# CITY OF ORLANDO

**BayREN Codes & Standards Regional Forum**

*September 15, 2022*

# GREEN WORKS ORLANDO

"**Our vision** is to transform Orlando into one of the **most environmentally friendly**, socially inclusive and economically vibrant communities in the nation."
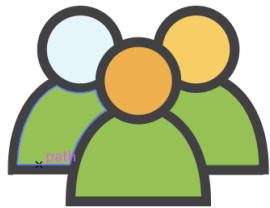-Mayor Buddy Dyer

Ashley Van Stone
Project Manager
Office of Sustainability and Resilience
*She/Her/Hers*

# Orlando By The Numbers

119 Square Miles

220+ city buildings – Cinderella's Castle is not one…

Municipally owned utility

City of Orlando
Proper population
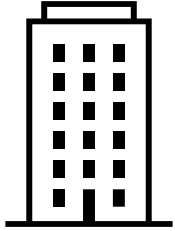**277,173**
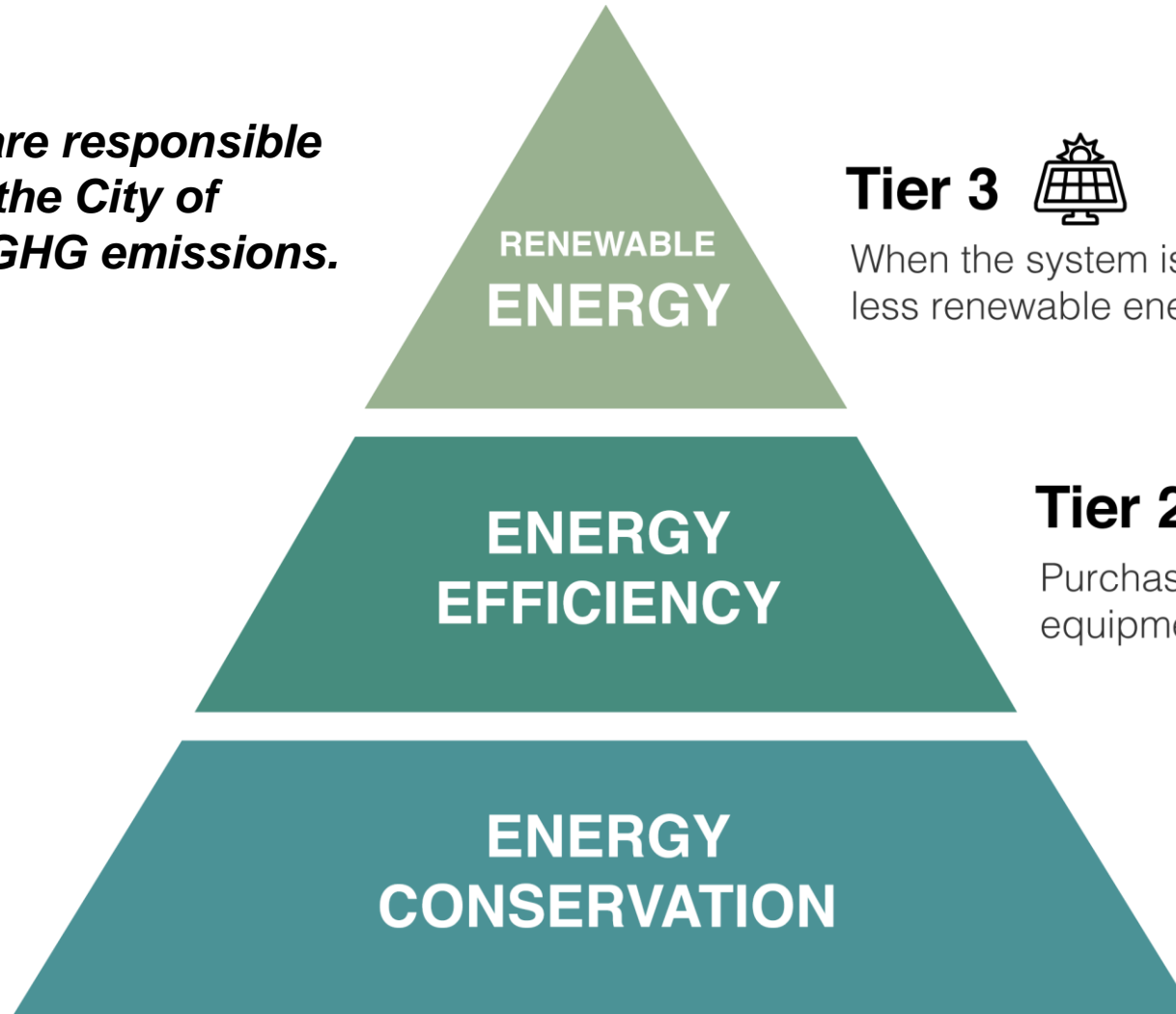
Total visitors to
Orlando in **2019**
**75,000,000** +

Travelers passed through
Orlando International
Airport in 2016
**43,120,808**

# Where We've Started: Building Energy Performance

*Buildings are responsible for 80% of the City of Orlando's GHG emissions.*

**RENEWABLE ENERGY**

**ENERGY EFFICIENCY**

**ENERGY CONSERVATION**

**Tier 3**
When the system is modified to use efficiency, less renewable energy is needed

**Tier 2**
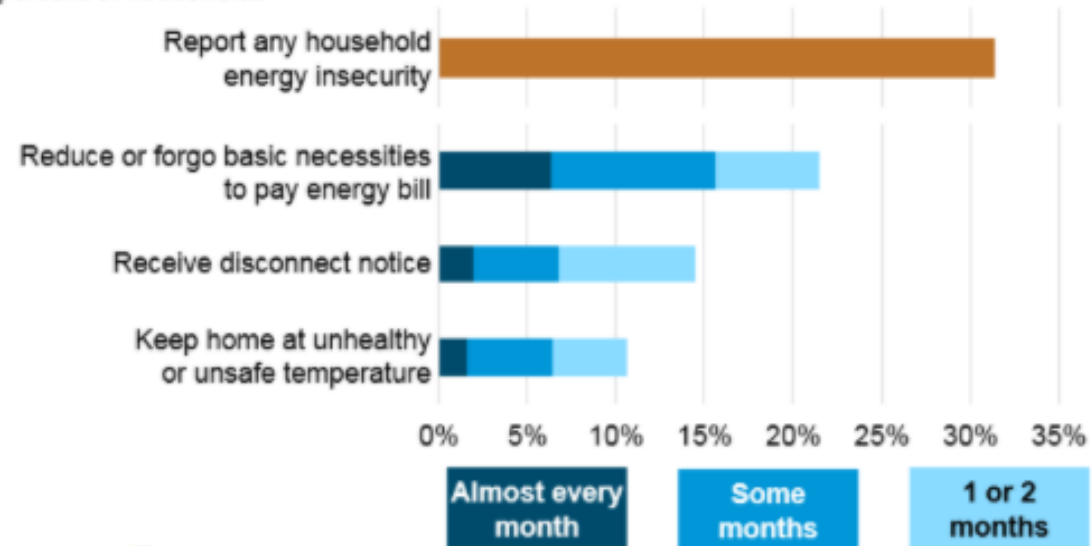Purchasing and installing efficient equipment and processes

**Tier 1**
Largely based on behavioural & operational practices.
Best return on investment.

# What is the Problem?

One in three U.S. households faced challenges in paying energy bills in 2015

Households experiencing household energy insecure situations, 2015
percent of households



Report any household energy insecurity

Reduce or forgo basic necessities to pay energy bill

Receive disconnect notice

Keep home at unhealthy or unsafe temperature

0%  5%  10%  15%  20%  25%  30%  35%

**Almost every month**  **Some months**  **1 or 2 months**

eia Source: U.S. Energy Information Administration, Residential Energy Consumption Survey 2015

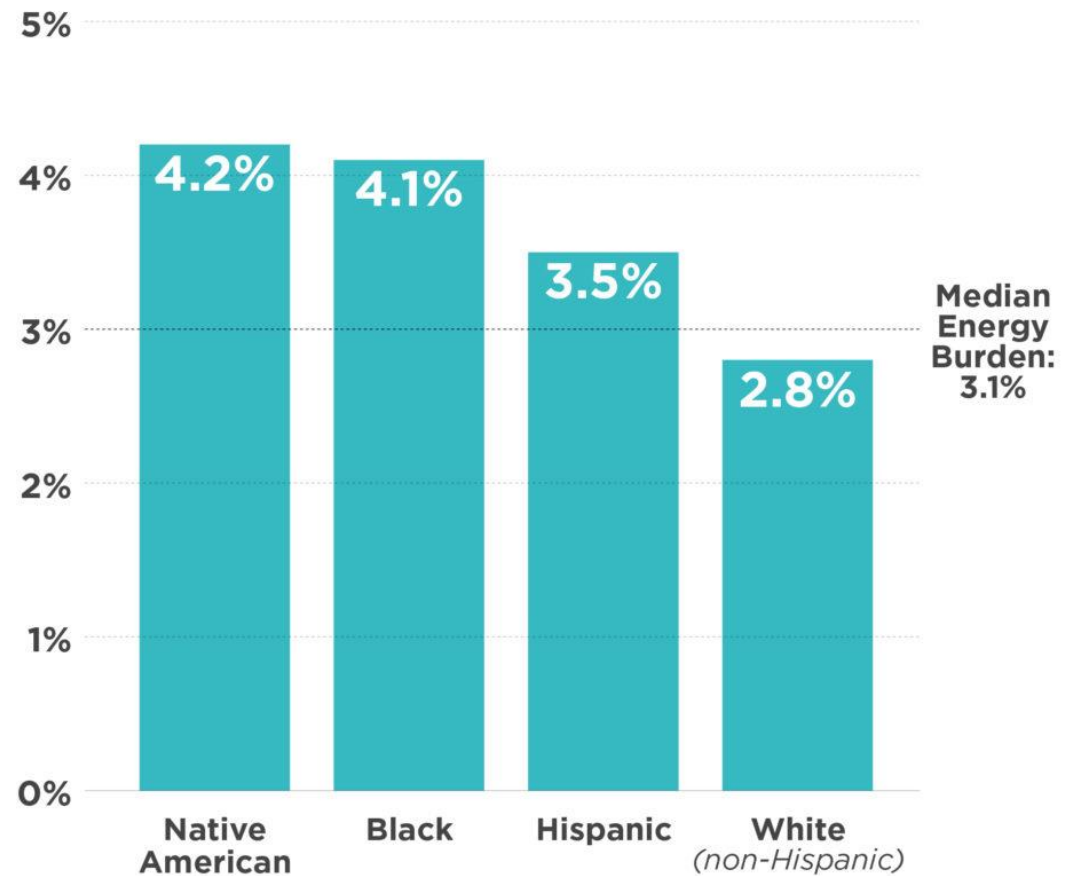*Source: EIA, SEEA

# Energy Burdens Nationally

**Energy insecurity is linked to race.**



## NATIONAL ENERGY BURDENS

The chart below shows energy burdens by race and ethnicity, compared to the national median energy burden of 3.1%.

| Race/Ethnicity | Energy Burden |
|---|---|
| Native American | 4.2% |
| Black | 4.1% |
| Hispanic | 3.5% |
| White (non-Hispanic) | 2.8% |

Median Energy Burden: 3.1%

# Energy Insecurity in the Southeast

The Southeast has low energy rates, but high energy bills. Explore how unaffordable bills affect low-income households in the region.

William D. Bryan | July 17, 2020

**SEEA**
SOUTHEAST ENERGY EFFICIENCY ALLIANCE

## "57% of all residential buildings in the Southeast were built before the nation's first energy codes."

**Unaffordable Homes Are Unhealthy Homes**

"Inefficient and aging building stock put residents - especially children - at a higher risk for chronic illnesses like asthma that can be exacerbated by pests, moisture, and thermal distress."

# Energy Burdens in Orlando

**Energy burden:** Percent of income spent on energy bills. Energy inefficient housing is a major factor.

Average energy burden in Orlando is 4.3% as of 2019

Orlando's average energy burden is 1.2x higher than the national average
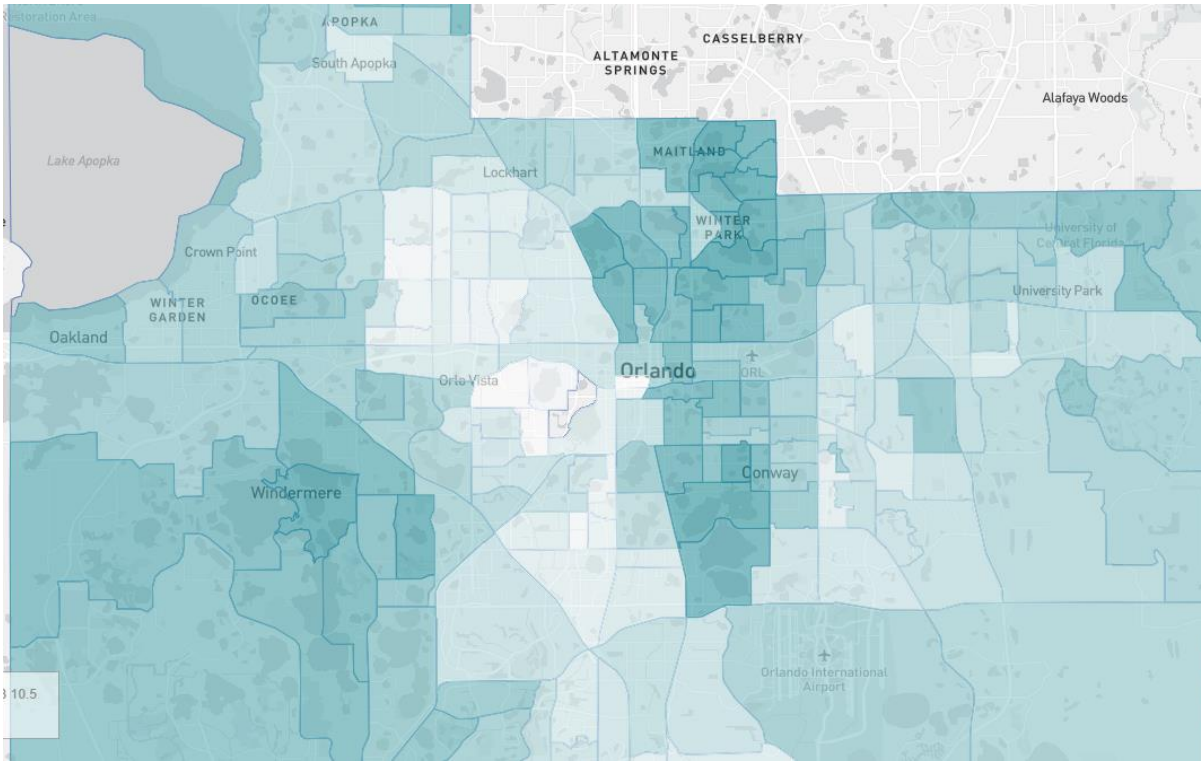
The 20% most burdened tracts have an average energy burden of 6.7%, demonstrating high energy burdens in these neighborhoods

Orlando was the 10th most energy burdened city out of the Climate Challenge cities
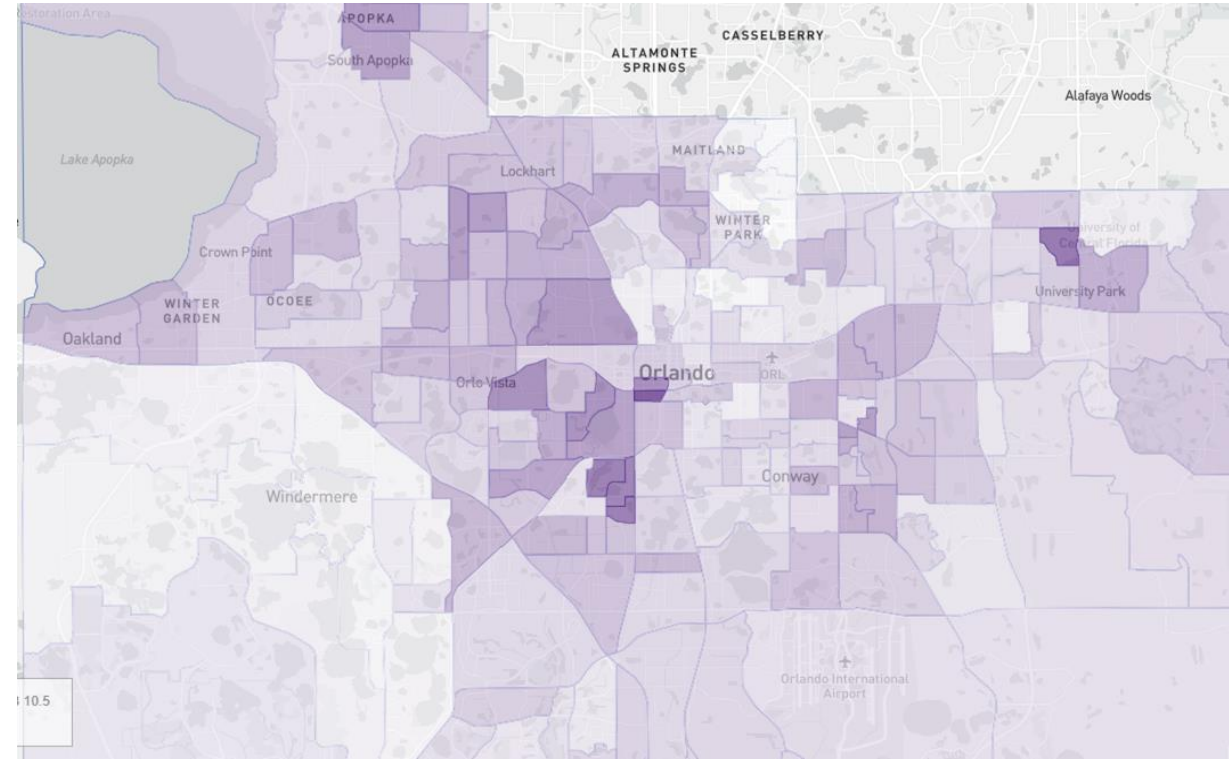
**High Energy Burden = 6% or >**
**Severe Energy Burden = 10% or >**

# Energy transition must address existing disparities in our community



Orlando's population by **race** (lighter areas represent communities of color) (source: Greenlink Equity Map)

**Energy Burden** (higher burdens in dark purple) (source: Greenlink Equity Map)

# Why is building performance an equity and resilience issue?

**Buildings *disproportionately* impact residents in numerous ways:**

**Individual impacts:**
- Financial burdens: (electric, gas, water) & larger back-up needs
- Comfort: poor conditions
- Health: Indoor Air Quality, respiratory illness and disease
- Safety: Hotter, heavier days, and more often; stronger storms
- Connectivity: Wi-Fi for energy efficient equipment

**Community impacts:**
- Pollutants
- Climate change: More time indoors = even higher energy burden
- Pressure on the grid

Florida currently has an average of 25 dangerous heat days each year. By 2050, it is projected to see 130 such days each year, more than any other state. *(Source: States at Risk)*



HEAT DANGER — FIRST WARNING

FAINT OR DIZZY
EXCESSIVE SWEATING
COOL, PALE, CLAMMY SKIN
RAPID, WEAK PULSE
MUSCLE CRAMPS
NAUSEA / VOMITING

THROBBING HEADACHE
NO SWEATING
RED, HOT, DRY SKIN
RAPID, STRONG PULSE
MAY LOSE CONSCIOUSNESS

HEAT EXHAUSTION
- GET TO A COOL, AIR CONDITIONED PLACE
- DRINK WATER, IF CONSCIOUS
- TAKE A COOL SHOWER OR USE COLD COMPRESS

HEAT STROKE
CALL 9-1-1

# What does it mean to be *community-led* and co-designed?

# Community-based approach

**Goal**: Community-led approach to align climate change policies with priorities identified by our local communities

## Commitment to our community partners:

- Provide technical assistance and other resources as appropriate throughout
- Connect project partners to key contacts
- Share data to inform outreach strategy, education efforts and policy development
- Mayor and leadership to receive recommendations from community partners

# THE SPECTRUM OF COMMUNITY ENGAGEMENT TO OWNERSHIP

Facilitating Power

| STANCE TOWARDS COMMUNITY | IGNORE | INFORM | CONSULT | INVOLVE | COLLABORATE | DEFER TO |
|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 |
| **IMPACT** | Marginalization | Placation | Tokenization | Voice | Delegated Power | Community Ownership |
| **COMMUNITY ENGAGEMENT GOALS** | Deny access to decision-making processes | Provide the community with relevant information | Gather input from the community | Ensure community needs and assets are integrated into process & inform planning | Ensure community capacity to play a leadership role in implementation of decisions | Foster democratic participation and equity through community-driven decision-making; Bridge divide between community & governance |
| **MESSAGE TO COMMUNITY** | *Your voice, needs & interests do not matter* | *We will keep you informed* | *We care what you think* | *You are making us think, (and therefore act) differently about the issue* | *Your leadership and expertise are critical to how we address the issue* | *It's time to unlock collective power and capacity for transformative solutions* |
| **ACTIVITIES** | Closed door meeting Misinformation Systematic | Fact sheets Open Houses Presentations Billboards Videos | Public Comment Focus Groups Community Forums Surveys | Community organizing & advocacy House meetings Interactive workshops Polling Community forums | MOU's with Community-based organizations Community organizing Citizen advisory committees Open Planning Forums with Citizen Polling | Community-driven planning Consensus building Participatory action research Participatory budgeting Cooperatives |

# Self Assessment ≠ Self Awareness

**CBO Ranking**

Varies between 0 and 1

**City Ranking**

Mostly 3 with some 4

1. Who do we mean by "community"?
2. Who is considered a stakeholder and why?
3. Are we conflating inform and involve, consult vs. collaborate?

# Summary: CBO Findings and Recommendations

Findings:

1. Concern this will increase rent without protections in place
2. Concern of being excluded and left behind
3. Afraid of retaliation by landlords
4. Distrust in government use of funds
5. Skeptical landlords will be held accountable
6. Household conditions are energy inefficient, uncomfortable and costly (utilities)
7. Support programs not well known
8. Desire for community involvement in designing and planning BPS

Recommendations:

1. Equity should be the main priority of a BPS
2. Reducing energy burden as main goal
3. Listen to communities before taking action
4. Invest in EE and RE in LMI and BIPOC communities
5. Early engagement is critical
6. Provide critical utility analyses needed to shape and target BPS related programs

# Building Stock Analysis

**Methods** (simplified):
- Greenlink Equity Map (GEM) (census data)
- Orange County Property Appraiser Data (building specific)

**Limitations**: We cannot see...
- Building specific information with GEM factors, we see averages at the census tract
- # people living in the buildings, but we use living area (s.f.) as a proxy (assumes residents live in relatively similar square footage)

**Questions we asked**:
- What patterns do we see in multifamily building sizes in areas of:
    - high energy burden;
    - communities of color;
    - low-income

**Traditional analysis:**
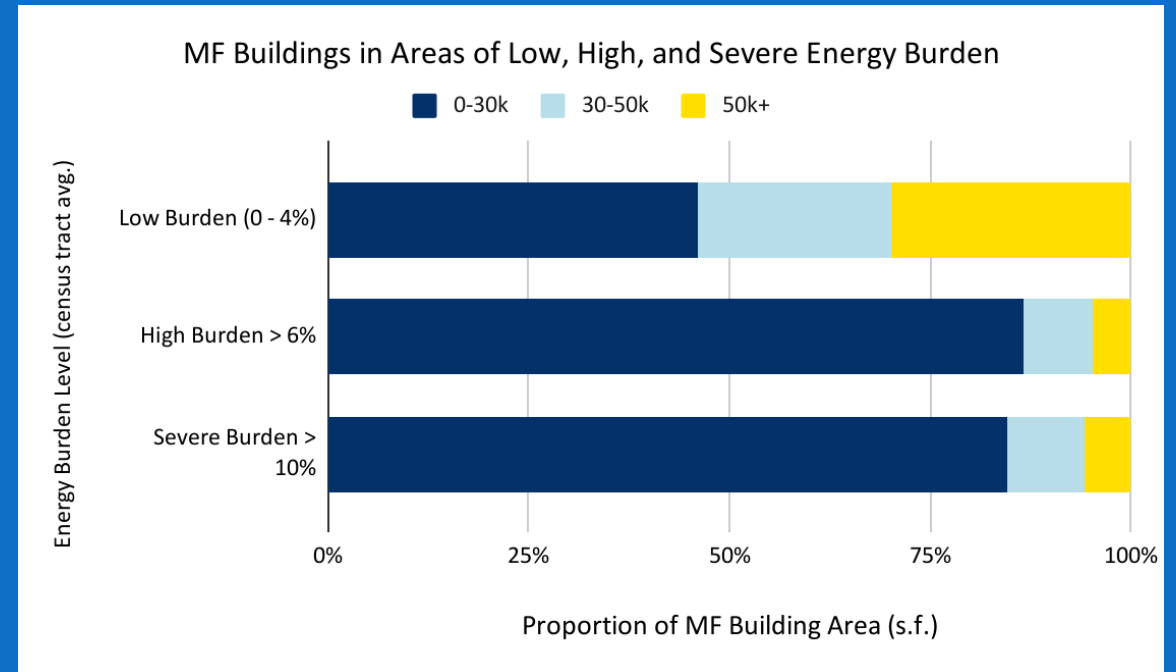Focuses on buildings, optimizing the total GHG and energy-use reduction while impacting the fewest building owners

**Equity analysis**:
Focuses on people, optimizing for improving the lived-experience of residents and equity in communities, alongside GHG and energy-use reduction
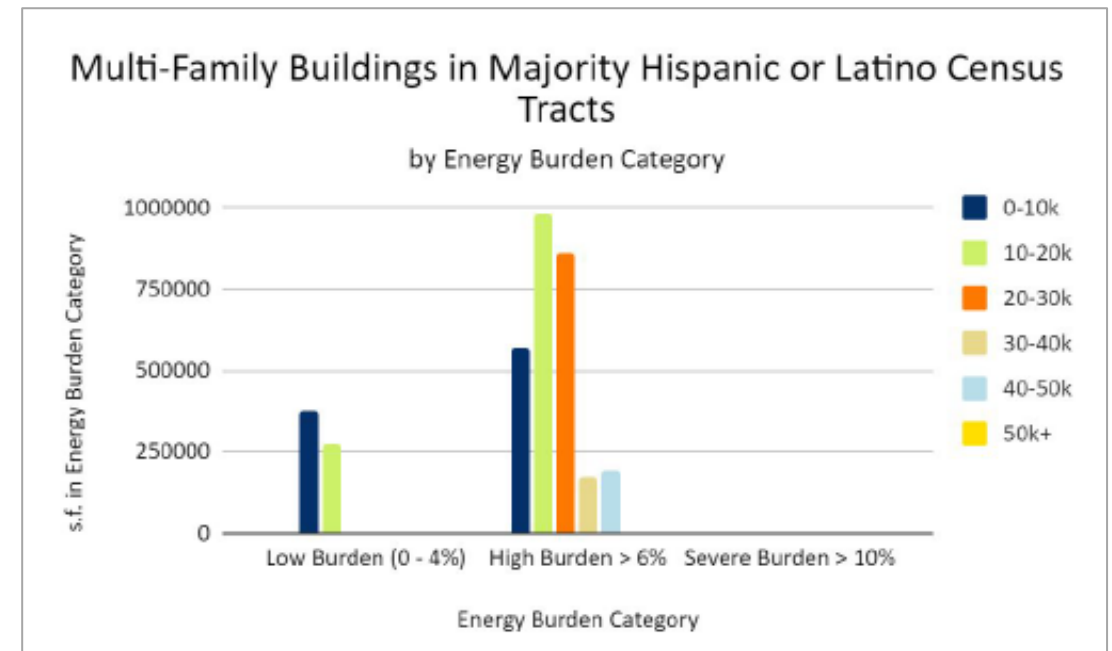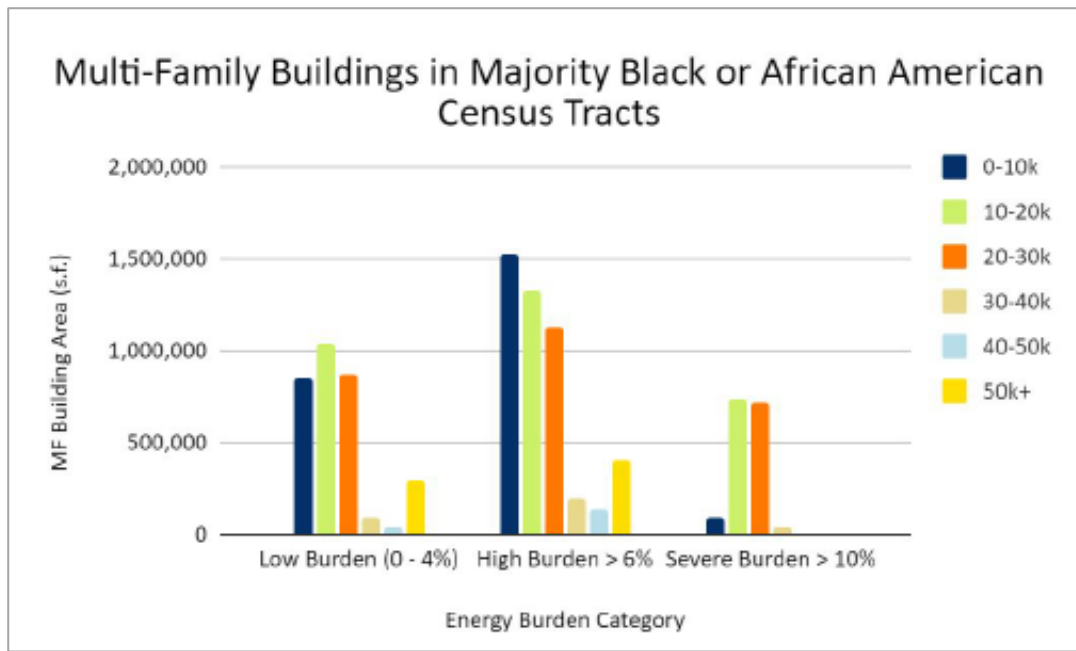
# Patterns in Multifamily Building *Sizes and Energy Burden* by Race

- **Black**: Only group where the average household faces severe energy burdens (>10%) in some areas.
- **Hispanic**: most households face high energy burdens (>6%), but not severe.
- **White**: Only race that does not experience high to severe energy burdens.



Note: Reflects averages by census tract, individual household experience varies.

# Revising the Model

| | |
|---|---|
| **Phase 1** | CBO Partnership, Continued Data Analysis |
| **Phase 2a** | Energy Burden Task Force (EBTF), White House Coalition |
| **Phase 2b** | Clean Energy Green Building (CEGB) Subcommittee > BPS Task Force |
| **Phase 3** | Broad input on draft solutions |