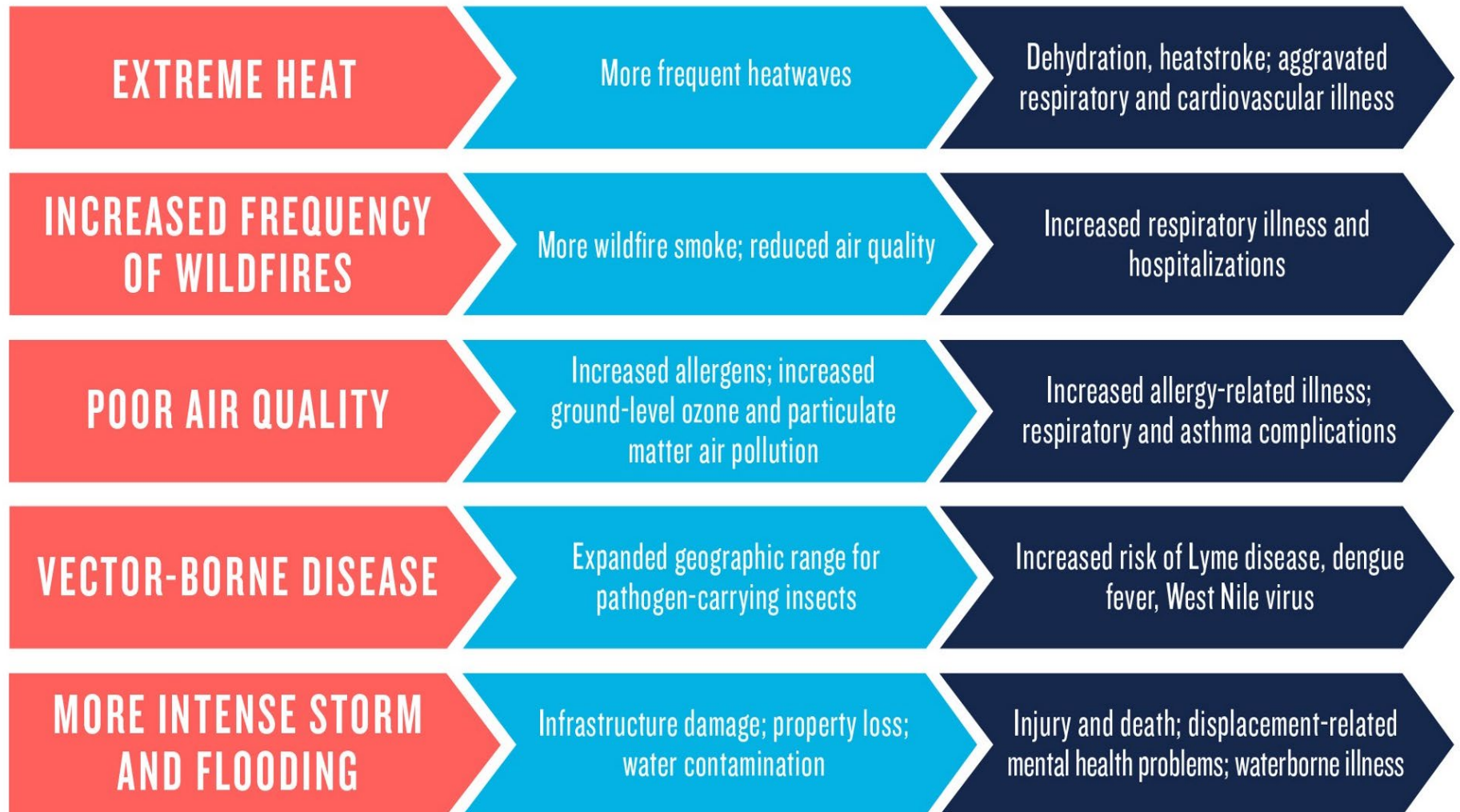
	U.S.	Cuyahoga	Cleveland
Life expectancy, years	79	78	74
Adults reporting poor/fair health, %	15	15	27
Obese adults, %	38	26	35
Population in food deserts, %	10	25	56
Asthma, %	9	10	14

(All data from 2009, 2010)

■ Worse than the U.S.
■ Better or same as the U.S.

How does climate change impact your life?

How does it relate to your health?



Observed Changes in Northeast Ohio

- **Rising Average Temperatures:** Annual average temperatures warmed by 2.4F from 1956-2012. (2012 was warmest year on record in CLE)
- **Longer freeze-free season:** lengthened by 20 days from 1956-2012.
- **More precipitation:** Total annual precipitation increased by 26% from 1956-2012, while summer remain relatively unchanged.
- **More heavy precipitation:** The amount of precipitation falling during the heaviest events increased by 22%.



*USDN Great Lakes Climate
Adaptation Network*

What's the effect on Northeast Ohio?

- **Public Health**: urban heat island effect, decreased air quality, change in vector borne and allergy-related disease patterns
- **Water Quality**: algal blooms, combined sewer overflows, beach health
- **Food Systems**: increase crop yields in short term, decreased agricultural productivity in long term
- **Forests**: Tree species shifting northward
- **Energy and Industry**: increased energy prices, reduced building heating loads, increased A/C
- **Transportation**: lengthened commercial navigation season, but local infrastructure affected by freeze-thaw cycles, flooding and erosion, lake effect snow, heat waves
- **Fish and Wildlife**: ecosystem disturbances

CLEVELAND CLIMATE ACTION PLAN 2018 UPDATE

**BUILDING THRIVING
AND RESILIENT
NEIGHBORHOODS
FOR ALL**



**Energy Efficiency &
Green Building**



**Clean
Energy**



**Sustainable
Transportation**



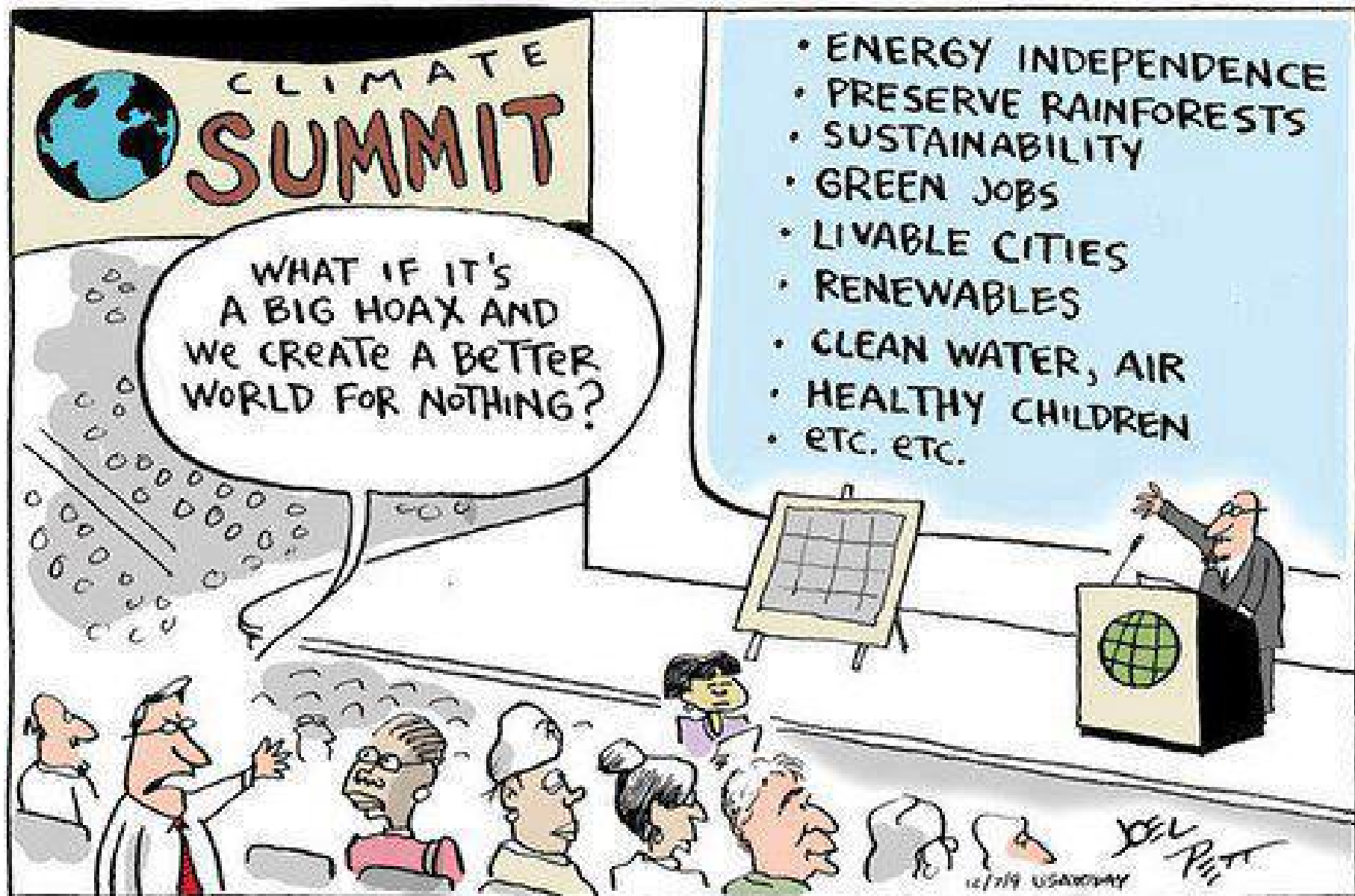
**Clean Water &
Vibrant Green Space**



**More Local Food,
Less Waste**



**Cross-Cutting
Priorities**



Cleveland Leading on Climate



Cleveland's Carbon Footprint Reductions from 2010 to 2016:

2%

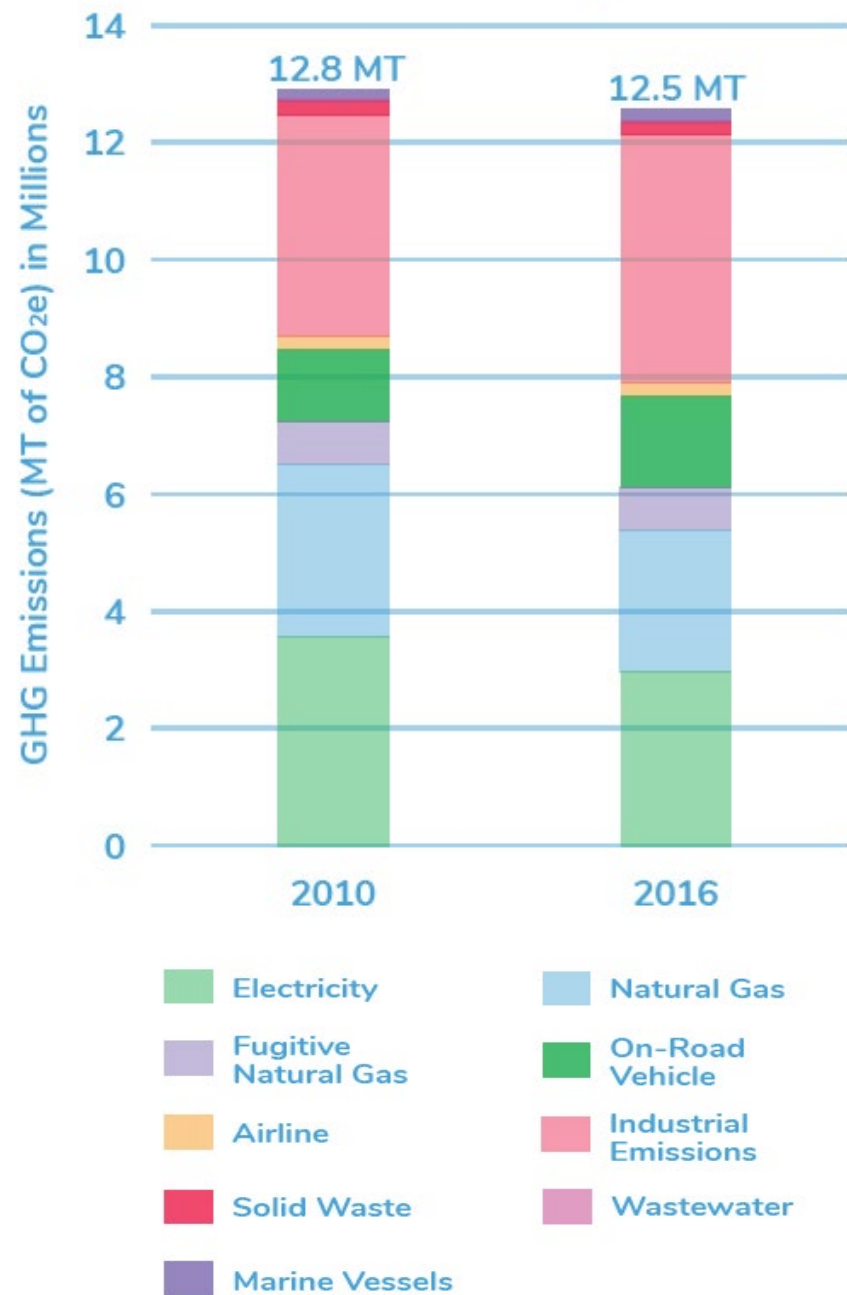
Overall

10%

Overall (excluding industrial emissions)

13%

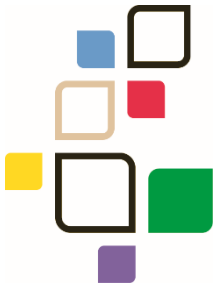
While experiencing an overall increase in economic growth (MTCO₂e/GRP)



CLIMATE ACTION ADVISORY COMMITTEE



United Way of
Greater Cleveland



Cleveland
Neighborhood
Progress



Building a World of
Sustainable Communities



Do Good. Do Well. Win.™



CLEVELAND
URBAN DESIGN
COLLABORATIVE



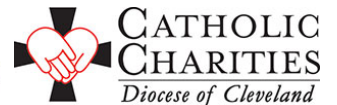
NAACP
CLEVELAND BRANCH
AT WORK FOR
THE COMMUNITY



The State University of New York



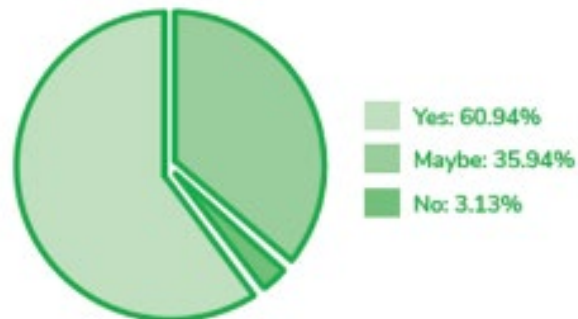
GREEN STRATEGIES LLC



Resident Engagement

- 12 neighborhood workshops, over 300 attendees
- **Resident-led, neighborhood-based** climate action projects
 - 1:1 match from [Cleveland Climate Action Fund](#)
 - >20 projects received match funding
 - <https://www.ioby.org/cleveland-climate>
- >200 public comments on CAP and 2,000 signatures in support of clean energy

Q: After attending the workshop are you inspired to do a project?



Food Pantry Needs Solar Power

Help us bring Solar Energy to Garden Valley
Neighborhood House!



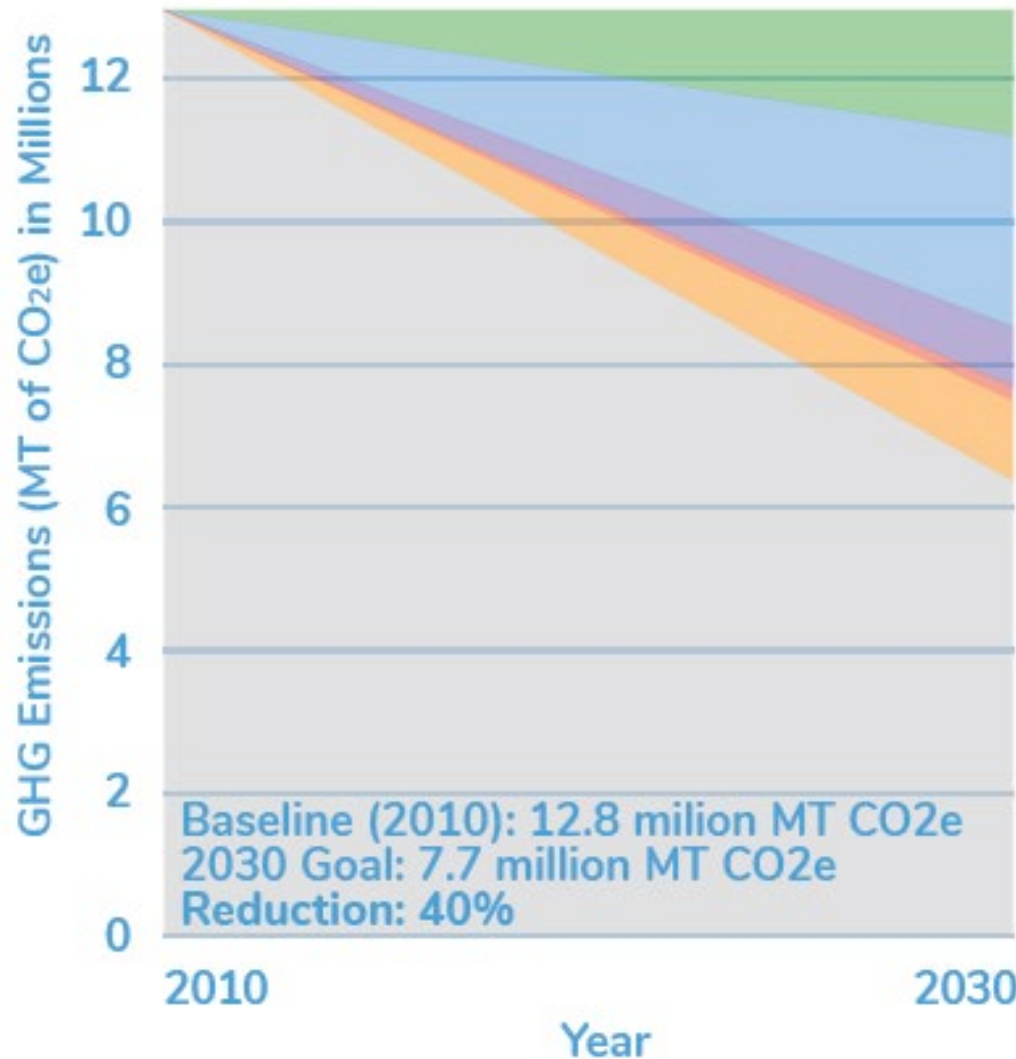
80%:
Cleveland's
Greenhouse Gas
reduction goal by
2050

At the heart of climate action in Cleveland is building thriving and healthy neighborhoods throughout the city. **The 2013 Cleveland Climate Action Plan established an overarching greenhouse gas (GHG) reduction goal of 80% below 2010 emissions by 2050, with interim goals of 16% reduction by 2020 and 40% reduction by 2030.** These goals are designed to be bold yet achievable. This updated plan retains those overarching goals.

Climate Change Mitigation: Reducing GHG emissions and lessening impacts from additional warming of the atmosphere.

Climate Change Adaptation: Preparing for the impacts of an already changing climate.

Process for Achieving Our 2030 Goals by CAP Focus Area



Reduction by Focus Area:



1.6 million MT CO₂e



2.5 million MT CO₂e



.4 million MT CO₂e



<0.1 million MT CO₂e *



<0.1 million MT CO₂e *



0.6 million MT CO₂e

*Actions in these two focus areas tend to improve resilience rather than reduce emissions

Racial Inequity – Select Stats

- Racial makeup: Black 51%, White 34%, Hispanic 10%
- Infant Mortality: rate of black infant deaths 6 times that of white deaths in Cuyahoga County in 2017
- Asthma: 23.5% of black population and 24.2% of Hispanic adults in the Cleveland-Akron CSA had been diagnosed with asthma, compared to 12.9% for the white population.
- College Graduates: 8% black, 24% white in Cleveland

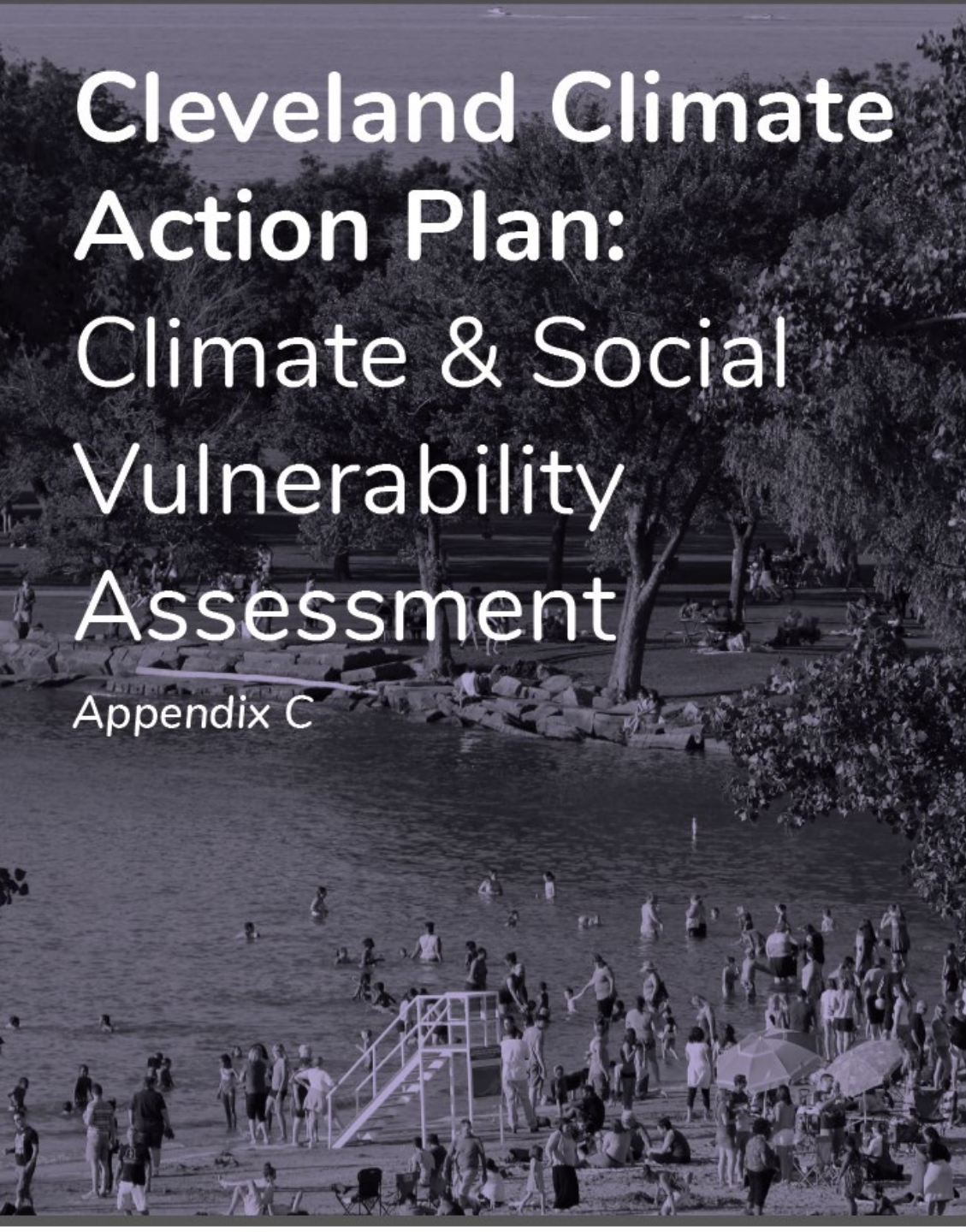
The background image shows a chain-link fence with a concrete base. The concrete base has graffiti on it, including the word 'equity' in large, stylized letters, and 'Bellevue' in a script font. There are also some floral or star-like symbols. The fence is in the foreground, and behind it, there's a building and some trees, all slightly out of focus.

Cleveland Climate Action Plan: Racial Equity Tool

Appendix A

5 question areas help determine the extent to which climate action objectives and actions prioritize equity:

1. Language
2. Accountability & Data
3. Disproportional Impacts
4. Economic Opportunity
5. Neighborhood Engagement



Cleveland Climate Action Plan: Climate & Social Vulnerability Assessment

Appendix C

- Process for identifying and assessing vulnerabilities
- Climate Change and projected changes for mid & end-century
- Current Socio-economic indicators of vulnerable population groups and where they reside
- Cumulative impacts of previous chapters and strategic linkages w/ ongoing efforts in City
- Other important factors and vulnerabilities
- Opportunities to promote climate adaptation



GOALS

- By 2030, reduce residential and commercial energy use 50% and industrial use by 30% saving Cleveland households and businesses \$170 million annually from utility savings.
- All large commercial and industrial buildings are tracking and managing their energy use by 2023

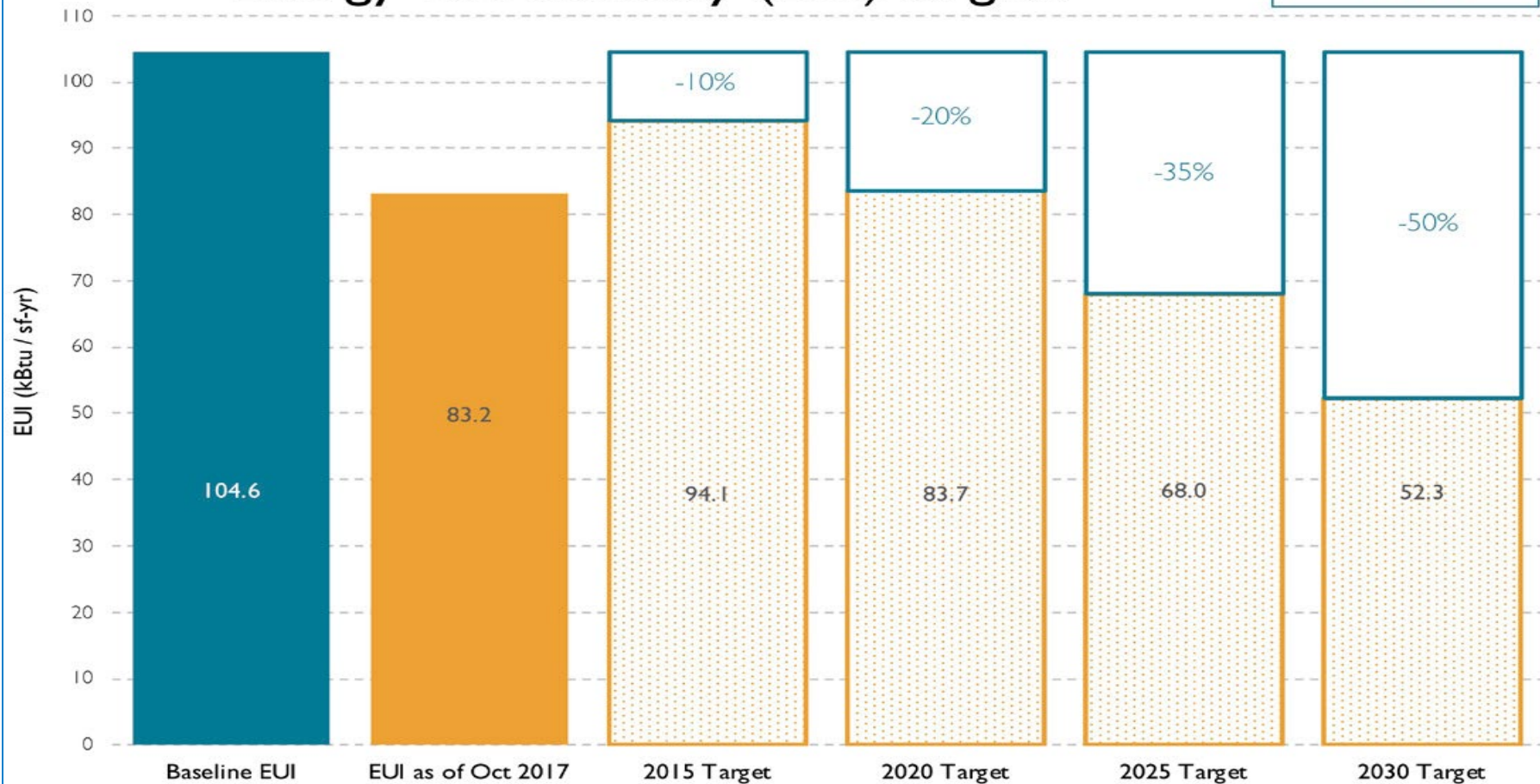
OBJECTIVES

1. Make more homes affordable, comfortable, **healthy, and energy efficient**
2. Prioritize energy efficiency in small and mid-size businesses
3. **Support community hubs to be more efficient and resilient**
4. Promote new construction and major renovations that meet **high green building standards**

Community Organizations – Cleveland 2030 District

Cleveland 2030 District Participating Properties¹ Energy Use Intensity (EUI) Targets

Reduction
20%



Data Last Updated: 10/31/17

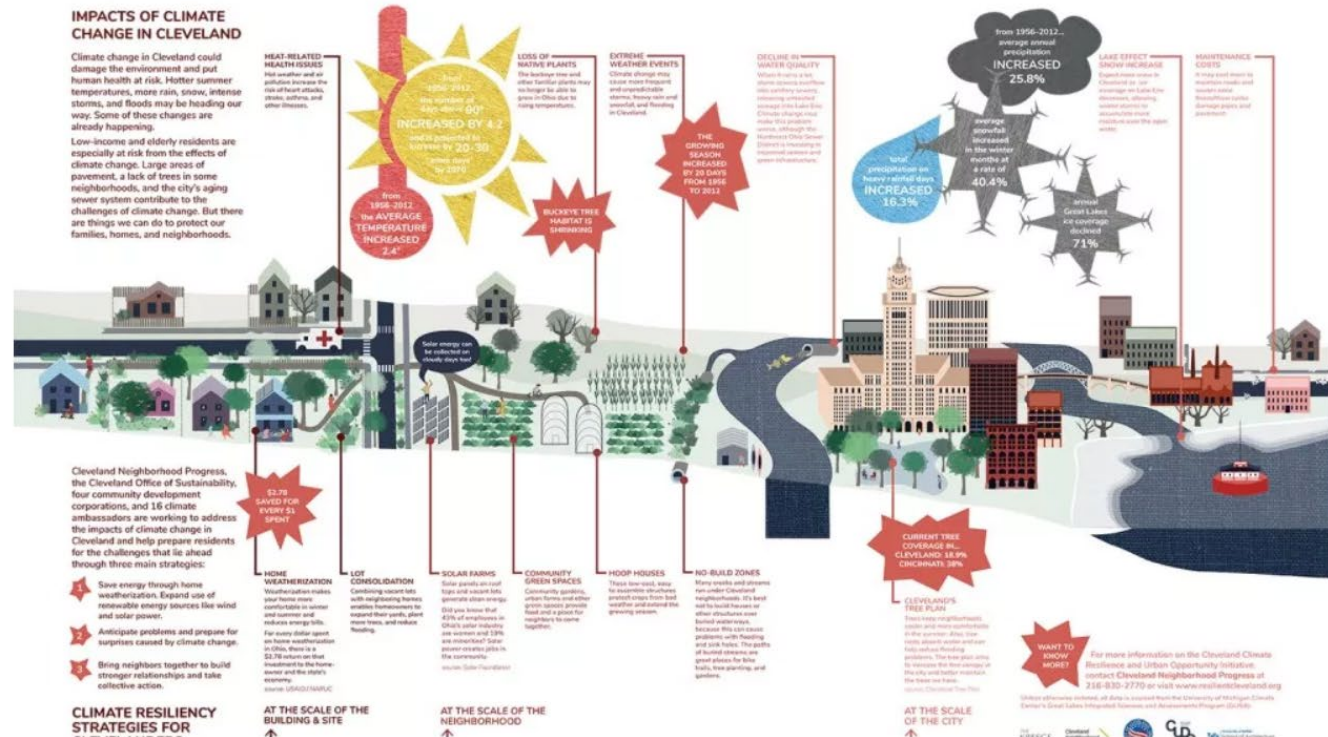
Baseline set using National Median values from ENERGYSTAR Portfolio Manager

¹Includes C2030D participating properties with accurate and complete Portfolio Manager accounts and National Median EUI values

Community Organizations – Cleveland Neighborhood Progress



CLIMATE RESILIENCY



Community Organizations – CHN Housing Partners

Weatherize My Home & More | X

https://chnhousingpartners.org/housing-and-community-servi

CHN Housing Partners

About ▾ Housing & Community Services ▾ Real Estate & Partner Services ▾ Donate

Free Products & Services


- » Home Insulation
- » New Refrigerator
- » New Freezer
- » Hot Water Tank
- » Furnace
- » Major Plumbing Repairs
- » Lighting
- » Carbon Monoxide Detector

Furnace or hot water not working?

Our emergency/no heat program runs from October 15 to April 15. Contact us immediately!

Call 888-377-3774 and press 2.

Apply Now for Home Weatherization and More!

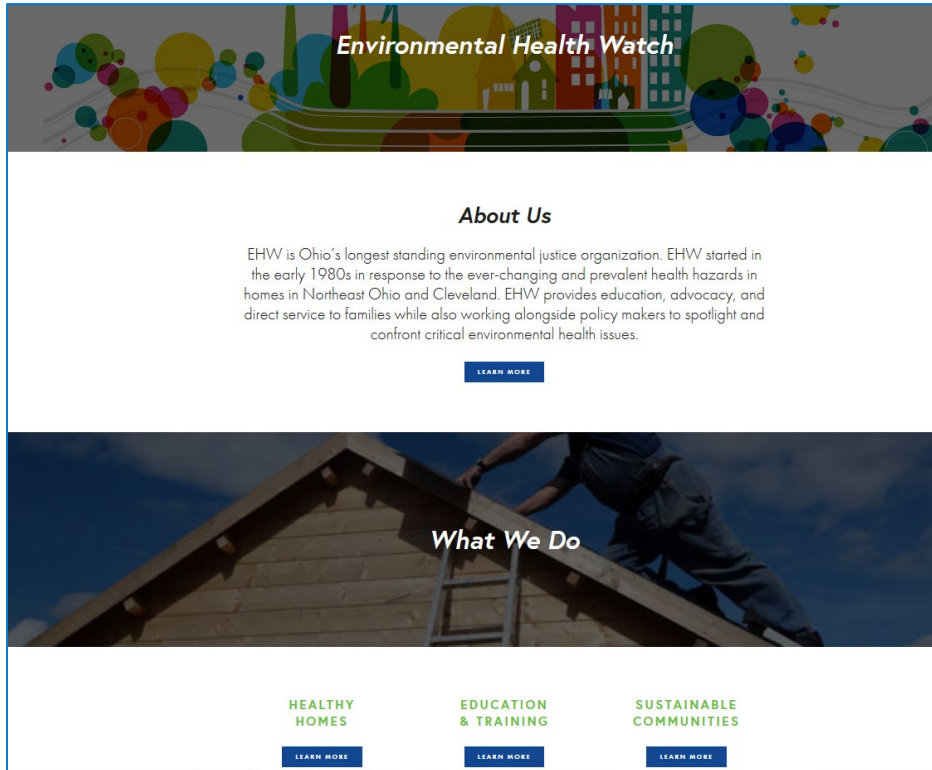


"I received a new furnace, new insulation, and a reduction on my water bill, but most of all they helped save my home."
- Mildred

Are you paying too much to heat and cool your home? Do you have an old, energy-hog refrigerator? Are you experiencing water or sewer leaks? Whether you rent or own your home, you may be eligible for free home insulation, energy-efficient appliances, plumbing repairs, furnace or hot water tank and more!

For Weatherization, Energy Efficient Appliances & More:

Community Organizations – Environmental Health Watch (EHW)



What Makes a Healthy Home

To qualify as a healthy home under the EHW model, a home must meet the five criteria:



CLEAN



DRY



ENERGY
EFFICIENT



SAFE



VENTILATED

Do I need a EHW healthy home audit?

Because nearly 90% of homes in Cleveland were built before the 1978 ban of lead-based paint, EHW recommends that if you have not had your home assessed for lead and other health hazards that you do so immediately.

You may also consider an EHW healthy home audit if you meet any of the following:



Birth of a child
or presence
of young children
in your home



If a member of your
family has been treated
for or suspects having
a health issue such
as asthma



Recovery after an
event causing major
structural damage
(fire, flood, storm)



Moving into or
renovating a home
(rent or purchase)



Listing a property
for rent or sale



Live in or renting
a property that was
built before 1978

CLIMATE ACTION:

RESILIENCE + REDUCED EMISSIONS



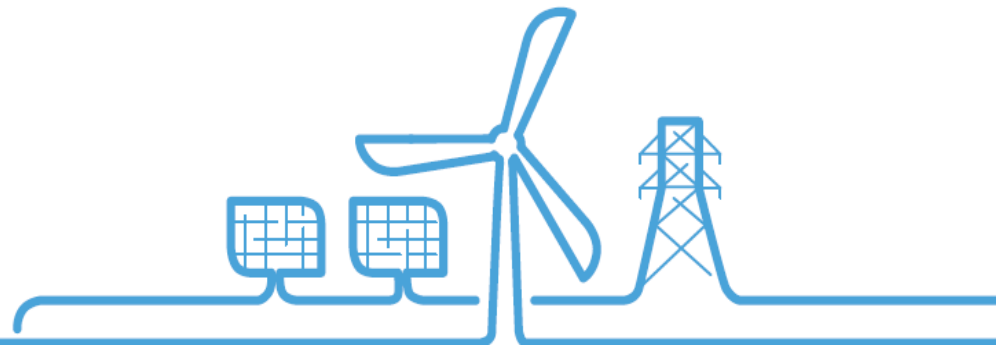
PROVIDES
UNINTERRUPTED
EMERGENCY FOOD
SERVICES WHILE
DECREASING
RELIANCE ON
ELECTRICITY FOR
FOSSIL FUEL FOR THE
SINGLE LARGEST
FOOD PANTRY IN OHIO



“Food Pantry Needs
Solar Power”



Clean
Energy



GOALS

- 25% of electricity use in Cleveland is supplied from renewable sources by 2030 (15% by 2022)
- Ensure all residents and businesses have access to affordable clean energy programs
- **100% of electricity demand from clean, renewable energy by 2050**

OBJECTIVES

5. Generate more solar energy locally
6. Improve access to affordable clean energy for residents and small organizations
7. Reduce commercial and industrial emissions with advanced technologies
8. Establish an offshore wind industry in Northeast Ohio
9. Use advanced technology to build a cleaner, safer, smarter city
10. Support clean energy policy



OBJECTIVES

- 25. Engage residents to advance **equity** in climate action
- 26. Advance **Green Jobs** through Workforce Development
- 27. Support and recognize **local businesses** taking climate action
- 28. Improve **resilience** to climate change and other impacts

SUSTAINABLE CLEVELAND MUNICIPAL ACTION PLAN

EXECUTIVE SUMMARY

October 2013



CITY OF CLEVELAND
Mayor Frank G. Jackson



5 Focus Areas - 25 Actions

Sustainable Municipal Building Policy - Combines Health/Comfort, Energy Efficiency and Resilience

Goals:

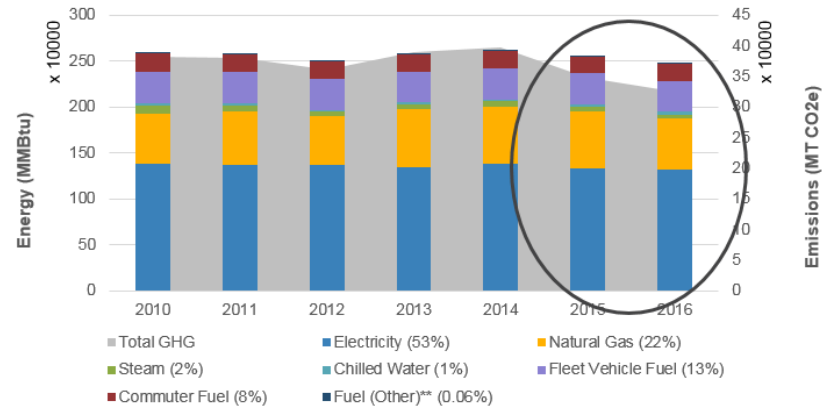
**20% GHG reductions by 2020
over 2010 Baseline Year
45% reductions by 2030**

Progress:

15% reductions (2016)

Non-normalized

**Cleveland Municipal Energy Consumption and
GHG Emissions (2010 - 2016)**

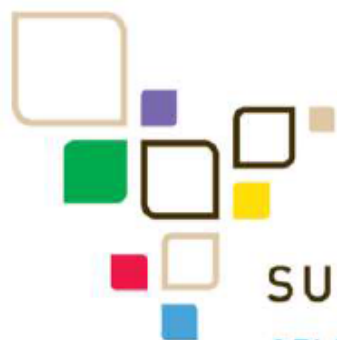


*All percentages for 2016
**Propane and Acetylene

Note: Electricity GHG emissions reported include transition and distribution (T&D) losses from Cleveland Public Power (CPP). CPP T&D losses are not included in energy consumption reported.



Celebrating Our River. Igniting Our Future.



SUSTAINABLE CLEVELAND 2019

CELEBRATING 10 YEARS • BUILDING THE FUTURE

**ARTS & EVENTS
+
DRIVING ACTION
+
CELEBRATING
PEOPLE
+
BEYOND 2019**

Thank you!

Anand Natarajan

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Sustainable Cleveland

Together, We're Building a Thriving Green City on a Blue Lake