MetroHealth Sustainability and Climate Change Initiatives
March 24, 2021

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Sarah O'Keeffe, MBA, EcoDistricts AP
Mom. Spouse. Cyclist. Voter.
Adapter. Advocate. Educator.
Community Member.
Sustainability Director.

MetroHealth

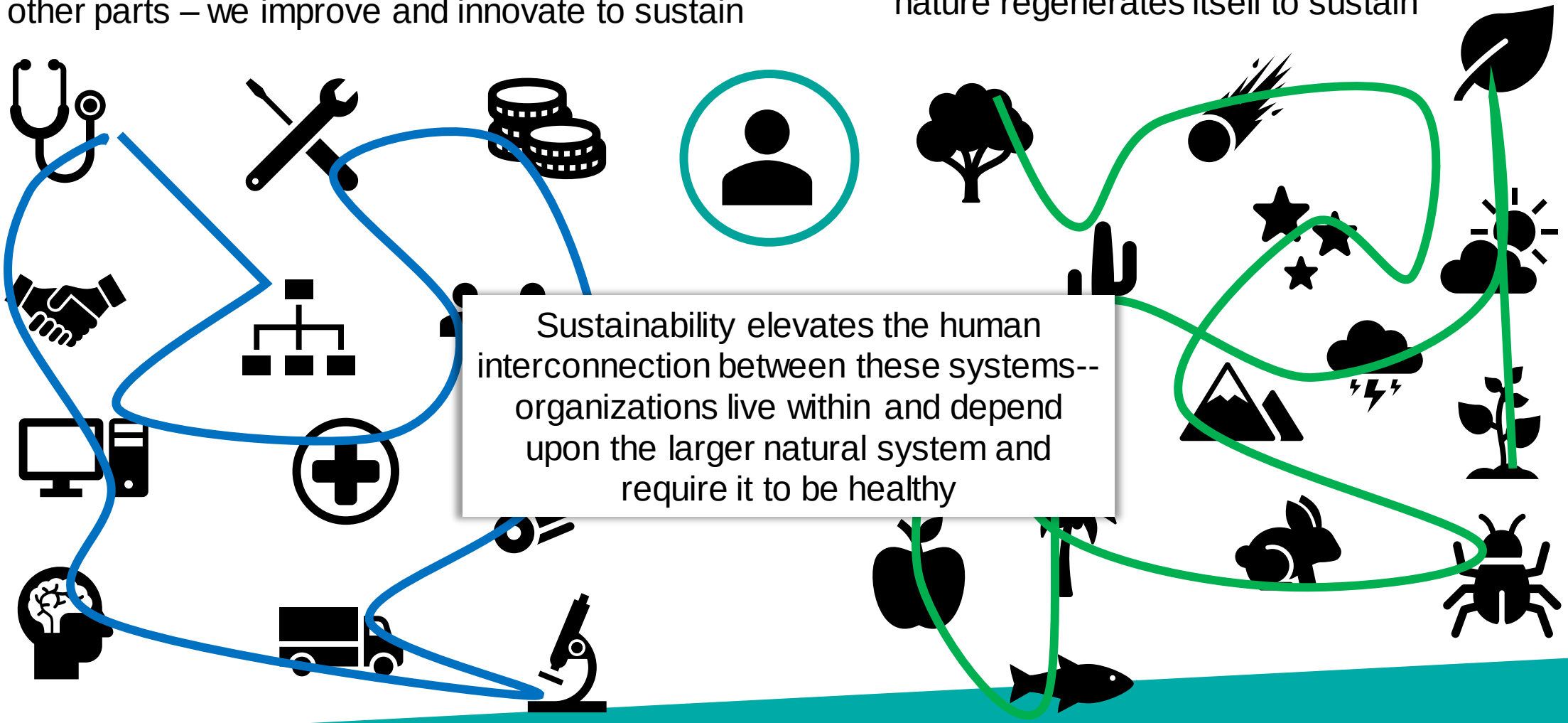
PRACTICE Greenhealth MEMBER

MetroHealth

- Public Health System - 7,800 employees
- 4 hospitals, 20 health centers and 40 additional sites
- 1.45 million visits for 298,000 patients, 64% were uninsured / Medicare / Medicaid
- Main Campus: Level I Adult Trauma Center
- Academic medical center
- $1 billion Campus Transformation, bond funded

What IS “Sustainability”, really?

- Organizational Systems – we create organizations – we recognize each part interacts and affects other parts – we improve and innovate to sustain
- Natural Systems – we recognize that natural systems interact and effect one another – nature regenerates itself to sustain



Sustainability elevates the human interconnection between these systems-- organizations live within and depend upon the larger natural system and require it to be healthy

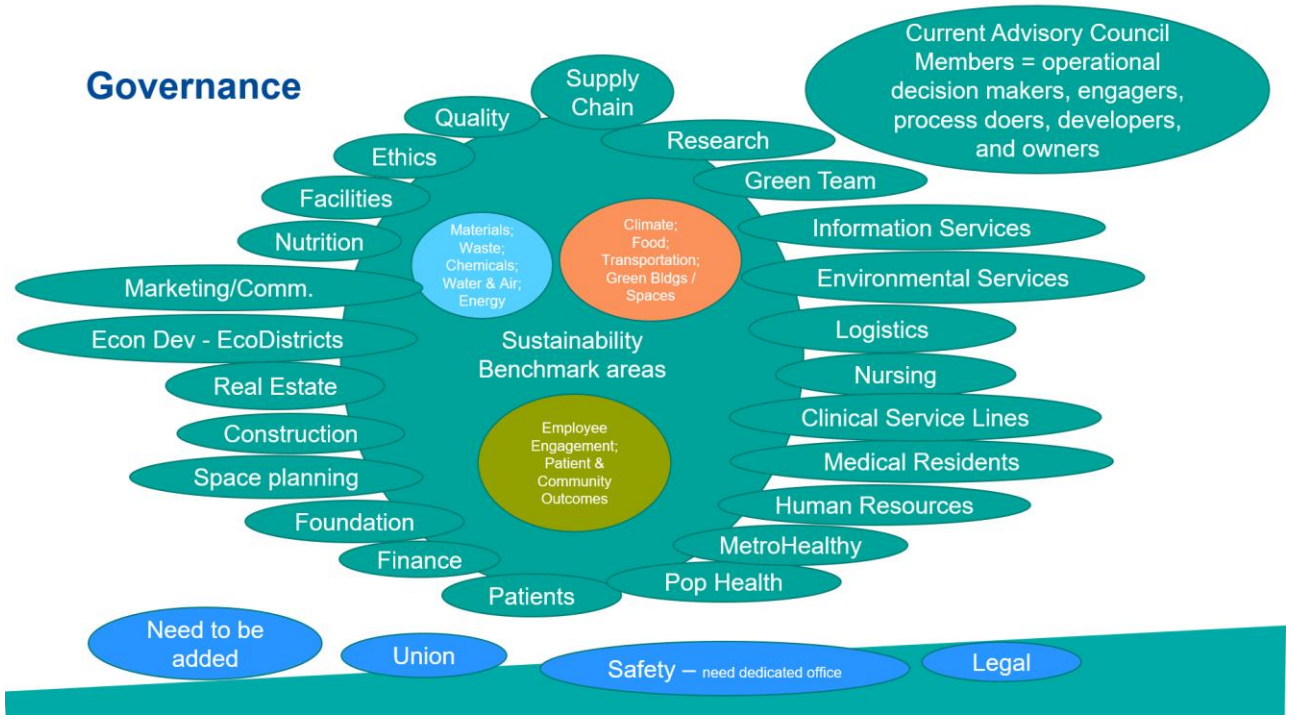
Sustainability at MetroHealth

Environmental Health = Human Health

Stewardship of natural systems is used to:

- Support the health of the overall ecosystem
- Improve the health of patients, staff, community
- Increase operational efficiency
- Change organizational culture

How Sustainability Initiatives are Implemented



- Gather Experts
- Know the Data & the Story / Context
- Engage
- Set Goals
- Track Progress
- Achieve Recognized Benchmarks
- Lead the Way
- Celebrate success

Environmental Sustainability = How MetroHealth uses and protects natural resources to improve human health

The Sustainability Office and Advisory Council set and track goals that protect our air, water, land, climate and communities in these areas:

PRACTICE Greenhealth MEMBER

Internal Employee Sharepoint site

MetroHealth Information Village

INFORMATION | DEPARTMENTS | POLICY & REFERENCE | APPLICATIONS | MEDICAL STAFF

The MetroHealth Information Village > Sustainability

Home

2020 Practice Greenhealth GREENHEALTH PARTNER FOR CHANGE AWARD

Welcome to the MetroHealth Sustainability Office & Program

Healthy people need healthy environments. Our Award-winning Sustainability program advances human wellness and builds resilience in our healthcare system and communities through the protection and thoughtful use shared resources such as water and energy, and engaging employees and leaders at all levels to set and reach our goals.

Links

- MetroHealth Employee Transit Program
- REDUCE
- RENEW
- ✓ RETHINK
- REUSE

“Rethink” page = downloadable presentations, webinars, tips

MetroHealth Information Village

Sustainability

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- Sustainability Home
- Green Team Employee Bu...
- What is Your Sustainabilit...
- How Sustainability Impac...
- Office Recycling Program
- Reduce
- FREE MetroHealth Emplo...
- Reuse
- Renew
- Rethink
- Calendar
- Site Contents
- Edit

Sustainability Webinars, Downloads and Tips to Share With Others

Lunch and Learn Webinars

October 8, 2020

Let it Rot - Backyard Composting Guide

“What does Sustainability have to do with me?”

Your actions matter! Break Out Session – 10 minutes

Stand up and Stretch! Introduce yourself to your peers

Name, 1 choice you can make at Work, at Home

How can I…	Choices to make (1) at Work (2) at Home
…make less trash?	
…use less energy and water?	
…act on climate change? *everything above helps!	
…get help “going green”?	

gohio commute
A Smarter Way

MetroHealth
Green Team

Question – Answer in the Chat

What did you find surprising (something you didn't know before taking this course) or inspiring about climate change or taking action on climate change?

MetroHealth Sustainability – 2020 Efforts

Employee, Clinical Engagement	Waste	Energy & Climate	Community & Outreach	Accolades & PR
Anesthesia Grand Rounds (40 clinicians) – Jan	Haz Waste $32k/year cost avoidance	Carbon Footprint: Greenhouse gas emissions report	USGBC OH Women In Green webinar (50)	2020 Paradox Prize Award – $98k earned
Earth Day 50 (75 staff/clinicians) – April	OH EPA Recycling Grant submitted $100k Feb	Anesthetic gases Epic report for QI project	2030 District: Water Webinar (50)	2020 Partner for Change Award – Main Campus
Medicine Grand Rounds (75 clinicians) – April	Red bag waste treatment analysis & due diligence ($224k annual cost avoidance projected)	Kill A Watt (MIV – 5% Reduction in Energy Demand) – August	Clark-Fulton Together Action Week Nov – (80)	2020 World's Most Ethical Company
Commuter Survey (500 employees) – November		EV Charging station grant submitted $100k – Oct	MetroHealth/Clark-Fulton EcoDistrict – Stakeholder Engagement; Core Team Member; 2nd certification phase complete	Dec 2020 – Paradox Prize video
Transit Pilot Program (28 enrolled for 1 year) Nov/ Dec	Waste Advisory Committee formed (12 departments)	Carbon Footprint & Climate Sensitive Diseases (A.Sehgal)		2020 Practice Greenhealth GREENHEALTH PARTNER FOR CHANGE AWARD

What is the Face of Climate Change?

Source: Climate change is Affecting Our Health – Is there a cure? Jonahtan Patz – University of Wisconsin, TEDxOshkosh

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Source: Climate change is Affecting Our Health – Is there a cure? Jonahtan Patz – University of Wisconsin, TEDxOshkosh

Human Health Impacts of Climate Change

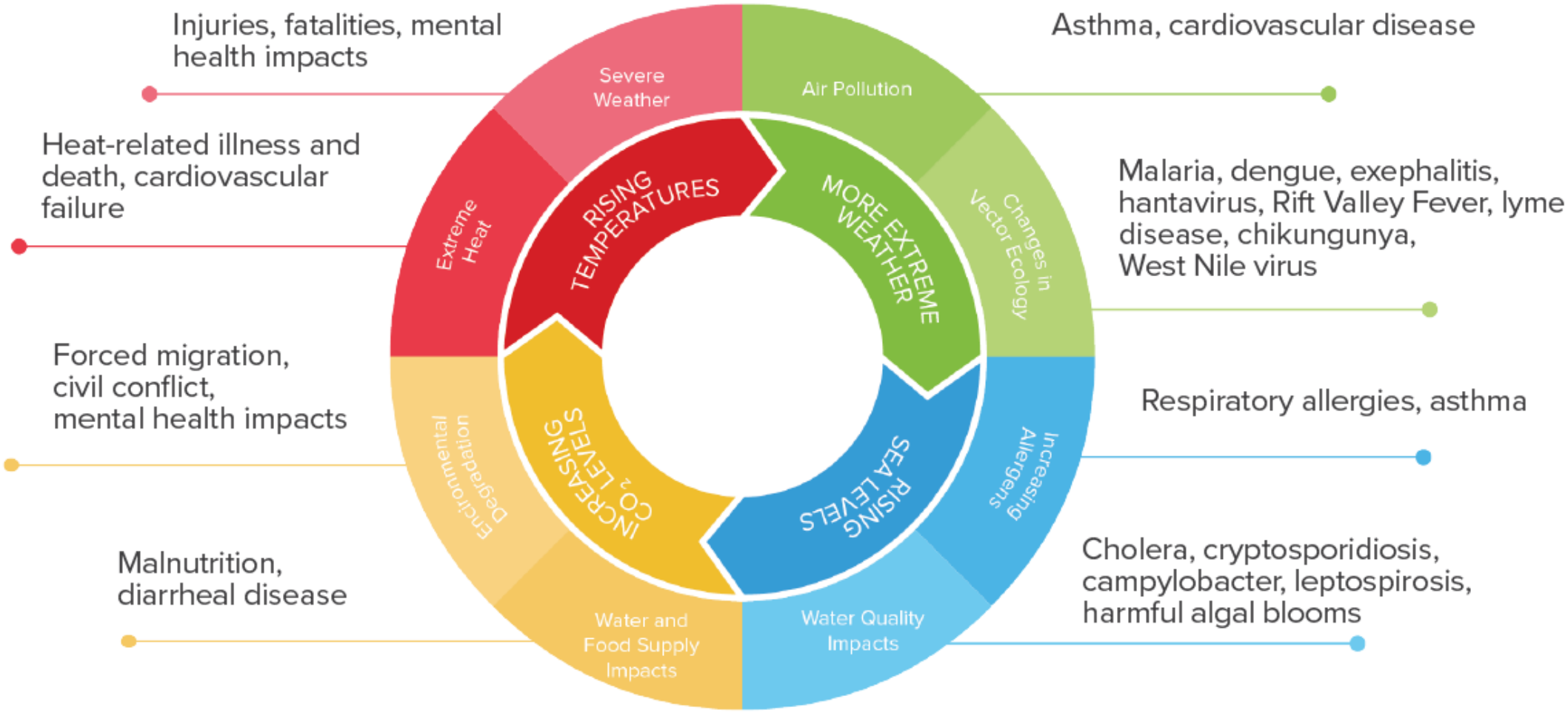
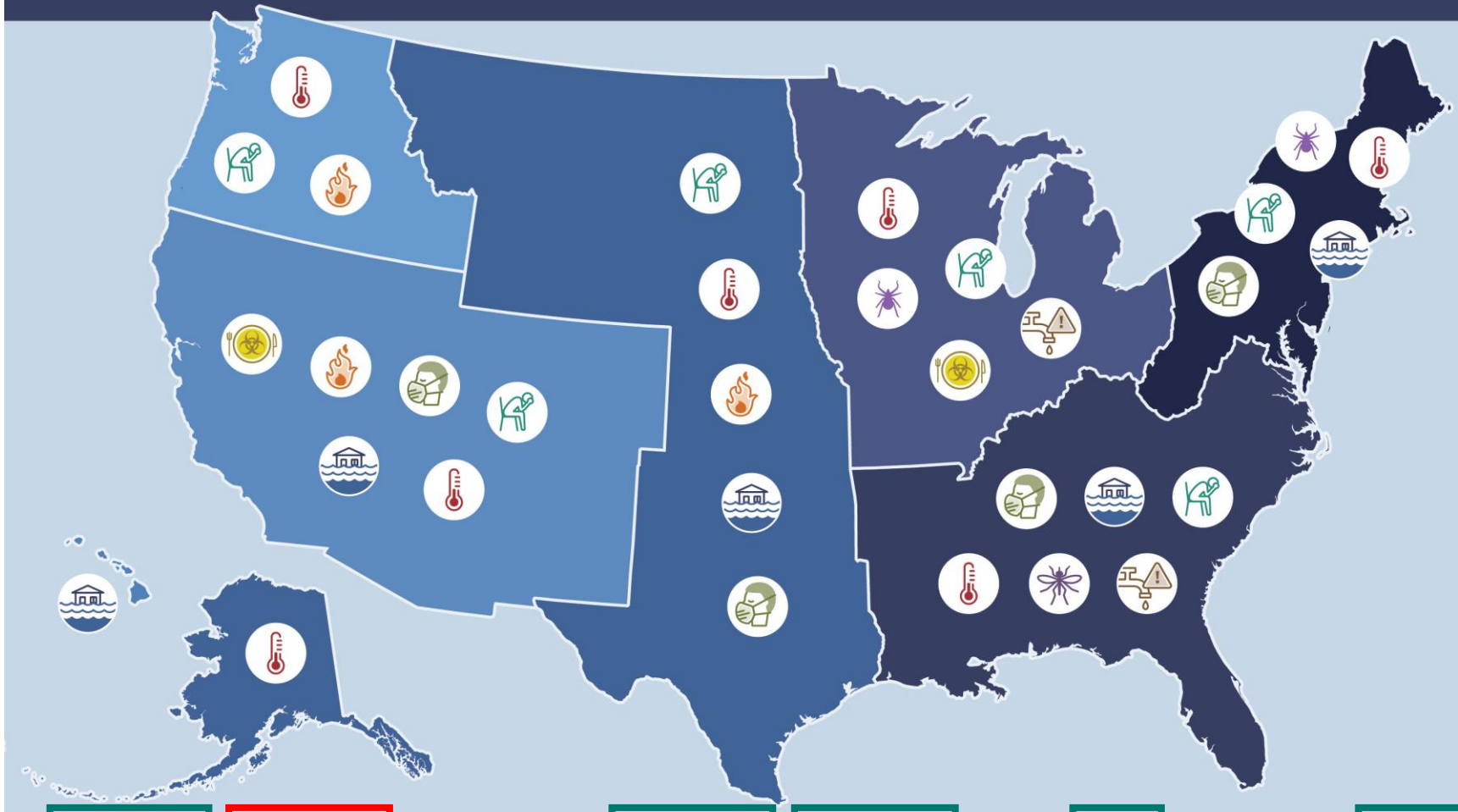


Figure 1: Impact of climate change on human health (Source: U.S. Centers for Disease Control and Prevention)

How Our Health is Harmed by Climate Change:
Impacts Differ by Geographic Region

The Medical Society Consortium ON CLIMATE & HEALTH



Extreme Temperatures

Outdoor Air Quality

Extreme Events
Flooding, Hurricanes, Storms, Drought

Food-Related Infection & Agriculture

Water-Related Infection

Mosquito- and Tick-Borne Infections

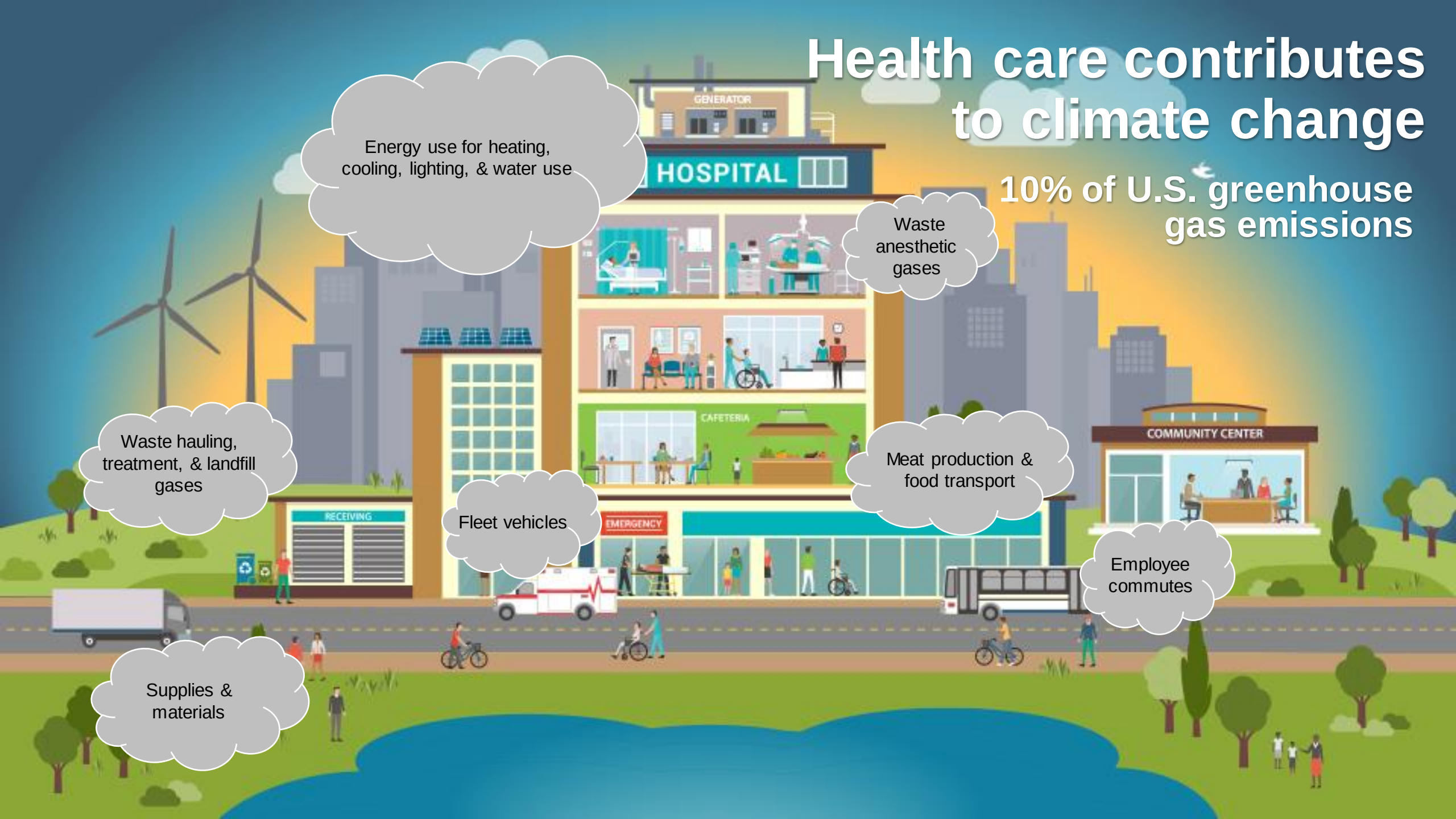
Wildfires

Mental Health & Well-being

This graphic illustrates key impacts of climate change on health and is based on reports from the U.S. Global Change Research Program. For more information, visit www.globalchange.gov.

Health care contributes to climate change

10% of U.S. greenhouse gas emissions



Gundersen Health – Wisconsin
July 2, 2014 – Near total energy independence; 95% decrease in GHG emissions by Oct 2014

Zero Net Energy
Portfolio Case Study

OVERVIEW

Portfolio Details

Location: Headquartered in La Crosse, WI

Climate Zone: 6A

GUNDERSEN HEALTH SYSTEM

Overview

Gundersen Health System is the largest portfolio of buildings
net energy performance on a district wide scale in North Ame
new and existing buildings and spanning more than 2.5 millio
area, Gundersen has consistently worked towards achieving
with increasing success. Hospitals account for only 2% of co
in the U.S. but use 5.5% of all commercial building energy[1]. C
energy portfolio of health-care facilities in a challenging climat
makes this achievement all the more impressive.

Project Goals

Gundersen Health System first announced a goal to control ri
and improve the health of the local community in 2008. To rea
Gundersen has focused on two initiatives which work hand-in
achieving energy independence. First, and most important, G
resource consumption through a portfolio-wide focus on ener

Measured Energy Stats

141 - 109 = 32

BUILDING'S TOTAL EUI	RENEWABLE PRODUCTION RPI	BUILDING'S NET EUI

Site Energy Use Index (EUI) kBtu/SF/year

The Energy Equation: **the building energy use** *minus* **the renewables production** *equals* **the net energy of the building**. Buildings may be 'Getting to Zero' and have a net EUI above zero. If renewable production exceeds energy use its net

https://new buildings.org/w p-content/uploads/2016/10/ PortfolioCaseStudy

ASHE HEALTH FACILITIES MANAGEMENT

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DESIGN CENTER QUICKLINKS

Architecture Construction Engineering ES Interior Design Operations Products Regulatory

HFM'S INTERVIEW

A sustainable mission

Gundersen nears total energy independence

July 2, 2014 | Jeff Ferenc

As Gundersen Health System reaches the zenith of sustainability, **Jeffrey E. Thompson, M.D., CEO**, *explains how attaining this goal — the first health care system to do so — really is about patient health.*

Photo by Jim Tritch/Gundersen Medical Media

For Gundersen Health System, La Crosse, Wis., energy efficiency and sustainability nirvana is within sight. Gundersen projects that before the end of the year it will achieve total energy independence, making it the first U.S. health care system to do so, its leaders say.

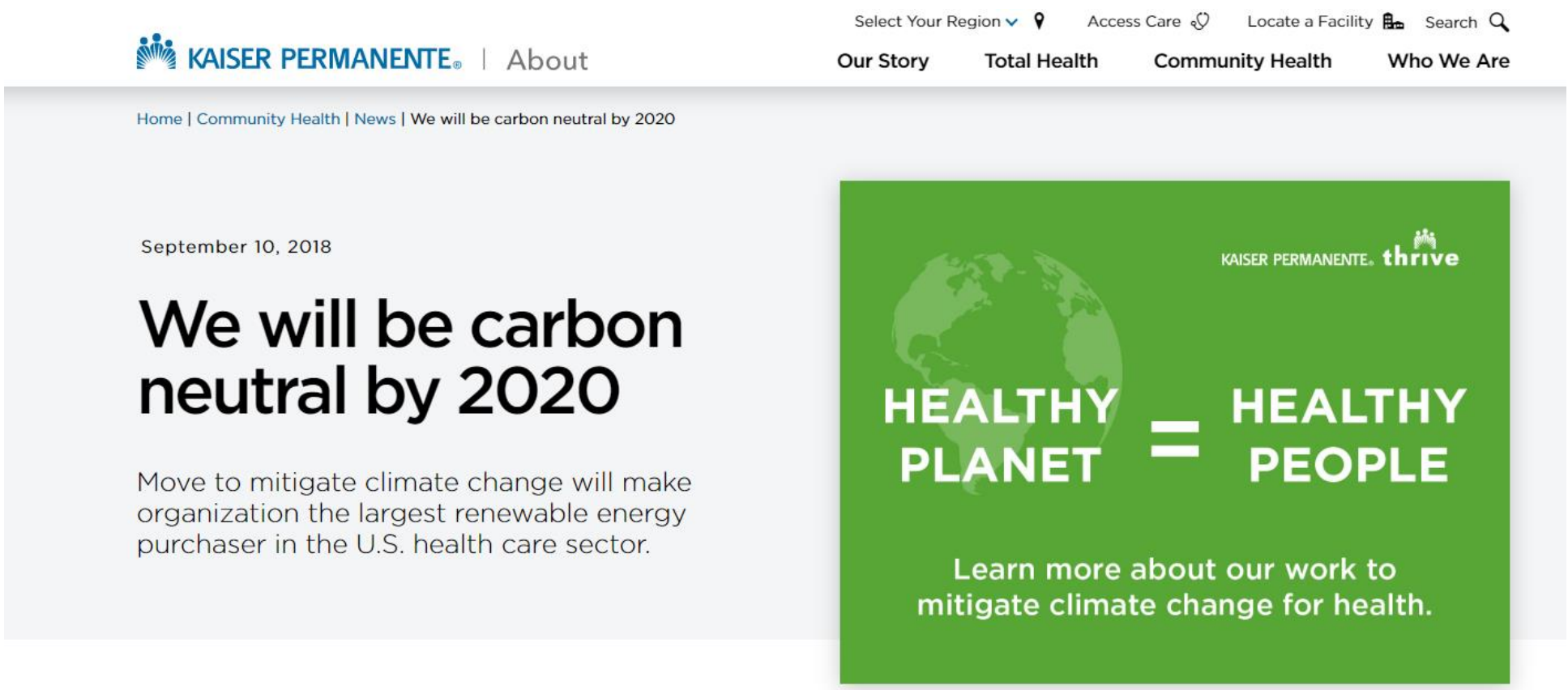
Gundersen, which includes four hospitals and about 75 medical and specialty clinics serving patients in three states, started a program called Envision that provided a broad strategy to offset its energy consumption through conservation and renewable energy projects, most involving local businesses.

In the wake of continually rising energy costs, Gundersen conducted an energy audit in 2008. That led to the application of fundamental yet critical conservation measures that

https://w ww.hfmmagazine.com/articles/1322-a-sustainable-mission

Kaiser Permanente
May 17, 2016 – Bold Environmental Goals Pledged for 2025, including carbon net positive—beyond carbon neutral

Kaiser Permanente pledges that by 2025 it will:



The Cleveland Clinic
November 30, 2017 – Carbon Neutral by 2027 (Scope 1 & Scope 2) through energy efficiency, employee behavior, renewable energy purchases

MarketScale

Watch: Carbon-Neutrality Is The Newest Sustainability Goal For A Cleveland Clinic

By **Emily Rector** - January 24, 2018

Share on Facebook | Share on LinkedIn | Tweet on Twitter

Cleveland Clinic is expanding successful energy-saving strategies it has implemented and has purchased renewable energy to reach its goal of being carbon-neutral in 10 years. The effort has encompassed energy and water-reducing strategies, energy-efficient facility design, environmentally friendly purchasing and

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SUSTAINABILITY

Cleveland Clinic makes carbon-neutrality its newest sustainability goal

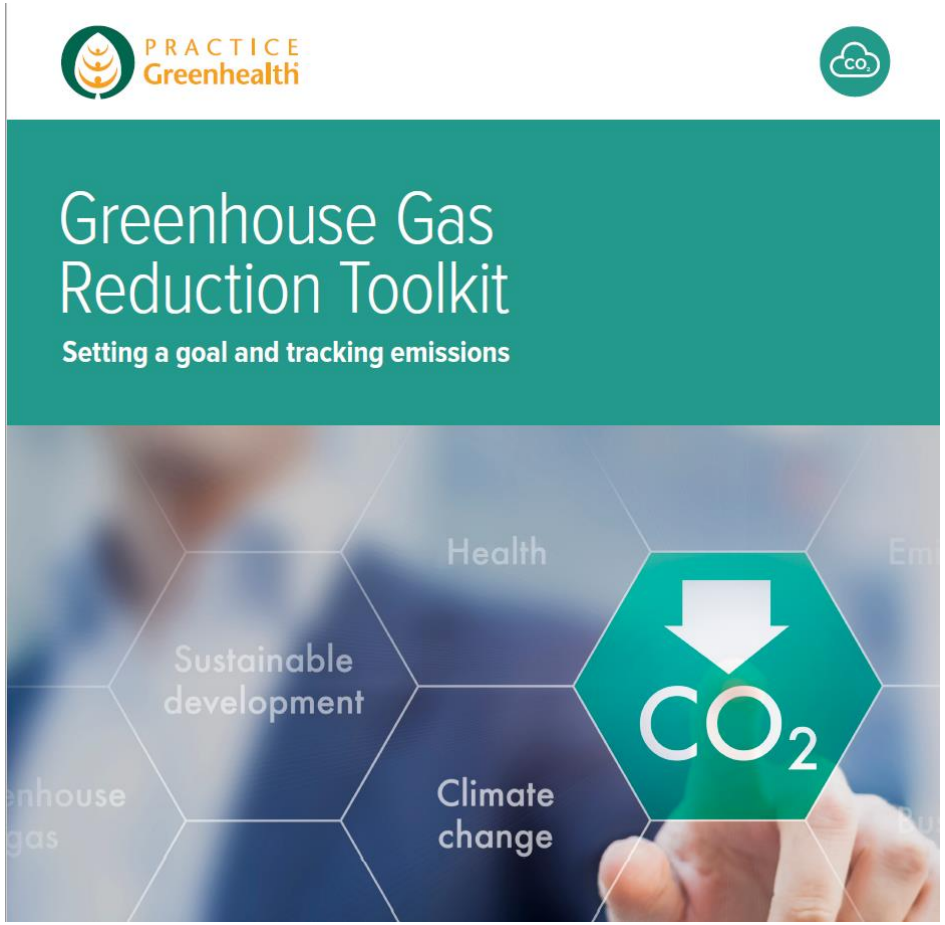
Health system plans to reach goal through renewable energy purchases, continued energy efficiency

November 30, 2017 | Jeff Ferenc

You are an Engaged Leader and Want to Act on Climate Poll

What 3 actions would you prioritize in your health provider's
---- hospital / health system --- or city's climate action plan?

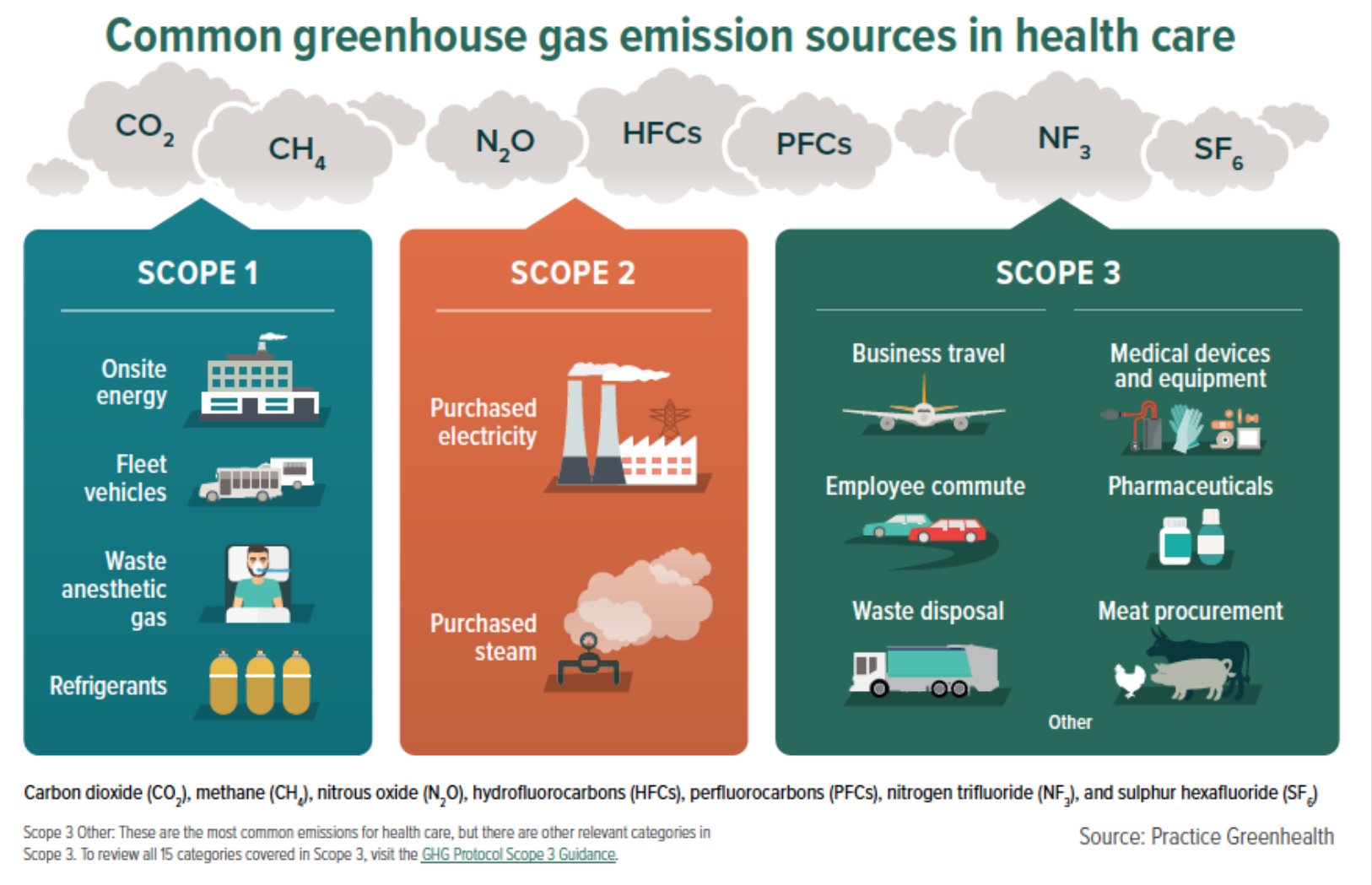
Greenhouse Gas Emissions Reduction – PGH Toolkit & HCWH Resources



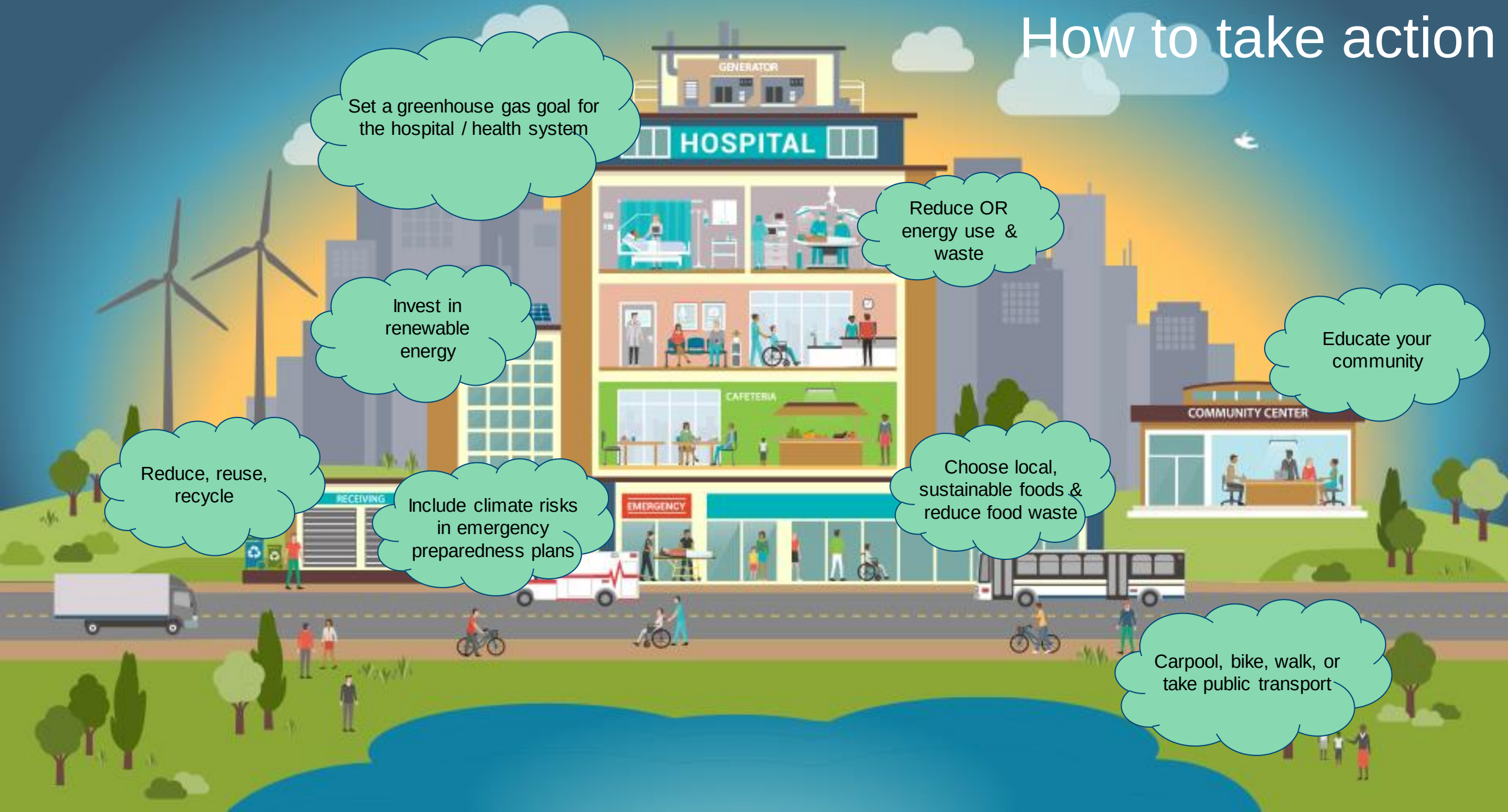
https://practicegreenhealth.org/user/login?destination=/ghg-reduction-toolkit&require=1 *PGH membership required

https://noharm-uscanada.org/HealthyClimate
** Free Access tools available

Scopes defined – specific to Healthcare



How to take action



Connecting GHG Emissions to Sustainability Initiatives and Benchmarking from Practice Greenhealth

The following slides list various metrics in 8 focus areas that MetroHealth Sustainability is tracking against national benchmarks from Practice Greenhealth.

- **“Scope 1, 2 or 3” are listed to indicate an impact relationship to emissions**
- **Tools for impacting metrics listed are also included**
- **MetroHealth is either considering / already using these tools in its efforts to impact its environmental footprint**

Energy Metrics

Energy Use Intensity

Scope 1, 2

% Reduction in EUI from Baseline

Scope 1, 2

Energy Star Score

Scope 1, 2

Facilities, Green Team, IS, Sustainability: Kill A Watt – Demand Response

MetroHealth Information Village

INFORMATION DEPARTMENTS POLICY & REFERENCE APPLICATIONS MEDICAL STAFF

Help Us Save Electricity this Wednesday – "Kill A Watt" Event

A kilowatt is a measure of power or energy. Instead of using kilowatts this upcoming Wednesday afternoon, employees are being asked to "Kill A Watt" by powering down electronic items as part of an energy audit.

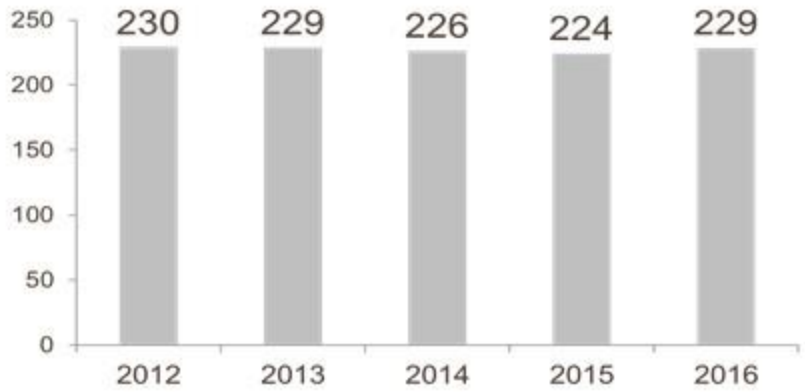
Between 2 and 4 p.m. this Wednesday, MetroHealth employees are being asked to:

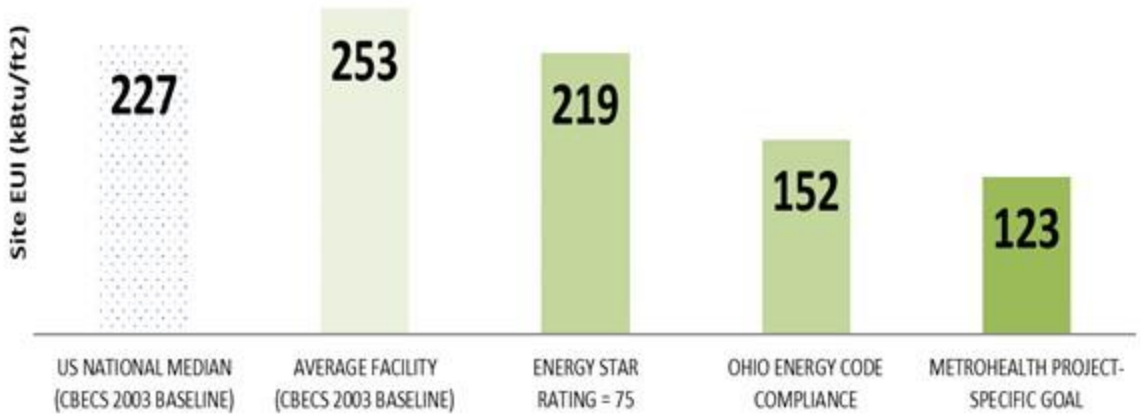
- Turn off unnecessary lights
- Power down unnecessary monitors, projectors, conference room PCs and TV / screen displays
- Unplug your laptop from its dock
- Unplug re-chargeable devices such as cell phones, tablets and Workstation on Wheels (WOWs)
- Print before or after this timeframe

This two-hour event – sponsored by The Office of Sustainability, Facilities Management, the Green Team, and Information Services – is part of MetroHealth's "Demand Response" program.

There are several benefits to participating. "Reducing our electricity demand and use means not only reduced financial costs, but also reduced air pollution and greenhouse gas emissions, as the majority of the electric power MetroHealth gets is currently from coal-fired power plants," says Sarah O'Keeffe, Director, Sustainability.

The environment and health are intertwined. According to Health Care Without Harm, air pollution from coal plants affects respiratory and cardiovascular systems,


250
200
150
100
50
0
230
229
226
224
229
2012
2013
2014
2015
2016


Site EUI (kBtu/ft2)
227
253
219
152
123
US NATIONAL MEDIAN (CBECS 2003 BASELINE)
AVERAGE FACILITY (CBECS 2003 BASELINE)
ENERGY STAR RATING = 75
OHIO ENERGY CODE COMPLIANCE
METROHEALTH PROJECT-SPECIFIC GOAL

Greening the OR Metrics

% Kit Reformulation

Scope 3 (supply chain)

Lb of Devices Collected for Reprocessing per OR Procedure

Scope 3 (waste)

% Rigid Sterilization Containers

Scope 3 (waste)

% ORs with HVAC Setback

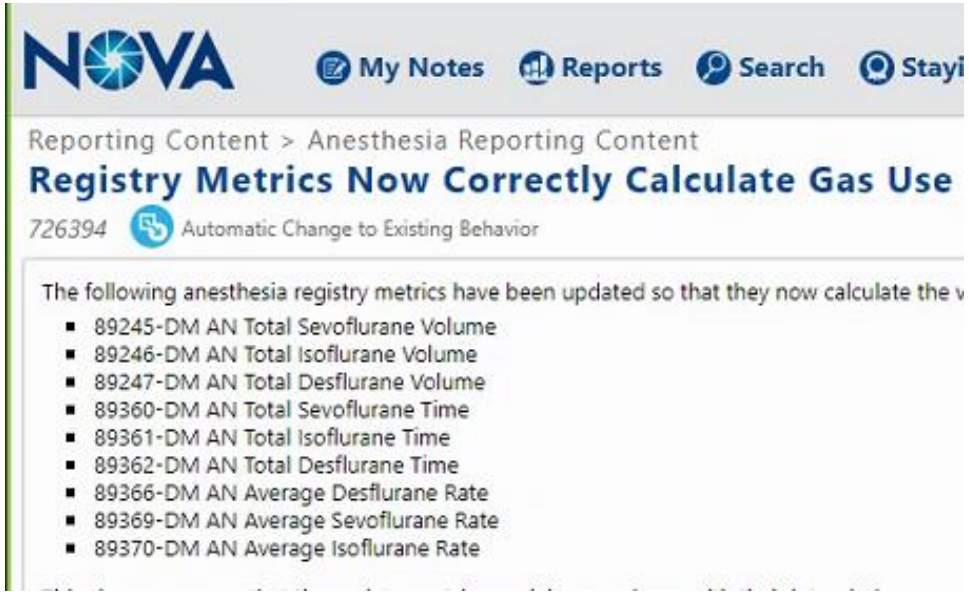
Scope 1

% Change in GHGs from Anesthetics

Scope 1

Anesthesia: Inhaled Anesthetic Gas Project

Reducing Greenhouse Gas Emissions and Financial Costs – Choices for Providers



Sustainability - 2018 vs 2019 impacts based only on purchases

- 2% decrease in overall carbon footprint at main campus (Scope 1 & 2, partial), mainly due to changes in anesthetic agents used

Anesthesiology Team: QI Project for trends, behavior change

- Augusto Torres, MD – Residency Director
- Marcos Izquierdo, MD
- Charlie Johnson, Chief Anesthetist
- Residents - Drs. Andrew Phan & Wesley Dougall

Dr. Torres:

- *Goal not set, yet - Maybe reduce by 30% or more*
- *Epic Data team key to this project*

Waste Metrics

% Recycling

Scope 3

% RMW

Scope 3

RMW tons/OR

Scope 3

Lbs of Total Waste/Patient Day

Scope 3

Tons of Total Waste per OR

Scope 3

MetroHealth Recycling Program

Green Bin

(Central area, emptied regularly)

Recyclables

- **Empty** metal cans
- Paper and Cardboard
- **Empty** plastic bottles

Blue Bin

(Deskside, you empty when full)

Paper and Cardboard

- Non-confidential office paper
- Envelopes
- Glove/tissue boxes

7th Annual Office Supply Swap Meet – 9/11/20 (Main) and 9/16/20 (OBC, Brooklyn Heights)

7th Annual!

MetroHealth

Office Supply Swap Meet 2020

Friday, September 11, 2020

- Do you want to clear space in your area and get rid of un-used supplies and obsolete office equipment?
- Is there a stash of supplies in your area that you'll never use?
- Are you looking for a particular office supply item that you can't find?

If you answered "YES" to any of these questions, please plan to attend our 7th Annual Office Supply Swap Meet on Friday, September 11, in the R-172 rooms at Main Campus!

Many departments have excess office supplies, equipment or items that take up space and collect dust. That's why several groups have teamed up to host the Office Supply Swap Meet.

Donation* hours:
- Monday – Friday, September 7-10 (24/7) R-172-D
  and
- Friday, September 11, 9:30 – 11:30 a.m. in R-172 G/H

Shopping hours: Friday, September 11, 12:30 – 2:30 p.m. in the Rammelkamp 172 Rooms

*Reduce clutter * Save money * Recycle/redistribute supplies & equipment to reduce waste*

Event Sponsors: MetroHealth Green Team and the Office for Sustainability
For more information contact: Sarah Spengler: sspengler@metrohealth.org

*Donations can include (but are not limited to):
- Old letterhead and other scrap paper
- Filling supplies and envelopes
- 3-ring binders
- Adhesive labels
- Hanging files and file folders
- Desk accessories
- Computer cables, toner and peripherals
- Old telephones, dictographs, calculators
- Scissors, tape dispensers, staplers
- Rubberbands (for the Mail Room)

*A prize will be awarded to the department that donates the most items! – Take a photo of your donation and email it to sspengler@metrohealth.org

Swap events at OBC & Brooklyn Hts. Sept 16

MH Green Team Event

MetroHealth Green Team

Main:

Donations will be accepted in R 172-D starting Monday, September 7th through the morning of the 11th

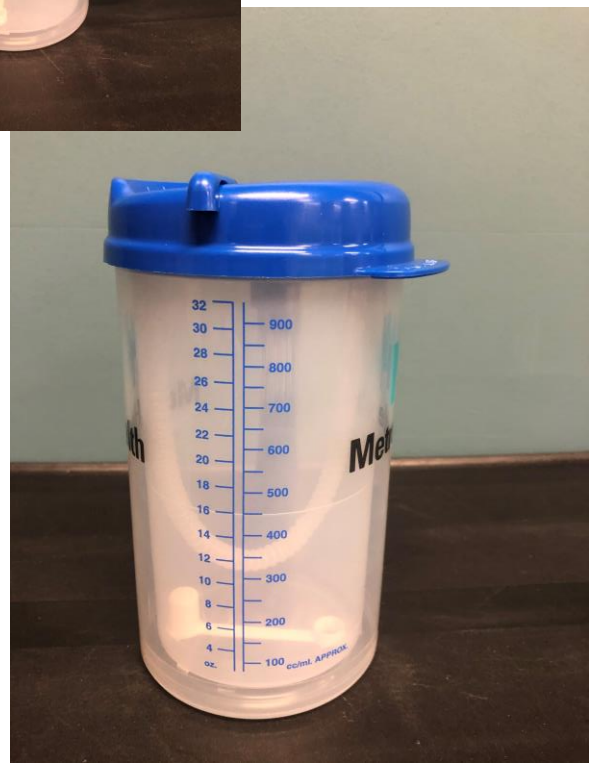
Event Location: R-172 Rammelkamp room**s**: A/E, G/H, B, D and F.

OBC: Terrace level, T-65

Brooklyn Heights: Building A, Ground floor

Patient Experience and Nursing

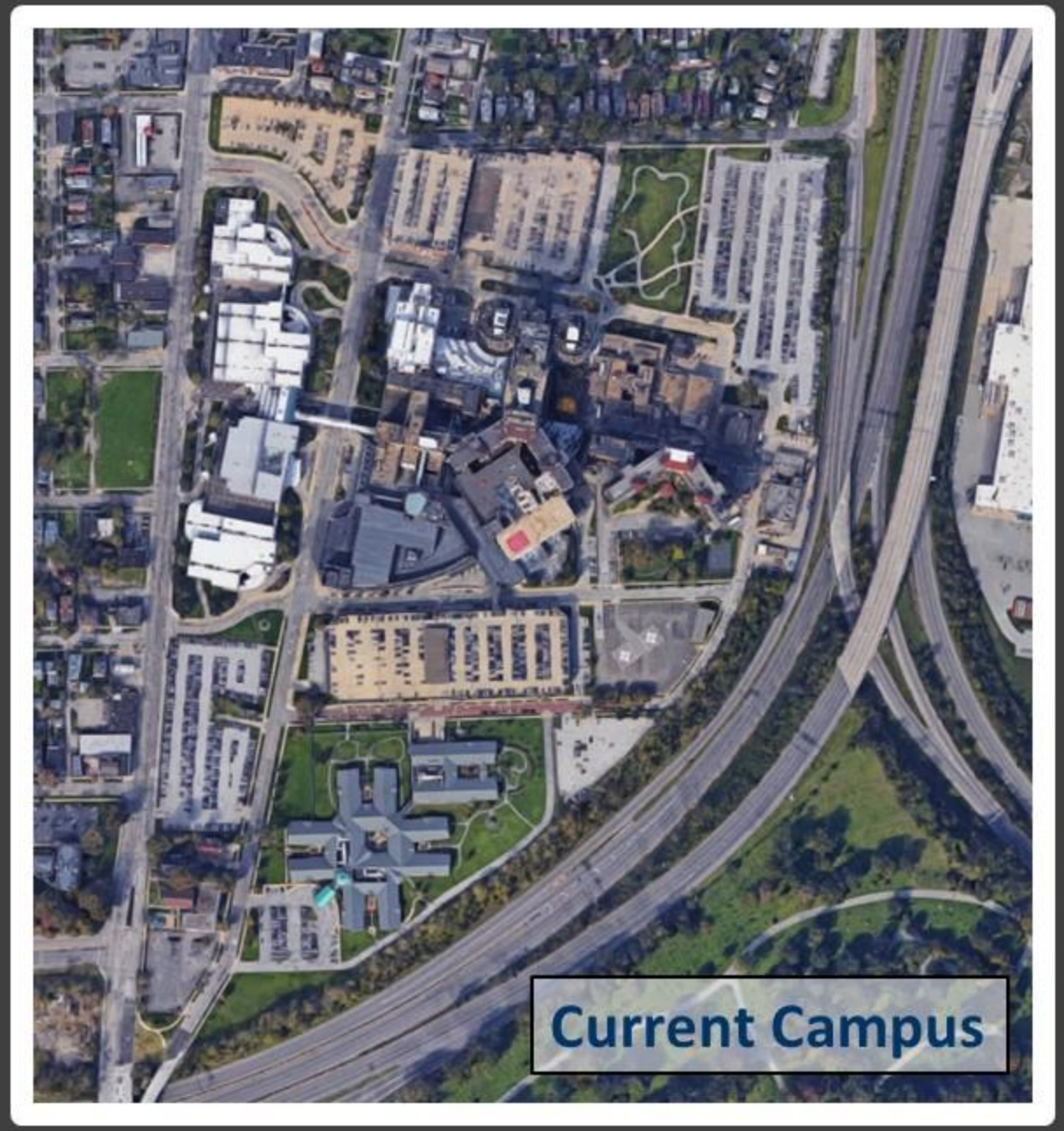
Reusable vs. Disposable

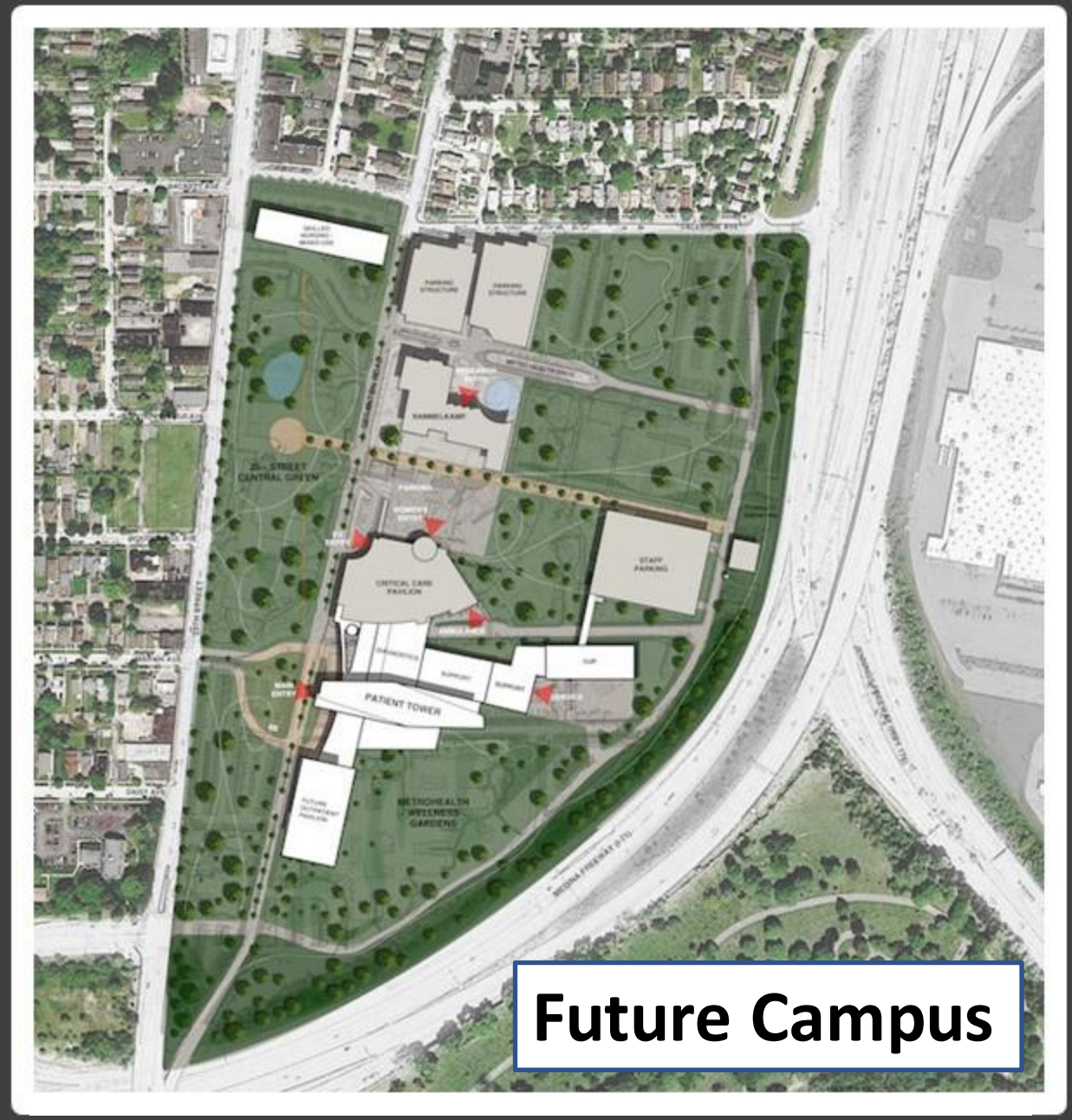


- Improve patient experience
  - Almost 1:1 replacement 28 oz vs. 32 oz
  - Visual for how much water patient has consumed
- Reduce steps / labor to refill cup from pitcher
- Decrease waste over 1 year ~
  - Cups – 401,091 (3/day/patient)
  - Pitchers – 24,220 (1/patient)
  - Straws – eliminates disposable straws
- Co-benefits
  - Useful, reusable, branded

Green Building Metrics

% C&D Waste Recycled

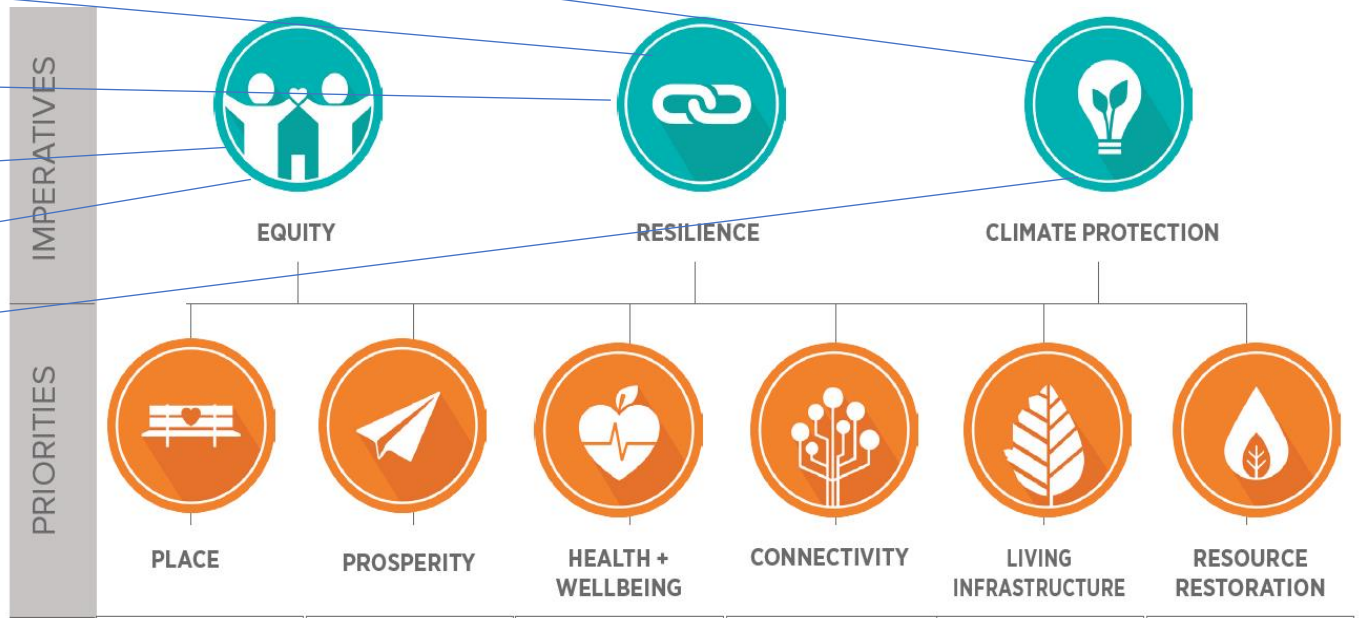

Current Campus


PATIENT TOWER
METROHEALTH WELLNESS GARDENS
Future Campus

MetroHealth

EcoDistricts®

- Central Utility Plant
- Emergency Surge Capacity
- Stormwater Management
- Affordable Housing
- Digital Connectivity
- Transportation



U.S. GREEN BUILDING COUNCIL LEED SILVER USGBC

INTERNATIONAL WELL BUILDING INSTITUTE WELL

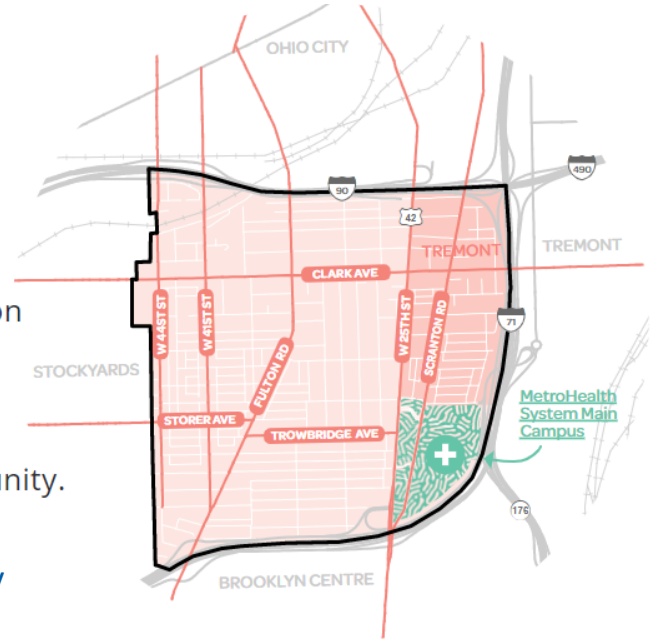
MetroHealth

Juntos!

create a resident-driven master planning vision for the Clark-Fulton neighborhood.

a vision that will help transform Clark-Fulton into a more healthy, equitable and sustainable community.

https://clarkfultontogether.com/



METRO WEST
COMMUNITY DEVELOPMENT ORGANIZATION

CITY OF CLEVELAND OHIO

CLEVELAND foundation

RTA

25 Connects

Food Metrics

% Change in Meat Use (by weight)

Scope 3

% Change in GHGs from Meat

Scope 3

% Sustainable Meat (by weight)

Scope 3

% Spend on Sustainable Food & Beverages

Scope 3

% Spend on Local Food & Beverages

Scope 3

% Spend on Healthier Beverages

N/A

% Food Waste Reduction

Scope 3

Plant Forward Food = Lower Carbon Emissions

2019 - MetroHealth Vegan Inpatient Menu
2020 - Vegan / Vegetarian dishes daily in café

"Plant-forward is the most delicious "quadruple" bottom line approach that health care can take – achieving social, environmental, and financial goals while providing great-tasting food."

https://practicegreenhealth.org/plantforwardfuture

https://practicegreenhealth.org/coolfoodpledge

Spanish Vegan Frijoles
with Plantain Chips

Recipe Created By:
MetroHealth's Sous Chef Erieberto Caraballo

Ingredients:

2 (15oz.) cans black beans
2 (15 oz.) cans pinto beans
2 (15 oz.) cans garbanzo beans
½ cup green olives, sliced or chopped
1 whole red onion, finely diced
2 red peppers, diced
½ cup chopped fresh cilantro
¼ cup chopped fresh parsley
4 cloves garlic, chopped
½ cup olive oil
2 lemons, juiced
Kosher salt, to taste
Pepper, to taste

Health Care Without Harm
Culinary Contest – Nov 202
Top 5 Finalist

Instructions:

1. Strain and rinse cans of black beans, pinto beans and garbanzo beans; place in a large bowl.
2. Combine green olives, red onions, red peppers, fresh cilantro, fresh parsley, garlic, olive oil and lemon juice with beans.
3. Season with kosher salt and pepper to taste.
4. Serve as is or with plantain chips, which can be found at your local Latin Foods store.

MetroHealth

ATRIUM Café

Try our New Composed Salad!
Spanish Vegan Frijoles
with Plantain Chips

Now Available at the
Grab and Go Coolers!

Featuring authentic Latin flavors with black beans, pinto beans, garbanzo beans and fresh cilantro served with plantain chips!

Enjoy the Flavors of our Community and Reach your MetroHealthy Goals!

$3.50

Transportation Metrics

Employee Commuting Survey

% employees Single Occupancy Vehicle commute

Vehicle Miles Traveled

Scope 3

Fleet Vehicle Emissions

Scope 1

Remote Work – Estimated Environmental and Human Health impacts

- 640 remote work employees – August 2020 (snapshot)
- Decreased greenhouse gases impact: 4,015.8 metric tons CO2e avoided

- Decreased Waste = 2,737.92 lbs/day
- Decreased Waste disposal costs = $301/day avoided

FREE Employee RTA Transit (Bus / Train) Pass Pilot Program

When - Nov 1, 2020 - Oct 31, 2021

Who - Main Campus and OBC employees who might experience transportation challenges getting to work, to appointments, and/or to basic necessity shopping.

*Limited to 40 participants - Register by Oct 30
**Live within ~2 miles of either campus gets priority

Employees will:

• Daily: Use monthly bus/train pass for commuting to work, personal needs

• Weekly (5 min.) enter all trips to/from work in Gohio Commute

• Monthly: Pick-up next month's transit pass, free of charge

• 4 times / year: Give feedback to program for improvement

REGISTER ONLINE: MIV → Information → Sustainability

Questions or do you want to register over the phone?
Call Sarah O'Keeffe at (216) 778-7963

Health sector is making progress

Cleveland Clinic	Carbon neutral by 2027 (Scopes 1 and 2 only)
Memorial Sloan Kettering Cancer Center; NYU Langone Medical Center	NYC Carbon Challenge: Reduce greenhouse gas emissions 50% by 2025 (Scopes 1 and 2 energy only)
Gundersen Health System	100% energy independence from grid
Kaiser Permanente	Carbon neutral by 2020 (Scopes 1 and 2 only) Carbon positive by 2025
Rochester Regional Health	100% renewable electricity
Boston Medical Center; Partners HealthCare	25% by 2020 (Scopes 1 and 2 energy only) 100% by 2050

Questions?

Sarah E. O'Keeffe, MBA, EcoDistricts AP
Director, Sustainability
sokeeffe@metrohealth.org
216-778-9763

MetroHealth

Appendix – Resource Slides

Local, Regional, State and National Resources

- Cleveland_Climate Action Plan 2018_final_reduced.pdf
- Sustainable_Cuyahoga_-_Cuyahoga_County_Office of Sustainability
- Residential_Solar Co-op - Cuyahoga_County_Office of Sustainability
- Cuyahoga_Soil & Water Conservation_District (cuyahogaswcd.org)
- Cuyahoga_Recycles
- Northeast_Ohio_Regional_Sewer District (neorsd.org)
- Ohio_Environmental_Council_|_(theoec.org)
- Great Lakes | U.S._Climate_Resilience_Toolkit
- The_Path to Carbon Neutral Guide_(Health Care Without Harm)
- Practice Greenhealth – sign up for full access to resources using MetroHealth email and member account code

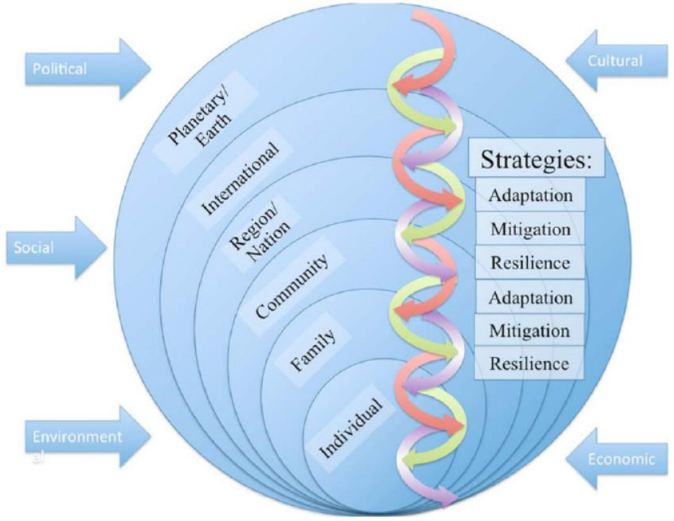
Provider and Nursing Education specific resources

Alliance of Nurses for Healthy Environments

OCCA Ohio Clinicians for Climate Action

CHILDREN'S ENVIRONMENTAL HEALTH NETWORK

NURSES DRAWDOWN



- Alliance of Nurses for A Healthy Environment
- About Us - Ohio Clinicians for Climate Action (ohcliniciansforclimateaction.org)
- EcoHealthy Child Care Endorsement for Providers – Children's Environmental Health Network (cehn.org)
- Nurses Drawdown – A project of the Alliance of Nurses for Healthy Environments and Project Drawdown (nursesdrawdown.org)
- Mandate for the Nursing Profession to Address Climate Change Through Nursing Education - *The Ecological Planetary Health Model* (pictured)

(please email me others and I will include them in future presentations!!)

Practice Greenhealth – Benchmarking Metrics

ENERGY

Energy use intensity (EUI) in kBtus per square foot

% Change in EUI from baseline year

ENERGY STAR score

% Offsite/purchased renewable energy

% Onsite renewable energy

WASTE

% Recycling as a percent of total

% RMW as a percent of total

Tons of RMW per OR

Total waste lbs per patient day

Total waste tons per OR

% C&D waste recycled

https://practicegreenhealth.org/

Practice Greenhealth – Benchmarking Metrics

FOOD

- % Change in meat use from baseline
- % Change in greenhouse gas emissions from meat and poultry
- % Sustainably-produced meat and poultry (by weight)
- % Local food and beverage spend as a % of total spend
- % Sustainable food and beverage spend as a % of total spend

WATER

- Water use intensity in gallons per square foot
- Water use intensity in gallons per cleanable square foot
- Water use intensity in gallons per full-time employee (FTE)
- Indoor water use in gallons per square foot
- Indoor water use in gallons per cleanable square foot
- % Change in water use from baseline year

GREENING THE OR

- % of OR kit types reviewed
- Lbs reprocessed devices per OR procedure
- % of OR kits in reusable sterilization containers
- % of ORs with HVAC setback
- % Change in greenhouse gas emissions from anesthetic gases from baseline

Practice Greenhealth – Benchmarking Metrics

CHEMICALS

- % Green spend on 5 categories of cleaning chemicals
- % Spend on healthy interiors
- % DEHP- and PVC-free product lines
- % Green spend on mattresses*
- % Spend on healthier flooring*

CLIMATE

Total renewable energy as a % of total energy use

- % Change in energy-related scope 1 and 2 greenhouse gas emissions
- % Change in greenhouse gas emissions from baseline year

SUSTAINABLE PROCUREMENT

Average % green spend in targeted procurement areas

TRANSPORTATION

- % Reduction in GHG emissions from owned fleet vehicles*
- % Reduction in GHG emissions from leased fleet vehicles*
- % Alternative fuel fleet vehicles
- % New fleet vehicles using alternative fuel*
- % Top 10 distributors/suppliers that are EPA SmartWay partners*
- % Reduction in SOV rate from baseline

Action by other sectors

Higher education:

- President's Climate Commitment

Business:

- 90% of Fortune 500 companies report to the Carbon Disclosure Project using the GHG Protocol standard
- Power Forward: 48% of Fortune 500 companies have a climate goal. Annual emission reductions from these efforts are the equivalent to taking 45 coal-fired power plants offline for a year.
- 145 companies committed to 100% renewable electricity

States, cities:

- California – SB 100
- Boston – Green Ribbon Commission
- New York City – Mayors Carbon Challenge

American College & University Presidents' Climate Commitment

RE 100

Healthy Interiors

Main goal: elimination of chemicals

Co-benefit: decreased production of chemicals reduces carbon emissions; some products are zero carbon

Current: MetroHealth Furniture Standard for inpatient settings eliminates five classes of harmful chemicals

https://practicegreenhealth.org/topics/safer-chemicals/healthy-interiors

https://noharm-uscanada.org/content/us-canada/list-furniture-and-materials-meet-healthy-interiors-criteria

Considering: Healthy Flooring and Healthy Carpet --- zero carbon products are available

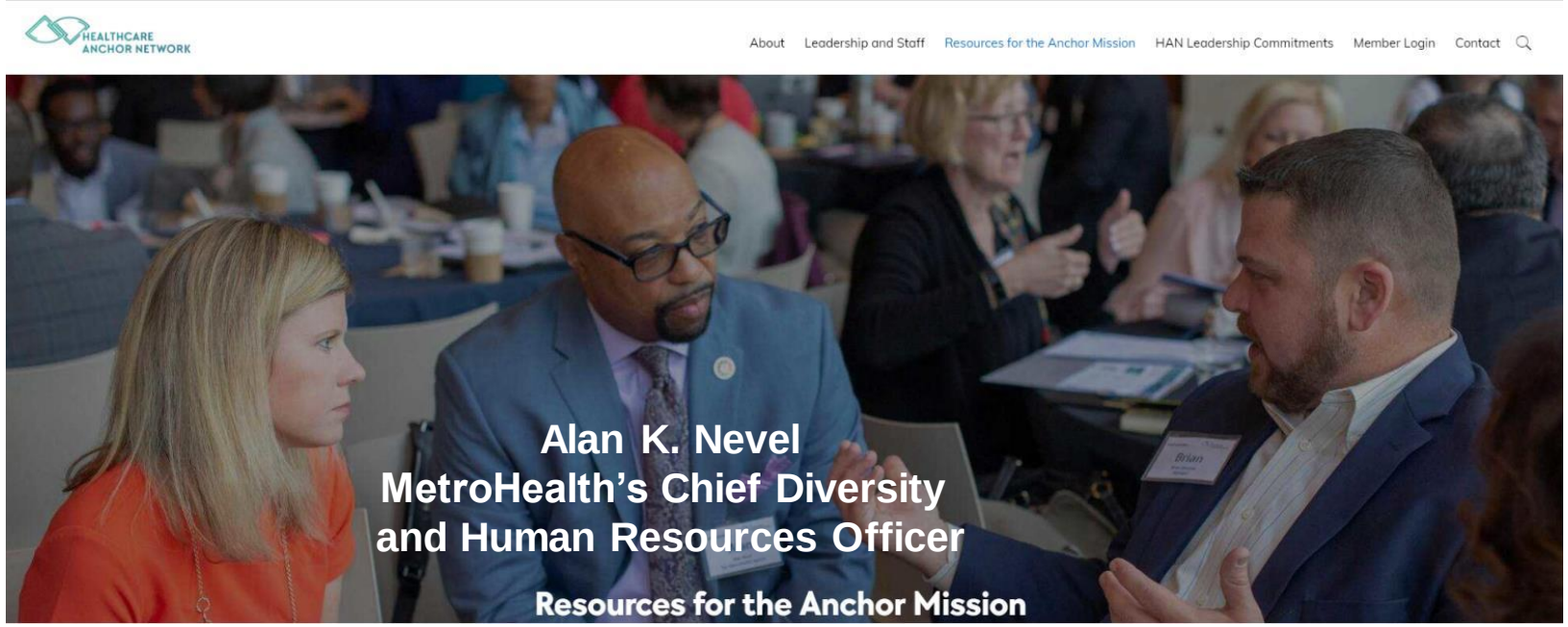
https://practicegreenhealth.org/healthyflooring

https://practicegreenhealth.org/healthycarpet

Healthcare Anchor Network Member & Impact Purchasing

Local & Diverse Hiring, Workforce Development, Affordable Housing, Racism is a Public Health Crisis

https://healthcareanchor.network/about-the-healthcare-anchor-network/



Considering: Additional sustainability goals related to procurement such as a renewable energy target

Reduce, Reuse, **Recycle**

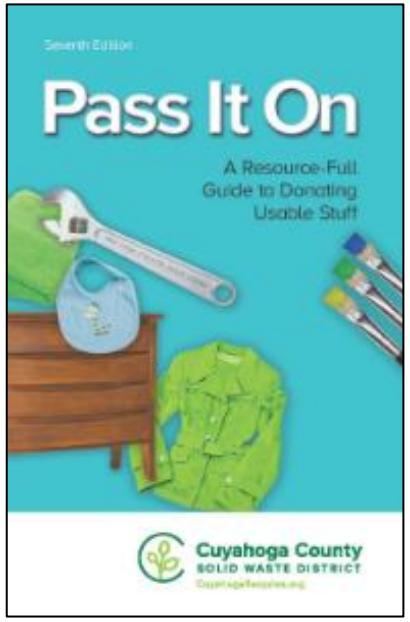
Links:

[Local recycling info on the Sustainability MIV]
[Virtual tours of a Materials Recycling Facility]
[Republic Services Recycling Basics]
[Cuyahoga Recycles - Cuyahoga County Solid Waste District]
[Pass it On – Donation Guide]
[Cuyahoga County Master Recycler Program]

Alternative recycling programs at stores

Reduce, **Reuse**, Recycle

- Choose reusable bags, dishes, cups, napkins, and utensils
- Donate usable goods to MedWish, Salvation Army, Goodwill…
- MetroHealth Office Supply Swap



Office Supply Closet Locations:

- MetroHealth Medical Center – R172F
- OBC – T65
- Brooklyn Heights – Building A, 1st floor (right of the main entrance)

Link: Pass It On book from the Cuyahoga County Solid Waste District

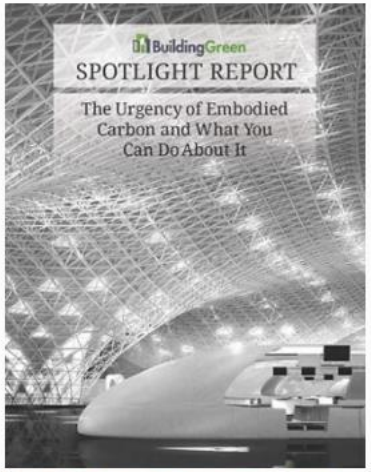
What is Embodied Carbon?

COST in terms of Carbon Emissions

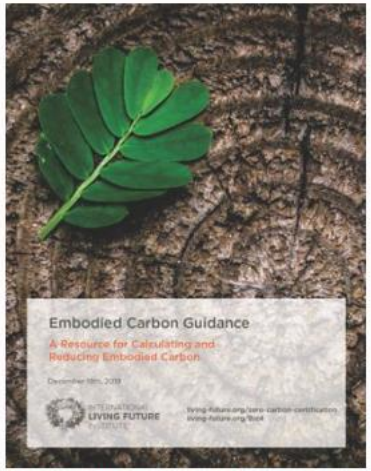
Carbon emissions associated with materials and construction processes throughout the whole lifecycle of a building or infrastructure. Embodied carbon includes:

- material extraction (module A1)
- transport to manufacturer (A2)
- manufacturing (A3)
- transport to site (A4),
- construction (A5)….and so on…

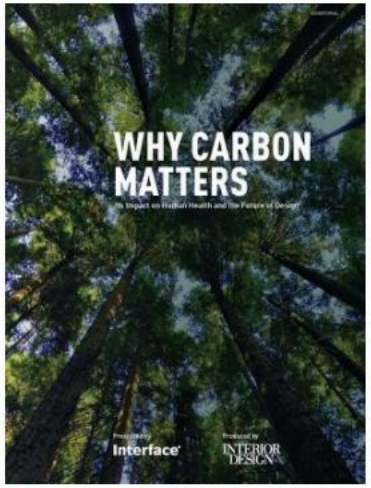
Embodied Carbon Resources



Spotlight Report: The Urgency of Embodied Carbon

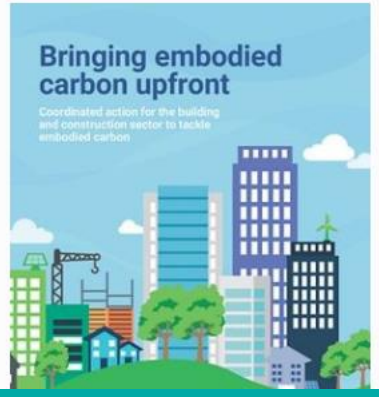


Embodied Carbon Guidance Document



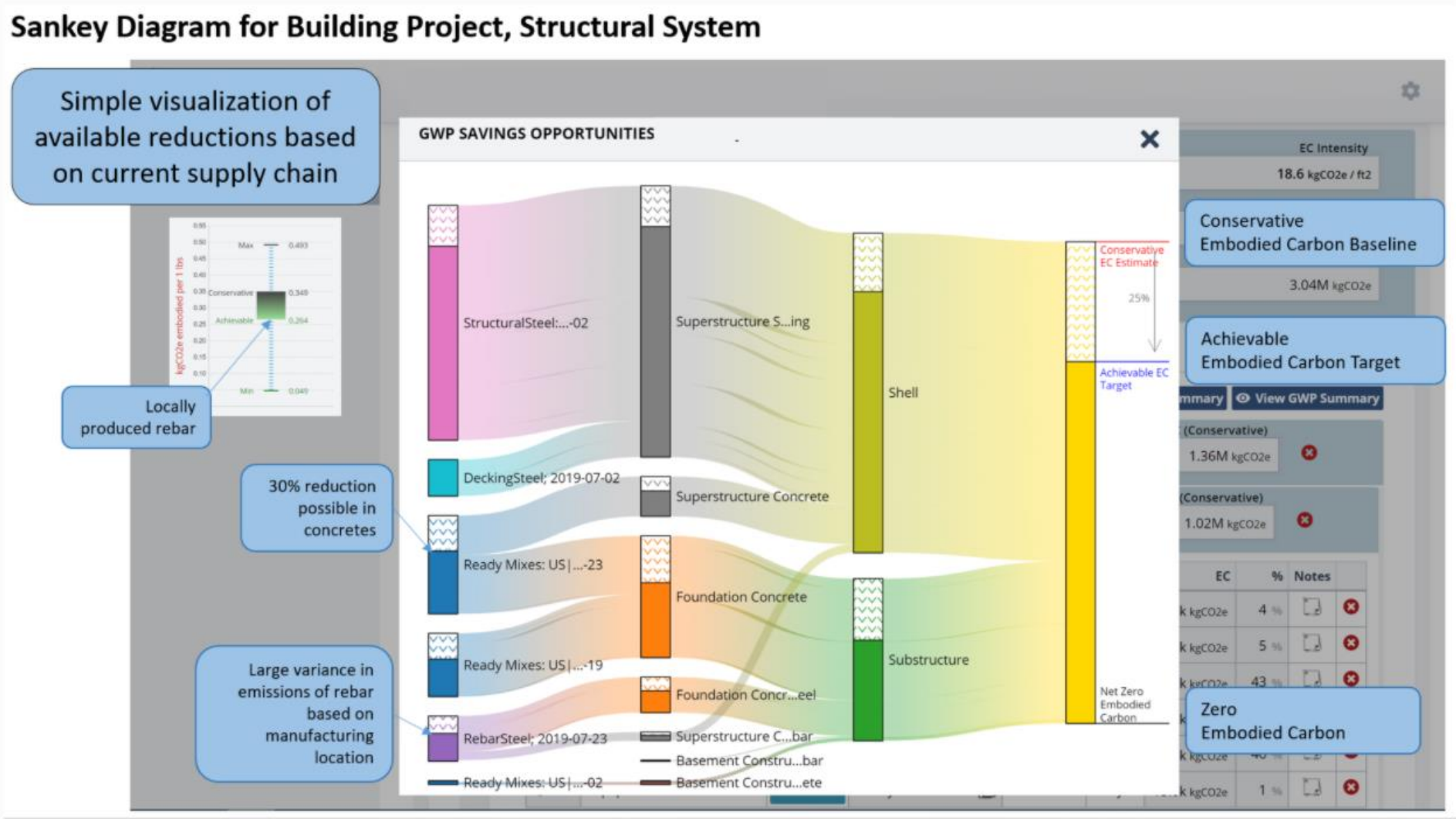
Why Carbon Matters

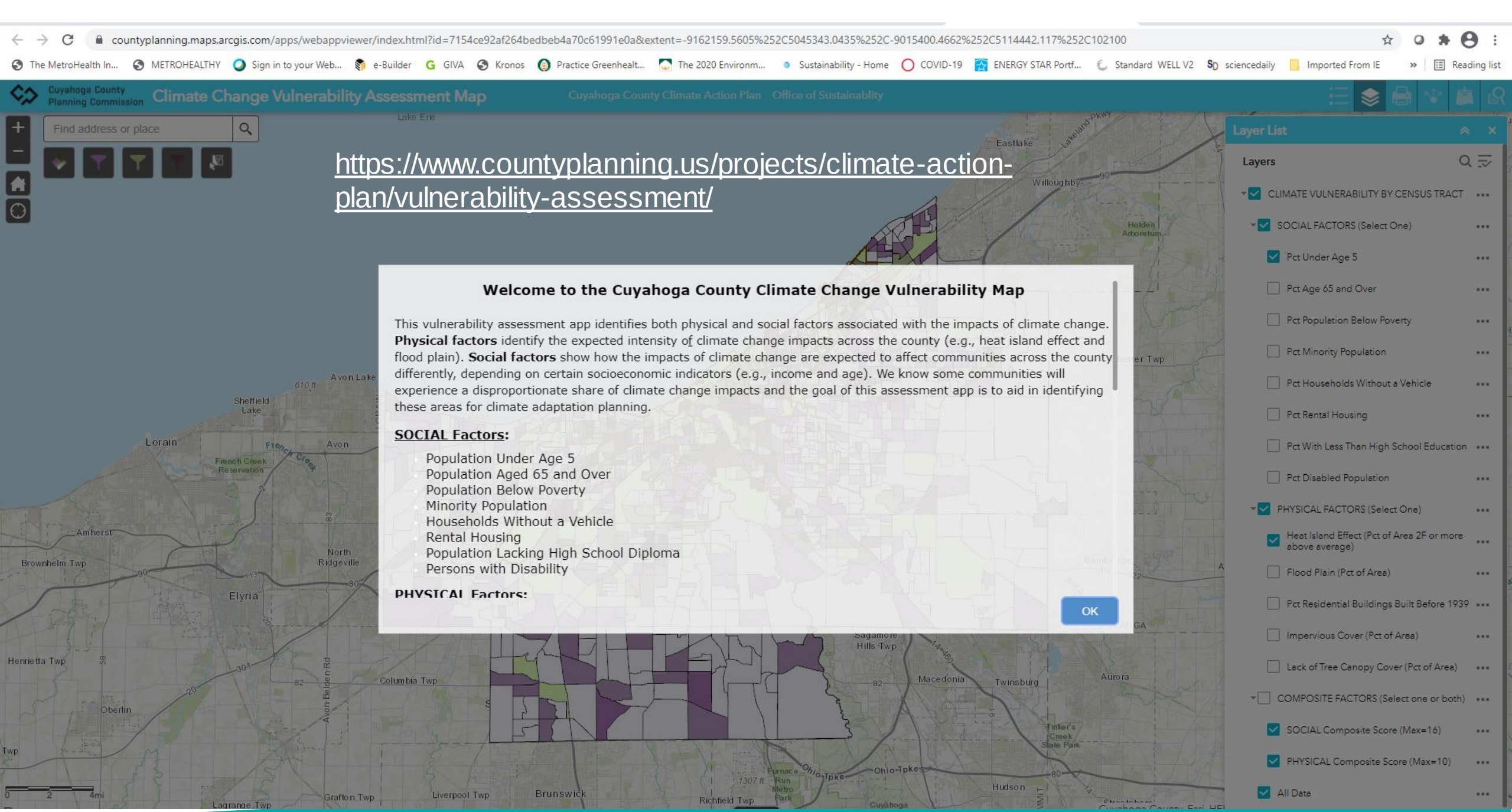
Prioritizing Embodied Carbon in Your Spec



EC3 Tool (Beta) Find, Plan & Compare Materials (& Buildings)

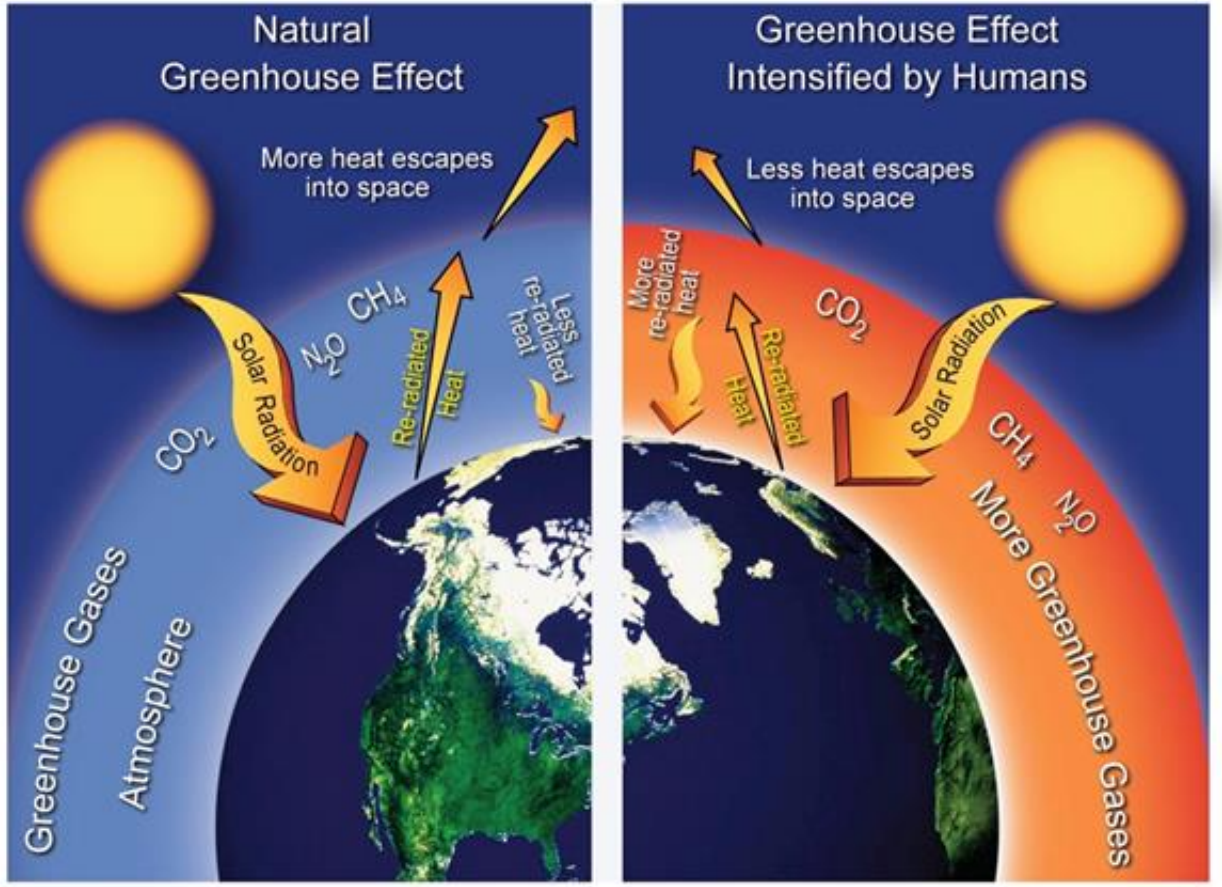
Works with Autodesk's BIM 360 modelling software




countyplanning.maps.arcgis.com/apps/webappviewer/index.html?id=7154ce92af264bedbeb4a70c61991e0a&extent=-9162159.5605%252C5045343.0435%252C-9015400.4662%252C5114442.117%252C102100
Cuyahoga County Planning Commission
Climate Change Vulnerability Assessment Map
Cuyahoga County Climate Action Plan
Office of Sustainability
Find address or place
https://www.countyplanning.us/projects/climate-action-plan/vulnerability-assessment/
Welcome to the Cuyahoga County Climate Change Vulnerability Map
This vulnerability assessment app identifies both physical and social factors associated with the impacts of climate change. Physical factors identify the expected intensity of climate change impacts across the county (e.g., heat island effect and flood plain). Social factors show how the impacts of climate change are expected to affect communities across the county differently, depending on certain socioeconomic indicators (e.g., income and age). We know some communities will experience a disproportionate share of climate change impacts and the goal of this assessment app is to aid in identifying these areas for climate adaptation planning.
SOCIAL Factors:
Population Under Age 5
Population Aged 65 and Over
Population Below Poverty
Minority Population
Households Without a Vehicle
Rental Housing
Population Lacking High School Diploma
Persons with Disability
PHYSICAL Factors:
OK
Layer List
Layers
CLIMATE VULNERABILITY BY CENSUS TRACT
SOCIAL FACTORS (Select One)
Pct Under Age 5
Pct Age 65 and Over
Pct Population Below Poverty
Pct Minority Population
Pct Households Without a Vehicle
Pct Rental Housing
Pct With Less Than High School Education
Pct Disabled Population
PHYSICAL FACTORS (Select One)
Heat Island Effect (Pct of Area 2F or more above average)
Flood Plain (Pct of Area)
Pct Residential Buildings Built Before 1939
Impervious Cover (Pct of Area)
Lack of Tree Canopy Cover (Pct of Area)
COMPOSITE FACTORS (Select one or both)
SOCIAL Composite Score (Max=16)
PHYSICAL Composite Score (Max=10)
All Data

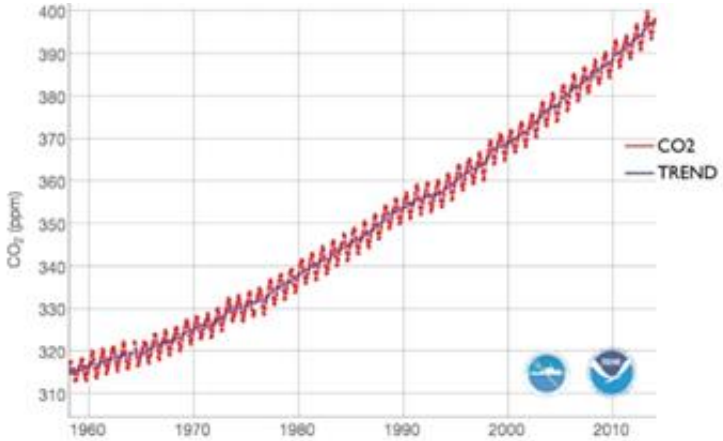
Greenhouse gas emissions increase global warming, contributing to increased changes in our climate

Learn more from NASA: https://climate.nasa.gov/causes

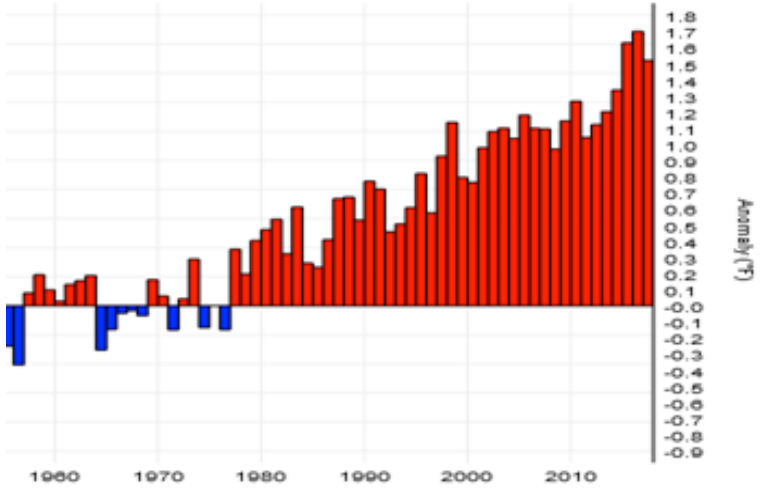


Courtesy of the National Climate Assessment (2012)

Mauna Loa Observatory
Monthly Average Carbon Dioxide
(1960-2015)

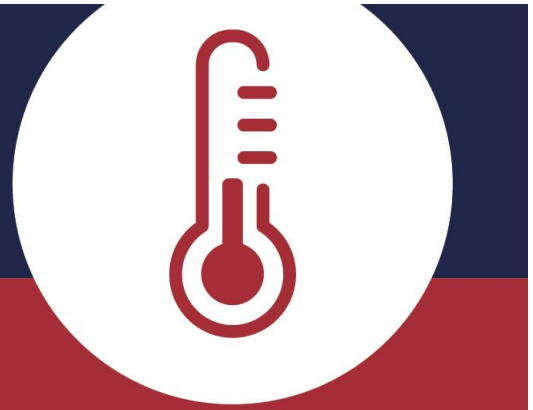


Global temperature deviations from mean
(1880-2016)



High heat = more violence - https://nypost.com/2019/06/18/high-temperatures-can-lead-to-more-violent-crime-study-finds/ - *sometimes related to housing, sometimes to mental well-being*

Climate Change and Your Health:
Extreme Temperatures



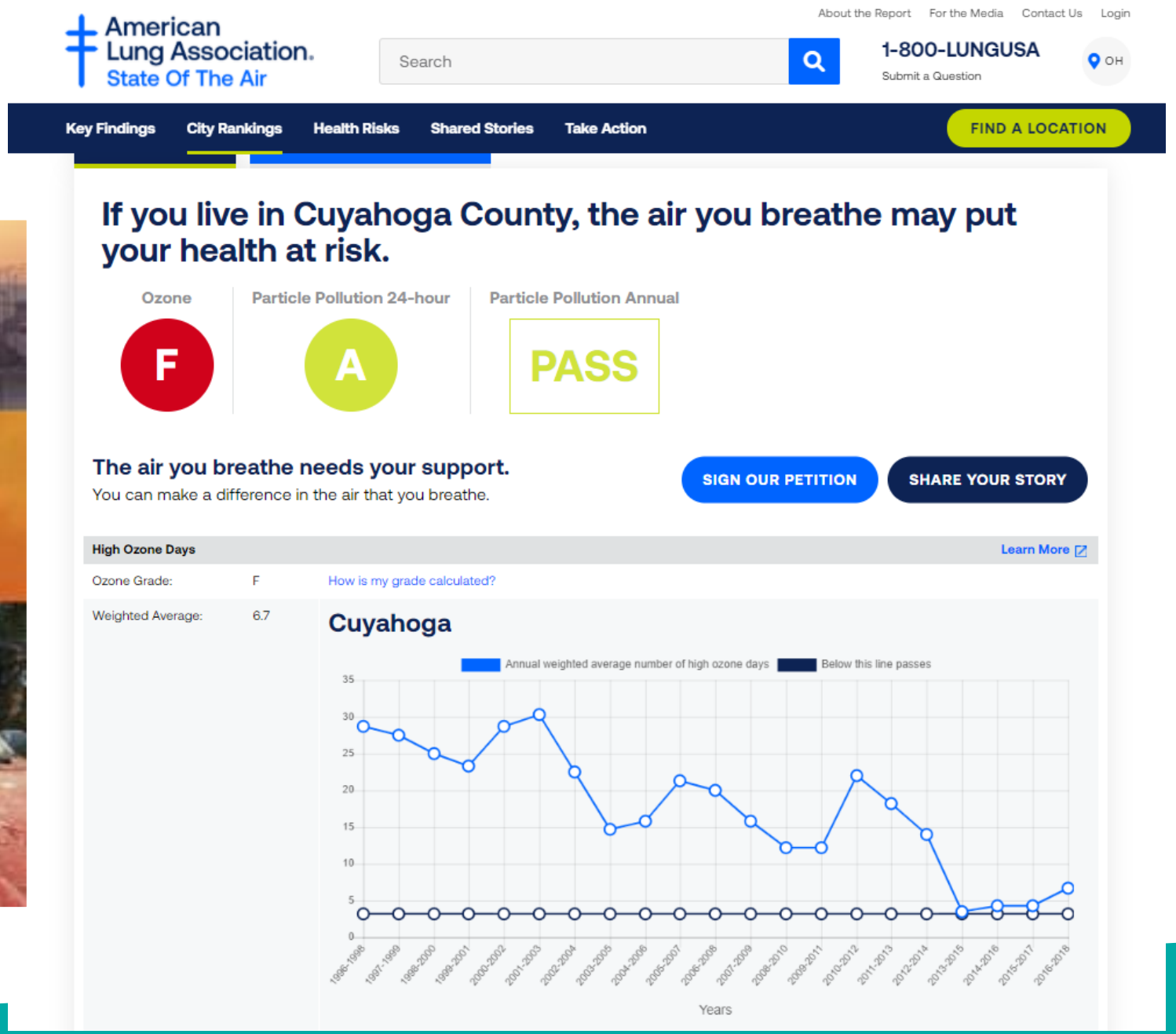
What is changing in our climate?	What is the impact on the environment?	How does that harm our health?
We're seeing more frequent days with extreme temperatures.	Extreme temperatures damage crops, make air less healthy to breathe, and are associated with dramatic changes in precipitation leading to droughts, floods and wildfires.	Extremely hot weather puts people at higher risk of heat stroke and is especially dangerous for older, younger, sicker and poorer Americans.

- *9% increase in GHG emissions from Passenger Vehicle Traffic 2010-2017 (Cuyahoga)*
- *Ground Level Ozone non-attainment area (Cleveland)*

Climate Change and Your Health:
Outdoor Air Quality

What is changing in our climate?	What is the impact on the environment?	How does that harm our health?
Heat-trapping pollution is causing warmer weather, more intense heat waves, and more droughts and wildfires.	Warmer weather leads to longer and worse allergy seasons; hotter temperatures create more smog (ground-level ozone); and wildfire causes dangerous air pollution.	Increases in airborne allergens, smog and smoke make asthma and allergies worse, and put those with lung and heart diseases at higher risk.

StateofTheAir.org



Climate Change and Your Health:
Food-Related Infection and Agriculture

What is changing in our climate?	What is the impact on the environment?	How does that harm our health?
Communities across America are increasingly experiencing warmer weather, changes in rainfall and humidity, and more violent storms.	Disease-causing pathogens – such as Salmonella bacteria that causes food poisoning – thrive in a warmer climate, and droughts and violent storms can harm crops.	Changes in weather patterns put our food at higher risk of contamination and can lead to increases in food prices and malnutrition.

Climate Change and Your Health:
Mosquito- and Tick-Borne Infections

What is changing in our climate?	What is the impact on the environment?	How does that harm our health?
Warmer temperatures and changes in the amount of rainfall have an impact on where mosquitos and ticks can thrive.	Mosquitos and tick “seasons” are getting longer, and the pests are spreading to new areas of the country.	Diseases like West Nile Virus, Dengue Fever and Zika (spread by mosquitos), and Lyme disease (spread by ticks) are infecting more people, and are spreading into new regions where they did not previously exist.

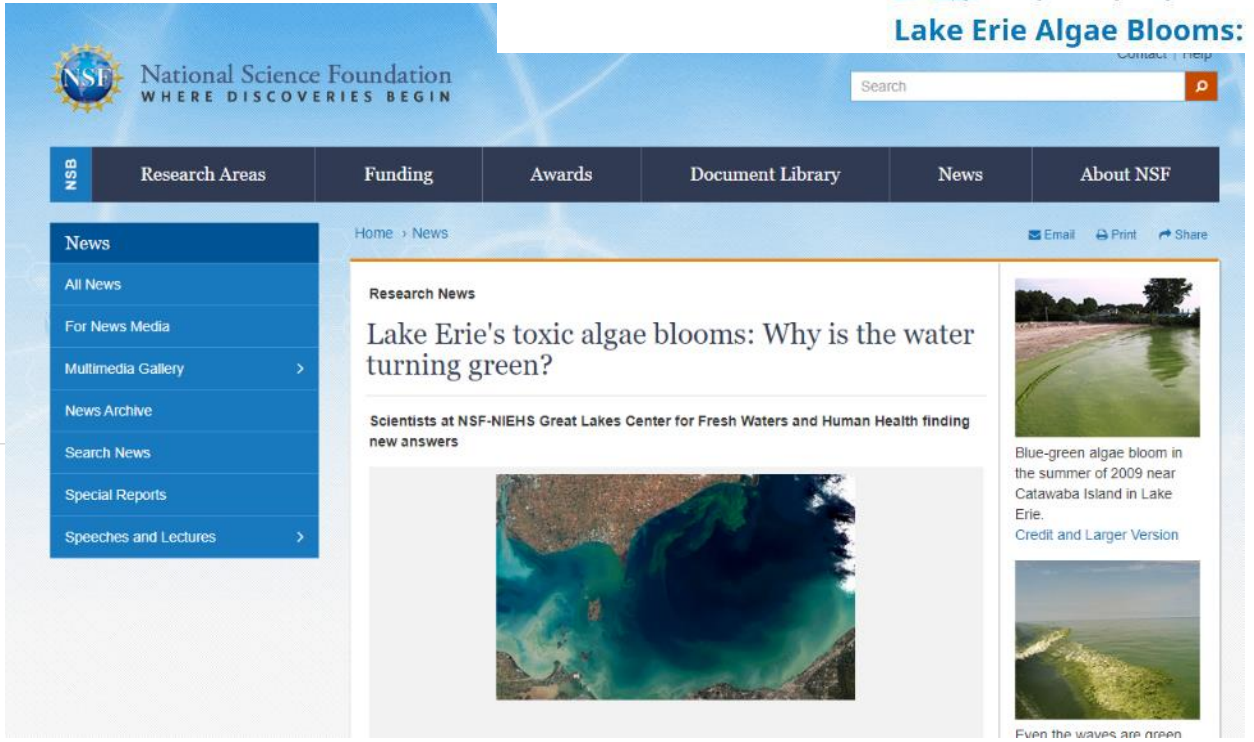
Climate Change and Your Health:
Water-Related Infection

What is changing in our climate?	What is the impact on the environment?	How does that harm our health?
Changing temperatures in oceans, lakes and streams alter ecosystems and cause heavy rains, rising sea levels and polluted water runoff.	Warmer waters help bacteria and algae grow in new places. Rising sea levels and bacterial and chemical run off from heavy rains contaminate drinking water.	Drinking and skin exposure to contaminated water – and toxic algae blooms – can and do cause serious illnesses.

GREAT LAKES HIGH STAKES | ENVIRONMENT | NEWS

The shallowest Great Lake provides drinking water for more people than any other. Algae blooms are making it toxic — and it's getting worse.

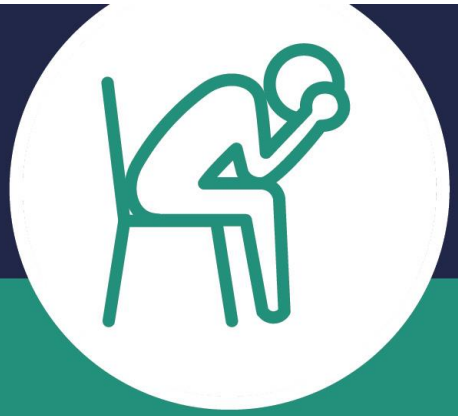
By TONY BRISCOE
CHICAGO TRIBUNE | NOV 14, 2019 AT 12:33 PM



Photos:
Alliance for the Great Lakes
Chicago Tribune
National Science Foundation

Climate Change and Your Health:

Mental Health and Well-Being



What is changing in our climate?	What is the impact on the environment?	How does that harm our health?
Many effects of climate change, such as extreme heat and violent weather, can harm people's mental health and well-being.	Extreme weather, floods and fires can threaten, damage or destroy people and their homes, communities, loved ones and social networks.	The threat, damage and destruction caused by climate change can cause increased anxiety and depression in many people, especially children, older adults and low-income Americans.

High heat = more violence - https://nypost.com/2019/06/18/high-temperatures-can-lead-to-more-violent-crime-study-finds/ - *sometimes related to housing, sometimes to mental well-being*

Mental health

- Depression, anxiety, anger, hopelessness, PTSD, uncertainty – and the list goes on
- Familial, financial, and societal impacts are often unquantifiable and difficult to articulate
- Example: 215,000 Puerto Ricans fled to Florida after Hurricane Maria*
  **estimated 1,000 families to Cleveland*
- Climate change expected to lead to 200 million more forced migrations by 2050, which contribute to civil conflict

MetroHealth