

Contra Costa Health

Departmental Purpose & Approach to Addressing Climate Change

Contra Costa Sustainability Committee
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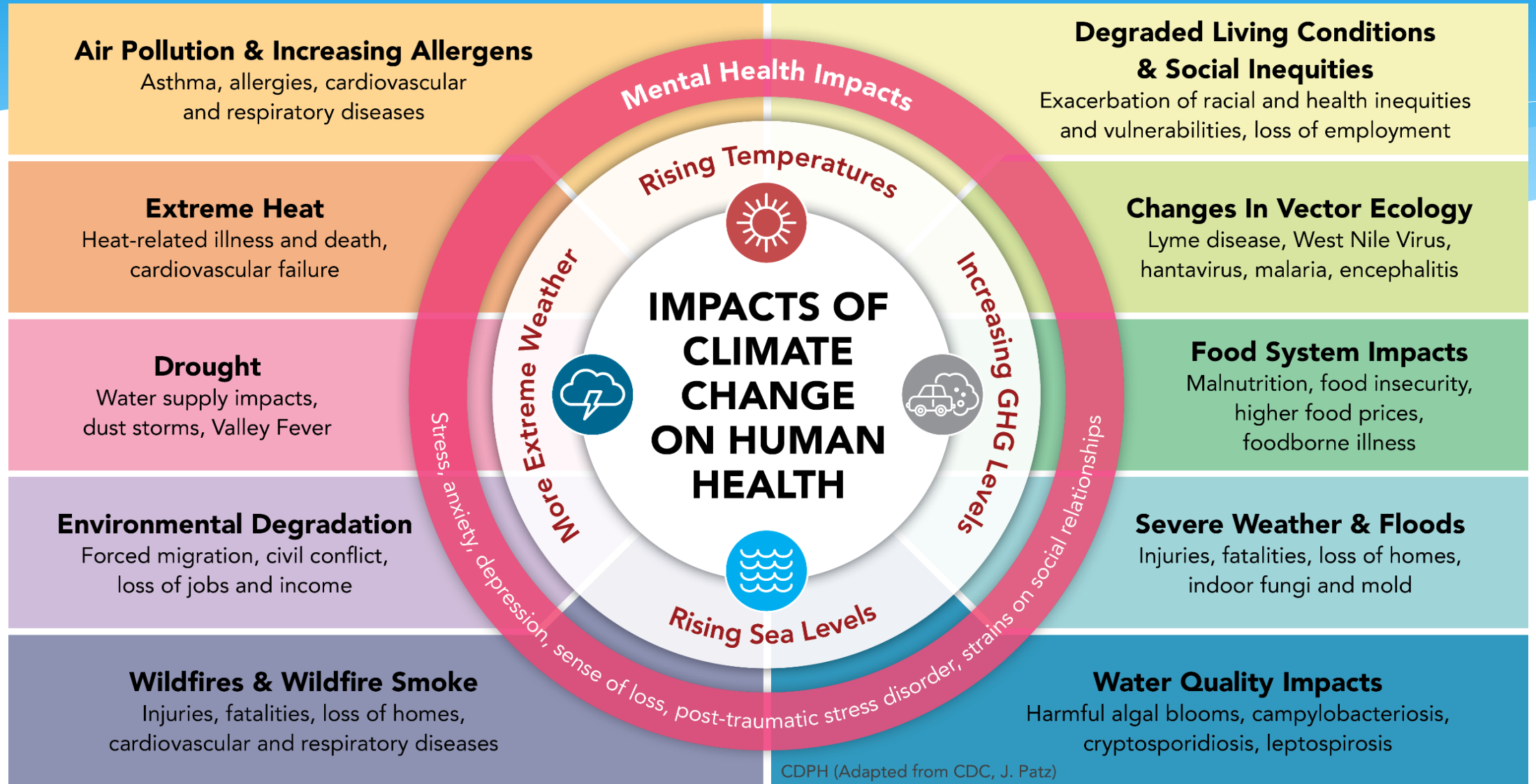
Climate Change

(A global commons problem)

The rapidly warming climate is the "greatest threat" to global public health, more than 200 medical journals are warning in an [unprecedented joint statement](#) that urges world leaders to cut heat-trapping emissions to avoid "catastrophic harm to health that will be impossible to reverse." - September 2021

"If we don't address climate change, now, nothing else will really matter." – Sara Zimmerman, Director Climate Equity Policy Center

Human Health Impacts of Climate Change

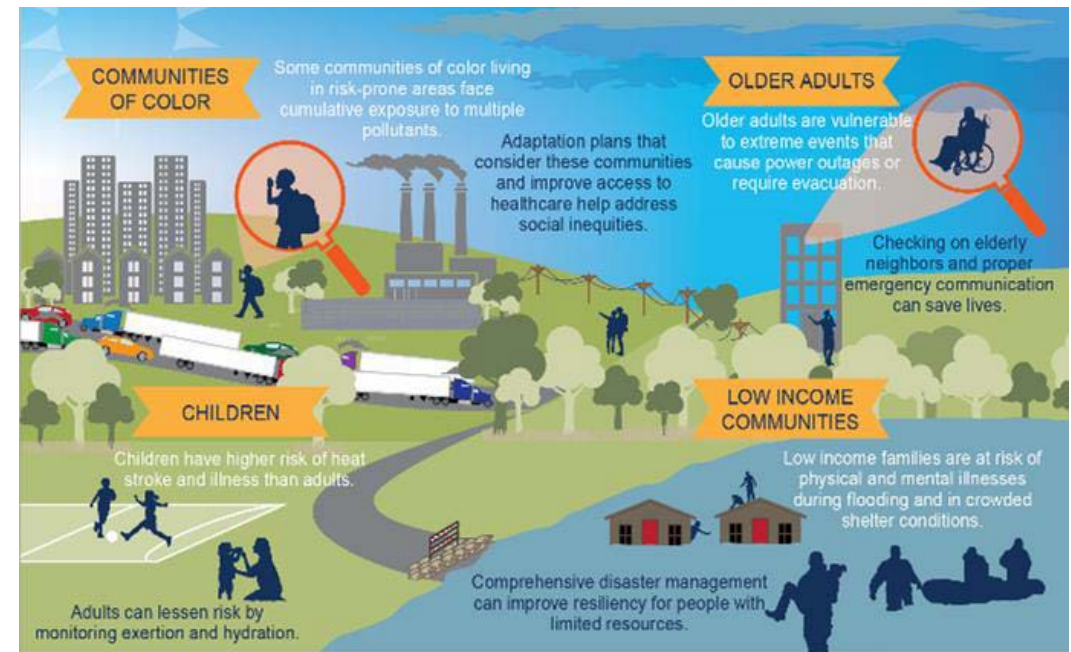


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Key Message – Climate Change will drive Health Inequity

Exposure and Resilience Vary Across Populations and Communities

People and communities are differentially exposed to hazards and disproportionately affected by climate-related health risks. **Populations experiencing greater health risks include children, older adults, low-income communities, and some communities of color.**



Addressing Climate Change is a Critical Population & Health Equity Strategy

- ❖ Climate Change, global warming and its associated environmental impacts present a direct and **existential threat to global health**, and global biodiversity. – Of unprecedented urgency!
- ❖ Air Quality Improvement : (as a stand-alone example) GHG reduction and associated efforts is expected to **greatly improve** Population Level Health.
 - ❖ Reductions in Asthma, Cancer, Cardio-vascular disease, etc.
- ❖ Significant **reduction in health disparity** and **equity gaps** – especially given overexposure to Toxic Air Contaminants in marginalized communities.
- ❖ Significant **avoidance of health care expenditure**, hospitalization, etc.

CARB – proposal to achieve carbon neutrality in California by 2045. (released Nov. 15, 2022) Projected to save \$200B in health care cost due to anticipated 71% reduction in air pollution & 85% reduction in GHG Emissions.

<https://www.gov.ca.gov/2022/11/16/california-releases-worlds-first-plan-to-achieve-net>

Focus on emission to exposure remains critical!

Estimated Premature Deaths Prevented – Health Equity Benefit

High-Scoring CES Communities will Benefit the Most from PM2.5 Reductions from Deployment of Zero-Emission Heavy-Duty Vehicles

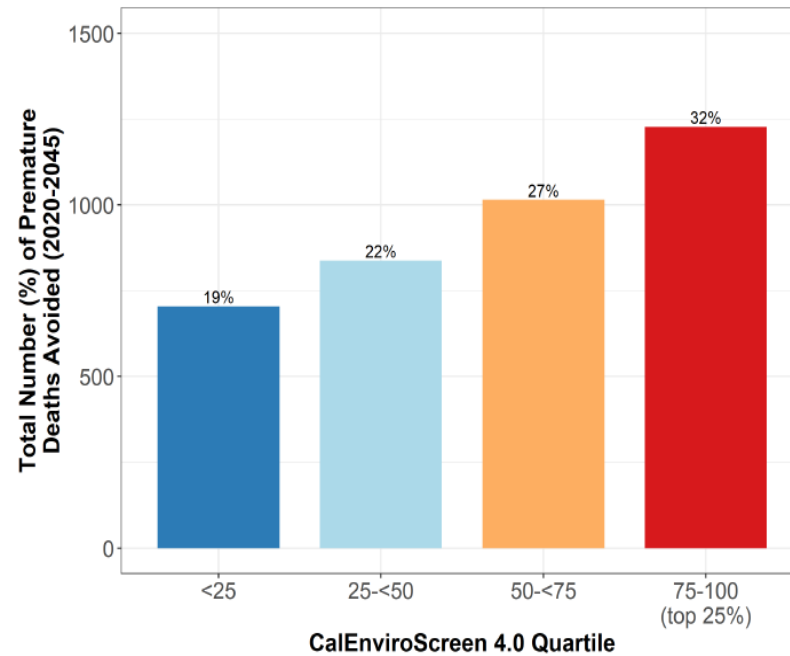


Figure 7. Total Estimated Number and Percent Premature Deaths Avoided with Change in PM2.5 Emissions Resulting from Transition to Zero-Emission Heavy-Duty Vehicles from 2020–2045 by CalEnviroScreen 4.0 Quartile

Building a Climate Agenda that Includes

- * **A CCHS Climate Action Plan** – as a compliment to the County CAP anchored in **Equity and Environmental Justice**.
- * Projecting and **detailing the local impact** on populations and communities **most at risk** & connecting that to our “equity” work.
- * **Advocating for EQUITY:** Policy & action at the State & Local Level that mitigates climate impacts to persons and communities that are most vulnerable.
- * Working a **Green Business Plan for CCHS**.
- * **Advocating for Equity, Climate and Health in all policies**.
- * Elevating **community voice** in this urgent global public health issue.
- * Understanding how climate change is and will continue to **impact the biodiversity of the planet...** both land and sea....and how that will impact human health, disease vectors and the natural cycle of carbon exchange.

Gaining Motion: Sustainability in Healthcare

Forces for Climate Action

Nonprofit health systems, without investor pressure and often exempt from required disclosures, have traditionally lagged behind other industries on ESG and GHG emissions measurement, reporting, and disclosure



A few of the things CCH is doing

- * Making climate change and related impacts a **CCH Priority**
- * **Green & Healthy Homes Initiative** – Weatherization(DCD) and In-home Asthma Triggers (CCHP, CCRMC, PH)
- * CCH Houses the **County Green Business Plan** in the Hazardous Materials Division.
- * Haz Mat Assessment of **Sea Level Rise Threat** to local industry.
- * 2020 CCHS **Excessive Heat Response Plan**
- * 2019 CCHS **Wildfire Smoke** Response Plan
- * CCRMC Facilities offered as “**Resiliency Center**” 2019-20 PSPS Events
- * 2020-21 CCH Input & metrics to Revised **County General Plan**
- * 2020-21 CCH Input to **County Climate Action Plan**
- * A number of CCRMC Facilities have **achieved LEED Silver Certification**
- * Participation on **Interdepartmental Climate Action Task Force**.
- * **Ongoing Participation in the AB 617 – Clean Air Initiative** in west county.
- * Leading on **AB 836 – Clean Air Centers** for vulnerable populations
- * **Addressed Air Quality concerns** associated with Wildfire smoke, the recent Marsh Fire and Crockett Water Treatment Facility.

What makes up the carbon footprint of the U.S. health system?

<https://www.commonwealthfund.org/publications/explainer/2022/apr/how-us-health-care-system-contributes-climate-change>

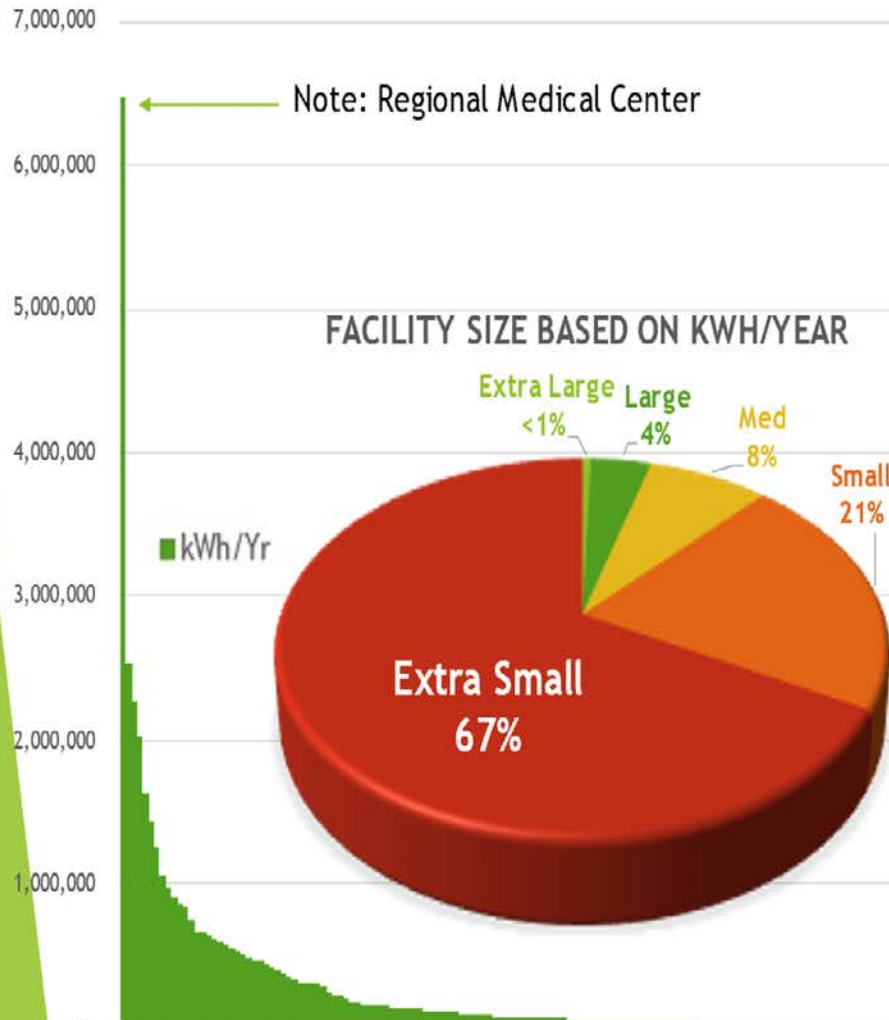
- * The sectors [contributing the most to carbon emissions](#) in the health system are **hospital care (36%)**, physician and clinical services (**12%**), and prescription drugs (**10%**). The [Greenhouse Gas Protocol](#) offers [another way to look at GHG emissions](#), categorizing them as:
 - **Scope 1:** Emissions from sources owned or directly controlled by the health sector, including emissions from health care facilities, such as on-site boilers, fleet vehicles and certain medical gases. These emissions account for around **7 percent** of health sector emissions overall.
 - **Scope 2:** Indirect emissions from the generation of energy purchased by health systems, mostly electricity. These account for around **11 percent** of emissions related to health care.
 - **Scope 3:** All other indirect emissions from the production and transportation of goods and services procured by the health sector, such as those related to pharmaceuticals and other medical products and devices. These account for more than **80 percent** of overall health care emissions.

County Electricity Use Overview

▶ County-wide Energy Use Snapshot

Total Annual Energy Spend

> \$7,000,000

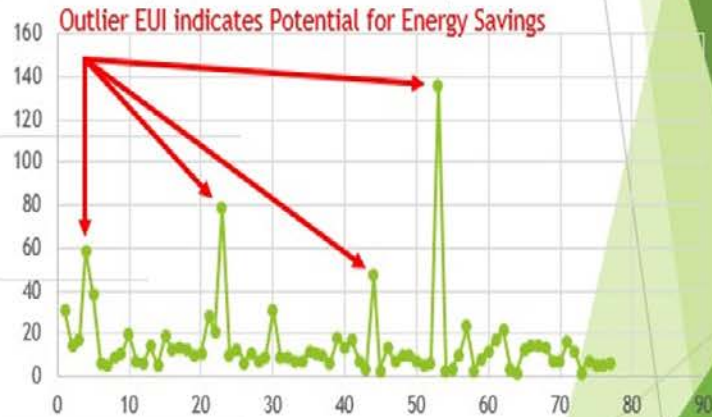


one bar = one building/facility (Sample Size = 185 Buildings)

Note: Regional Medical Center

Energy Utilization Index (kWh only)

(Sample Size = 77 Buildings)



Energy Utilization Index (EUI) =

Annual Energy Use (kWh)

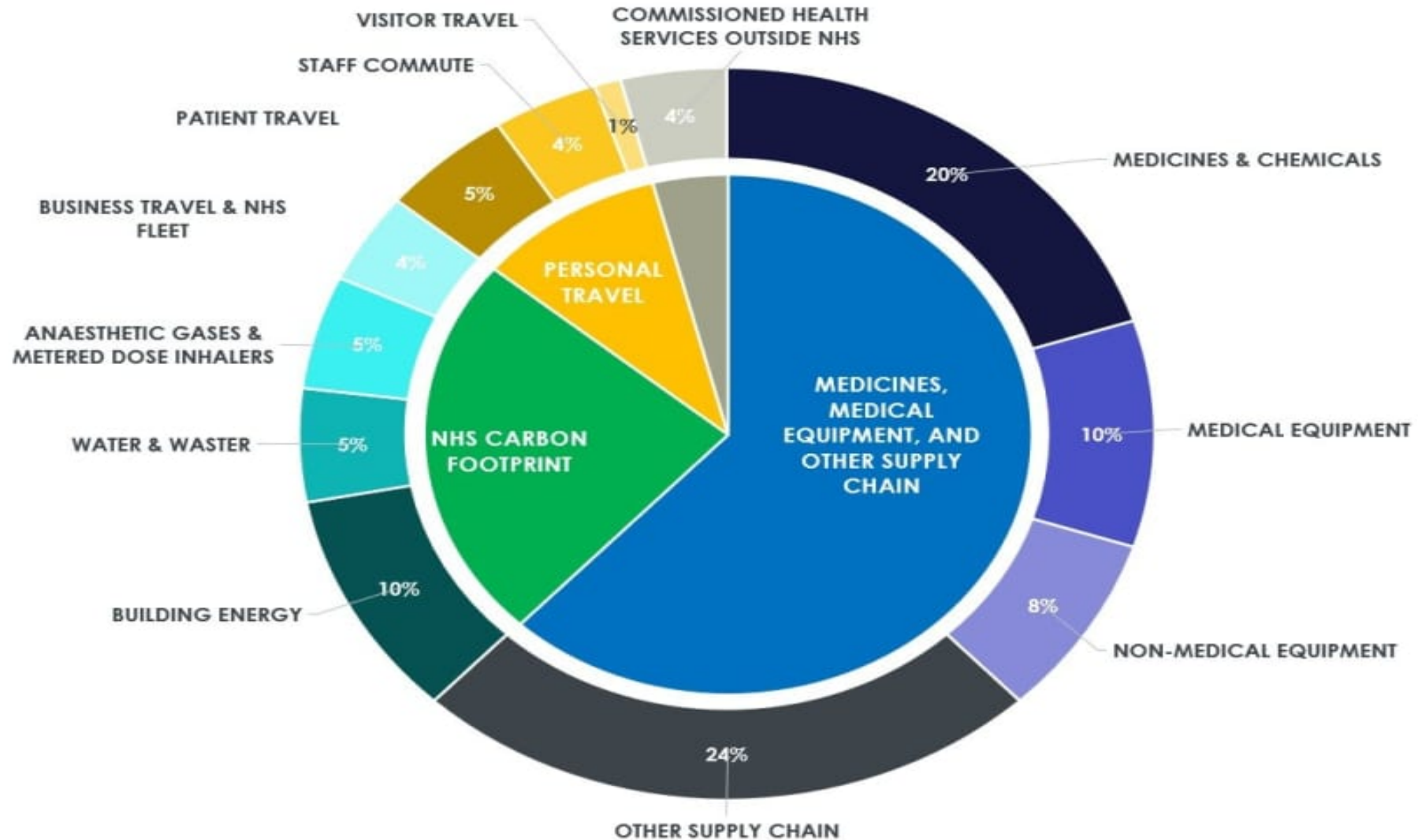
Building Square Footage

Building Size Key (for Pie Chart)

- Extra Large > 6 M kWh/year
- Large 1 M - 2.5 M kWh/year
- Med 500K - 999K kWh/year
- Small 100K - 499K kWh/year
- Extra Small <100K kWh/year

Health System Carbon Footprint

<https://planetarysolutions.yale.edu/event/yale-center-climate-change-and-health-3-part-seminar-care-without-carbon-part-2-lessons>



And to address our own Carbon footprint CCRMC has

- * Joined “Practice Green Health”

- * The leading sector focused, membership organization, that helps support health organizations in their efforts to reduce their own contribution to GHG emission. From sustainable procurement to reducing energy, water and waste, etc.
- * A close partner with Health Care Without Harm

- * *The **health care industry** is one of the most carbon-intensive service sectors in the industrialized world. It is responsible for 4.4–4.6 percent of worldwide greenhouse gas emissions and roughly **10 percent of US GHG emissions.** –*
<https://www.healthaffairs.org/doi/10.1377/hlthaff.2020.01247>

Leveraging some important partnerships

- * Membership in **Practice Green Health**
- * Participation in **Anchors in Resilient Communities (ARC)** – Health Sector focused (Healthcare without harm, Emerald Cities Collaborative)
 - * Regional Participants include: CCHS, Dignity Health/Common Spirit, Kaiser, UCSF, Santa Clara Medical Center
- * Membership in the **National Academy of Medicine Climate Collaborative**
- * **Federal HHS – Office of Climate Change & Health Equity**
- * Participation on steering committee for climate & environmental action of the **National Network of Public Health Institutes.**

Some Key Areas of Strategic Focus

❑ Decarbonize health-related operations across all Divisions of CCHS

- ❑ The US Health Care Sector contributes apx 8.5% of all US Green House Gas emissions – the equivalent of 100 coal fired power plants (Gary Cohen – CEO of Health Care Without Harm 5/25/2022).
- ❑ Support efforts to reduce Green House Gas emissions, waste and enhance the conservation of water and energy.

❑ Evaluate and, as feasible, implement a suite of strategies across the health sector:

- ❑ Support conversion to “green” products and practices related to operations. (upwards of 70-80%) – **Scope 3**
- ❑ Purchase and generate Clean energy – (~ 11%) - **Scope 2**
- ❑ Decrease use of Natural Gas for heating, convert vehicle fleet to ZEM, Review use of type of anesthesia and recapture strategy (~ 7%) – **Scope 1**
- ❑ **Volatile Anesthetic Gases:** - are halogenated chlorofluorocarbons (halothane, enflurane, isoflurane or fluorinated hydrocarbons (sevoflurane, desflurane)
 - ❑ **Desflurane** - GWP of 2,540 and Atmospheric lifetime of 14yr and generally the most expensive of the anesthetic gases.
 - ❑ Sevoflurane – GWP of 130 and Atmospheric lifetime of 1.1 years. (Hence, much better on the environment)

❑ Harden physical & operational infrastructure to withstand climate impact, including severe weather events.

Key Areas of Focus cont.

❑ Prepare health leaders, clinicians, and staff for immediate and anticipated impacts of climate change on local population health status and related health metrics.

❑ Ongoing climate change and related extreme weather events are anticipated to increase the incidence of a number of human health conditions from heat stroke to cardiovascular events and is anticipated to worsen a number of pulmonary health conditions from asthma to COPD. Premature death from injury related to severe weather events is also anticipated to increase. Additionally, increased morbidity and mortality associated with degradation in potable water quality and food insecurity related to drought is also anticipated. <https://www.cdc.gov/climateandhealth/effects/default.htm>

❑ Support Research efforts to quantify and highlight health impacts of climate change and benefits of addressing:

- [New study to examine link between air quality, climate change, and birth outcomes \[eurekalert.org\]](#)
- [EPA Announces \\$21M in Research Grant Funding to Investigate Cumulative Health Impacts of Climate Change on Underserved Communities \[epa.gov\]](#)

Key Areas of Focus cont.

- ❑ **Engage community partners in understanding and addressing the disproportionate health and social impacts that climate change may have on vulnerable communities and persons, such to frame strategy in the context of mitigating inequity and supporting community voice and decision making.**
 - ❑ **It is hard to overstate the interconnections between climate change, health, and equity.** The root causes and upstream drivers of climate change and health inequities are often the same. Our energy, transportation, land use, building, food and agriculture and socioeconomic systems are key contributors to climate pollution and key shapers of community living conditions.
 - ❑ **The health risks and impacts of climate change are not equally or fairly distributed across people or communities.** The impacts of climate change on health are significantly moderated by individual and community vulnerability and resilience. Two critical components of climate vulnerability are pre-existing health status and living conditions.
 - ❑ https://www.apha.org/-/media/files/pdf/topics/climate/apha_climate_equity_introduction.ashx#:~:text=Climate%20change%20exacerbates%20existing%20health,that%20most%20impact%20disadvantaged%20communities.

Key Areas of Focus cont.

☐ Fully embrace and advocate for Equity, Climate and Health in all Policies.

Climate Policy is health policy.

- ☐ It is especially important that CCHS contribute to and **leverage public and organizational policy** from a health equity perspective that seeks to mitigate the impacts of climate change on vulnerable communities and persons.
- ☐ From a health impact perspective and through a health equity lens, these policies should be **prioritized** not only due to their **social justice attributes but also due their high return on investment in preventing avoidable illness, disease, and subsequent service and resource impacts on the healthcare** and social care delivery systems.

National Health related bodies are starting to look much more closely at climate impact of the health care sector

NON-EXHAUSTIVE

Mobilization in the US Health Sector

The health sector is responding to external pressures through new collaborations that seek to unlock the true potential of healthcare



The Action Collaborative serves as a neutral platform for participants to align around collective goals and actions for decarbonization, based on evidence, shared solutions, and a commitment to improve health equity.



The Joint Commission (JC) established a [Technical Advisory Panel](#) with nationally recognized experts to evaluate the inclusion of climate-related standards in accreditation. JC also reviewing current standards and survey methods to ensure they do not contribute to excess consumption of materials and energy.



Over 100 U.S. healthcare companies responded to the Administration's [Health Sector Climate Pledge](#), committing to reduce greenhouse gas emissions by 50% by 2030.



In November, HHS released a set of resources to support health sector decarbonization including a [Primer from the Agency for Healthcare Research Quality](#) that offers guidance on high-priority measures and actions for healthcare organizations to reduce their carbon footprint.



The Institute for Healthcare Improvement convened a *Climate Can't Wait* workgroup in 2021-22 for their Leadership Alliance

Questions

