

# Sustainability as an Economic Driver

Kate Sipla, Program Manager, Schneider Electric  
Hillary Dobos, President, Lotus Sustainability & Engineering



## Introductions



Kate Sipla

Local & State Government  
Program Manager  
Schneider Electric



**Energy Performance Contracting**

**Infrastructure Modernization**

**Grant & Stimulus Support**

Internal





## Introductions



Hillary Dobos

President  
Lotus Engineering  
& Sustainability

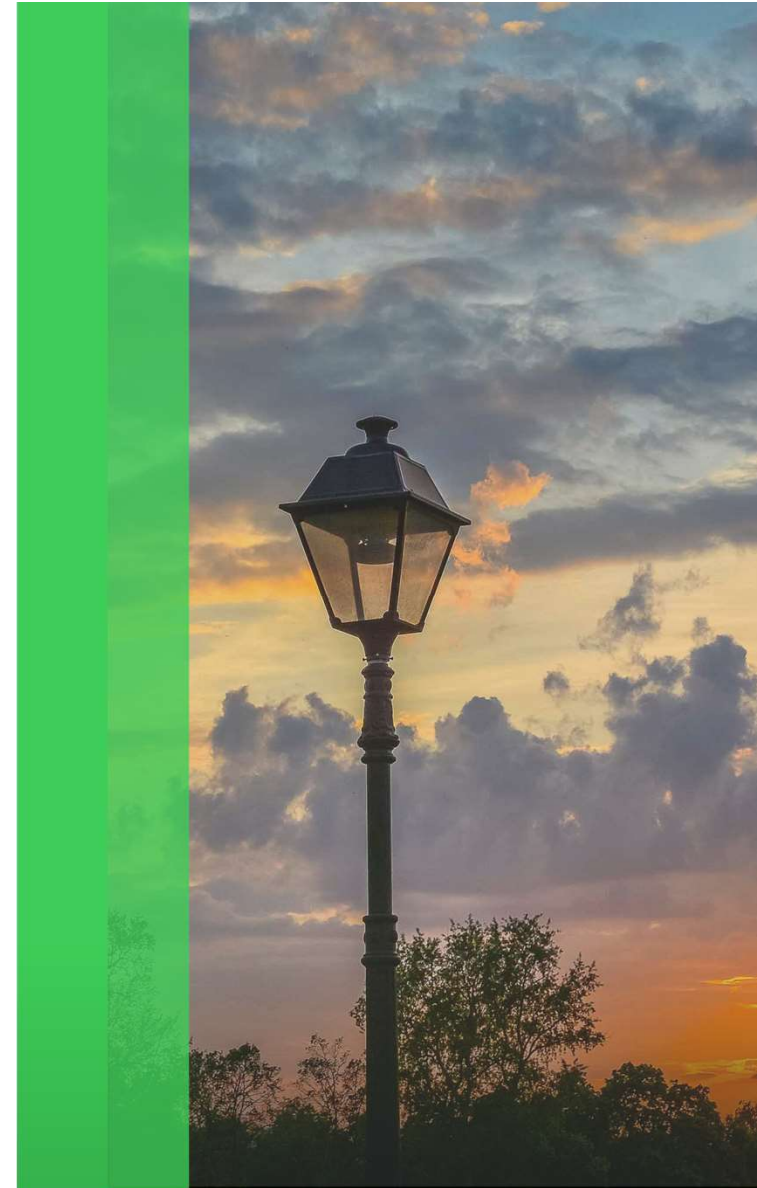


**Sustainability Consulting**

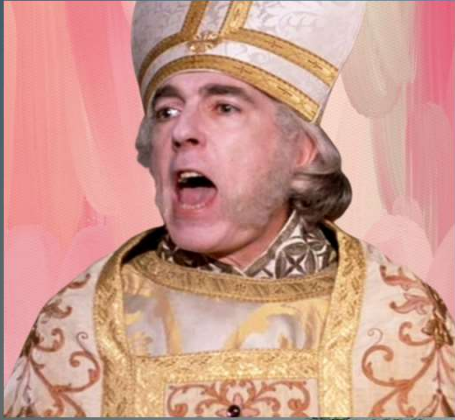
**Greenhouse Gas Emission  
Tracking & Inventory**

**Climate Action Planning**

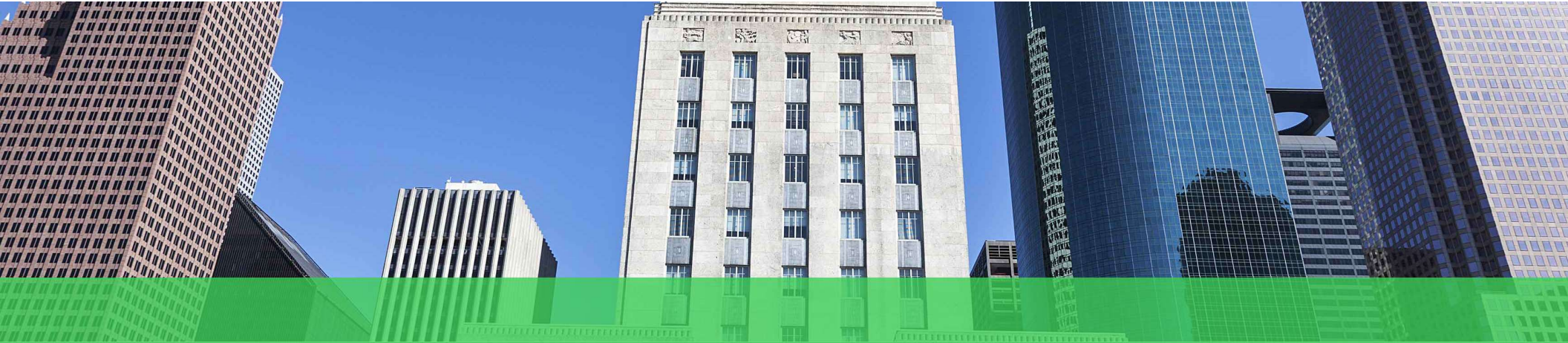
Internal



Economic Development is what  
brings us together...today







## Top 3 Mayoral Priorities



Infrastructure  
Modernization



Economic  
Development

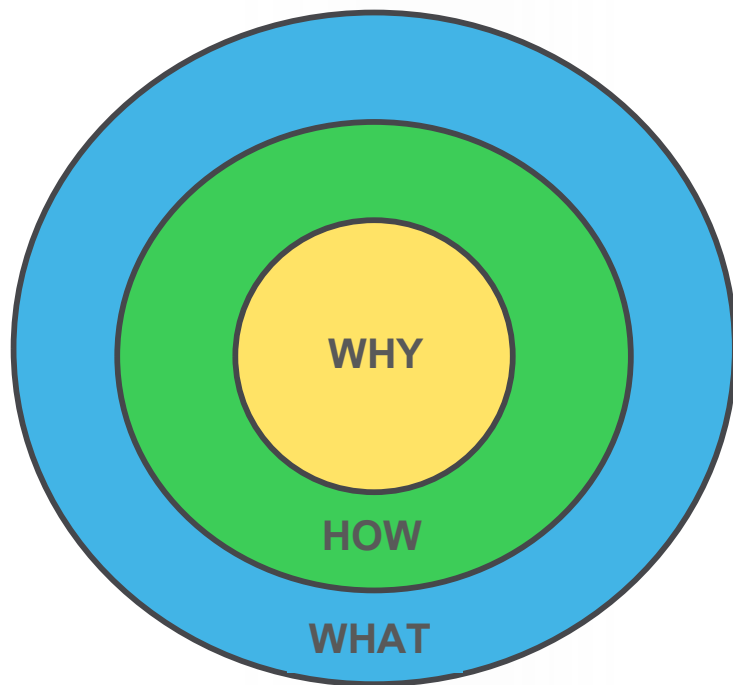


Budgets and  
Management

*What if an investment in sustainability could address all 3?*

# Sustainability as an Economic Driver

The Golden Circle



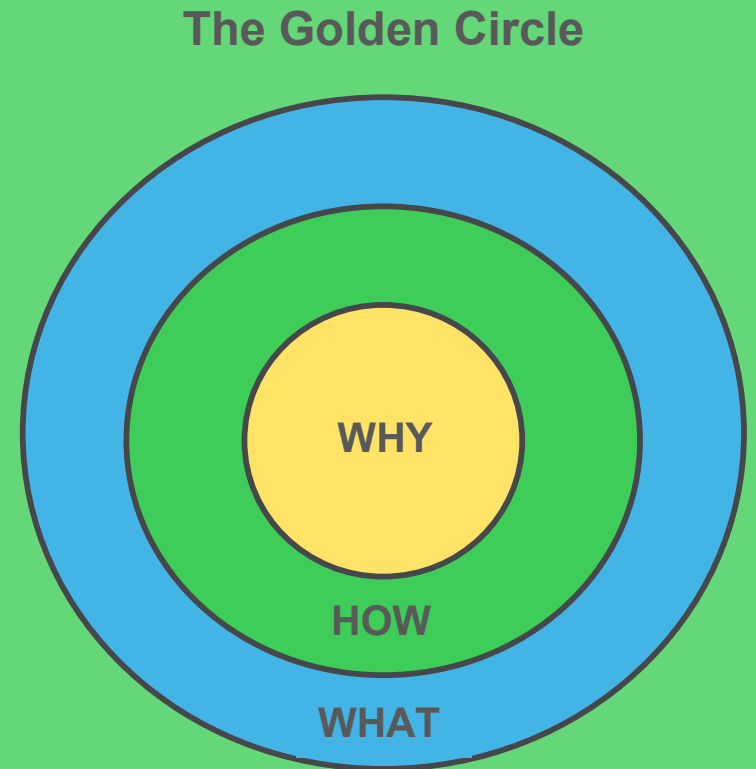
***Why*** sustainability and why now?

***How*** do I start?

***What*** are the results?

## Why sustainability?

- Community Health & Safety
- Financial Stability
- Diminishing Natural Resources



# Why Sustainability?

## *Community Health & Safety*

### **Air & Water**

- Airborne particulate matter is linked to low birth weight, premature birth, and SIDS
- In Western US, mean annual surface-water supply is projected to decrease 70% by 2050

Sources: Physicians for Social Responsibility, McKinsey & Company

### **Public Safety**

- Poor street lighting causes 30% more vehicle accidents
- 246 Texans died due to February 2021 power outages and extreme weather

Source: National Highway Traffic Safety Administration  
Austin-American Statesman News

### **Economic Impact**

- Poor health costs the US economy \$3.2T per year in premature death and lost productivity
- Between 2010-2016, 700 extreme global weather events cost \$762B

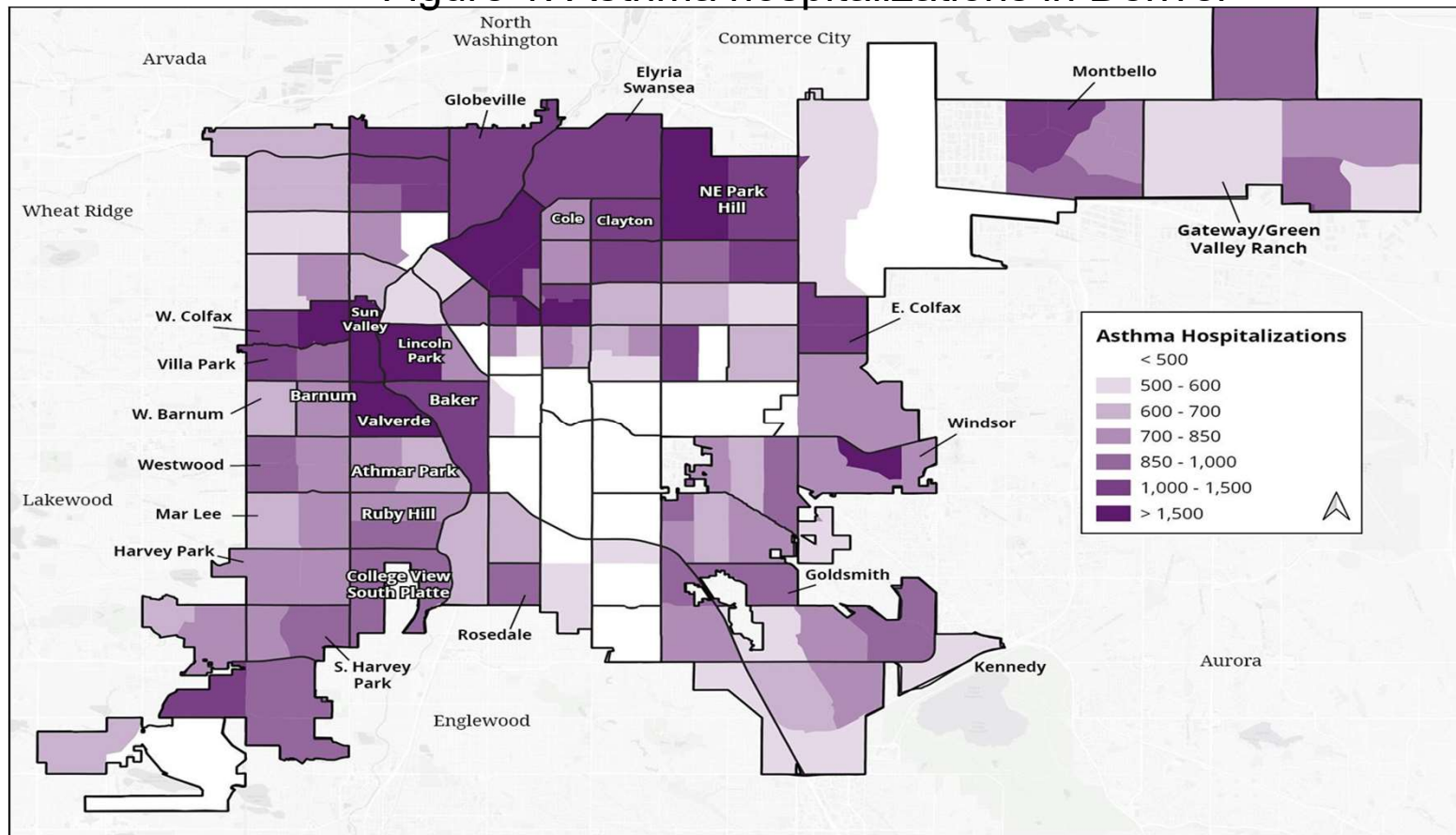
Sources: Sustainability Science Journal, McKinsey & Company



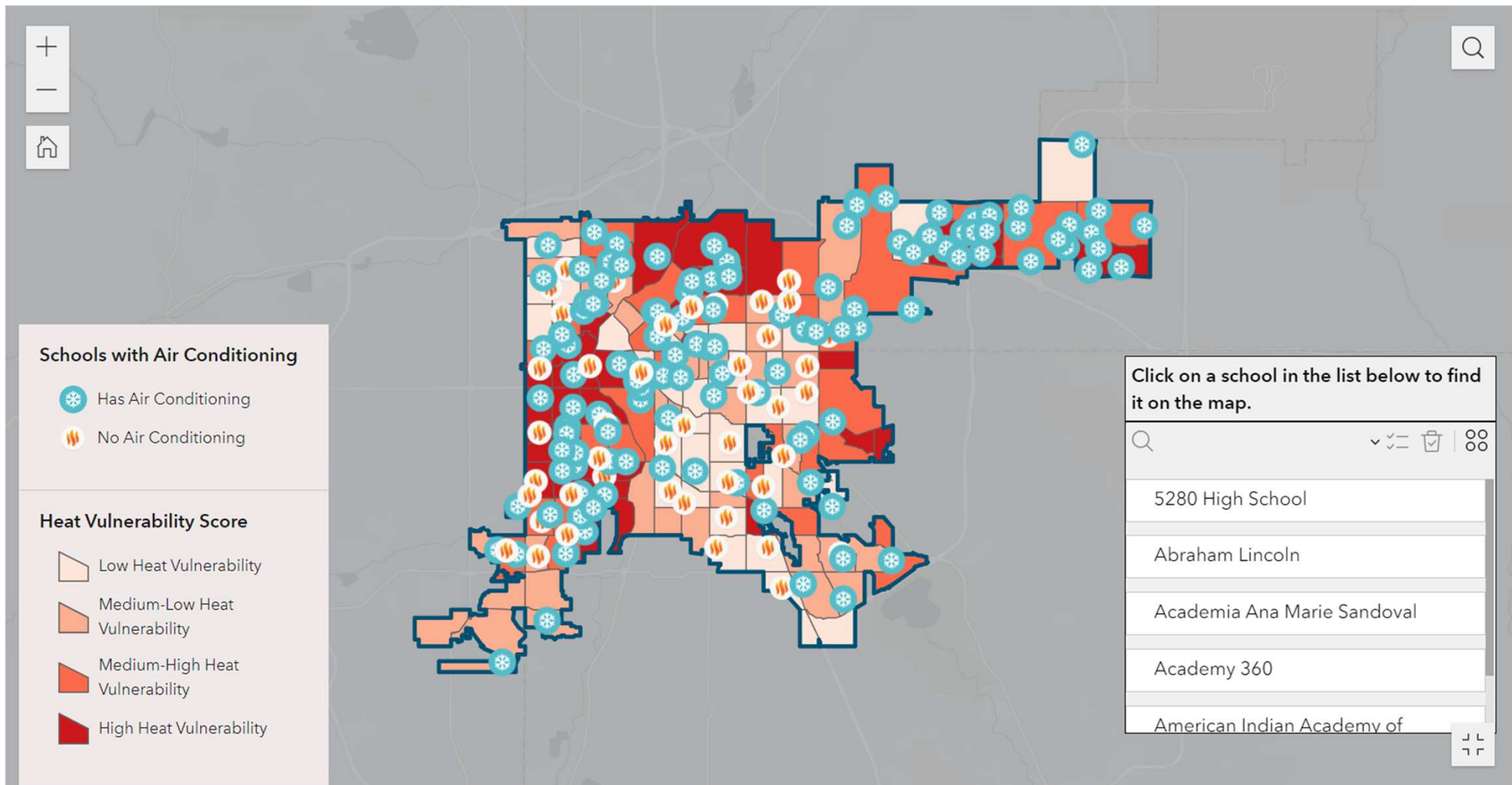
# Why Sustainability?

## Community Health & Safety

Figure 1: Asthma hospitalizations in Denver



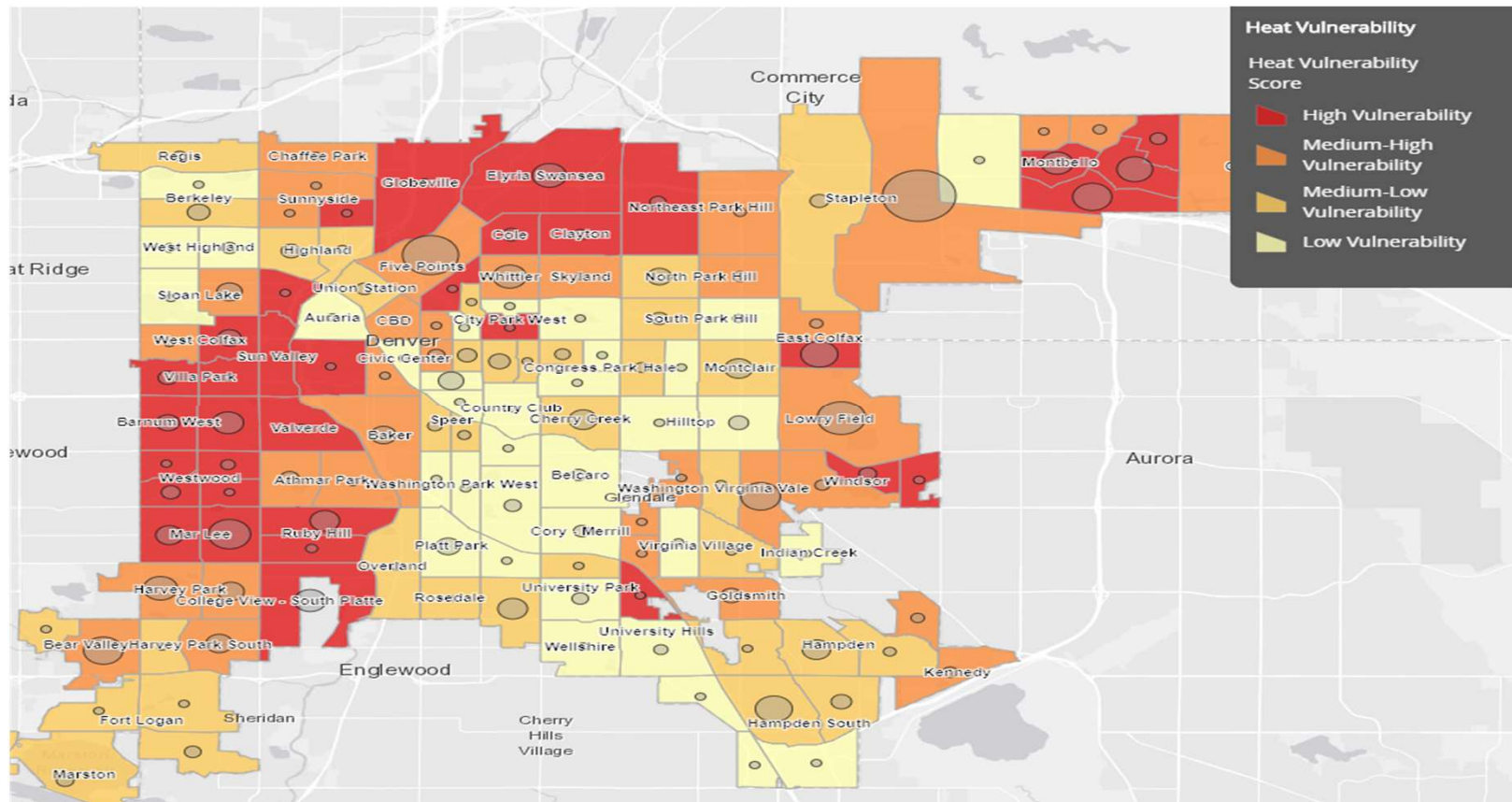
# Why Sustainability? Community Health & Safety



# Why Sustainability?

*Community Health & Safety*

Figure 2: Heat vulnerability in Denver

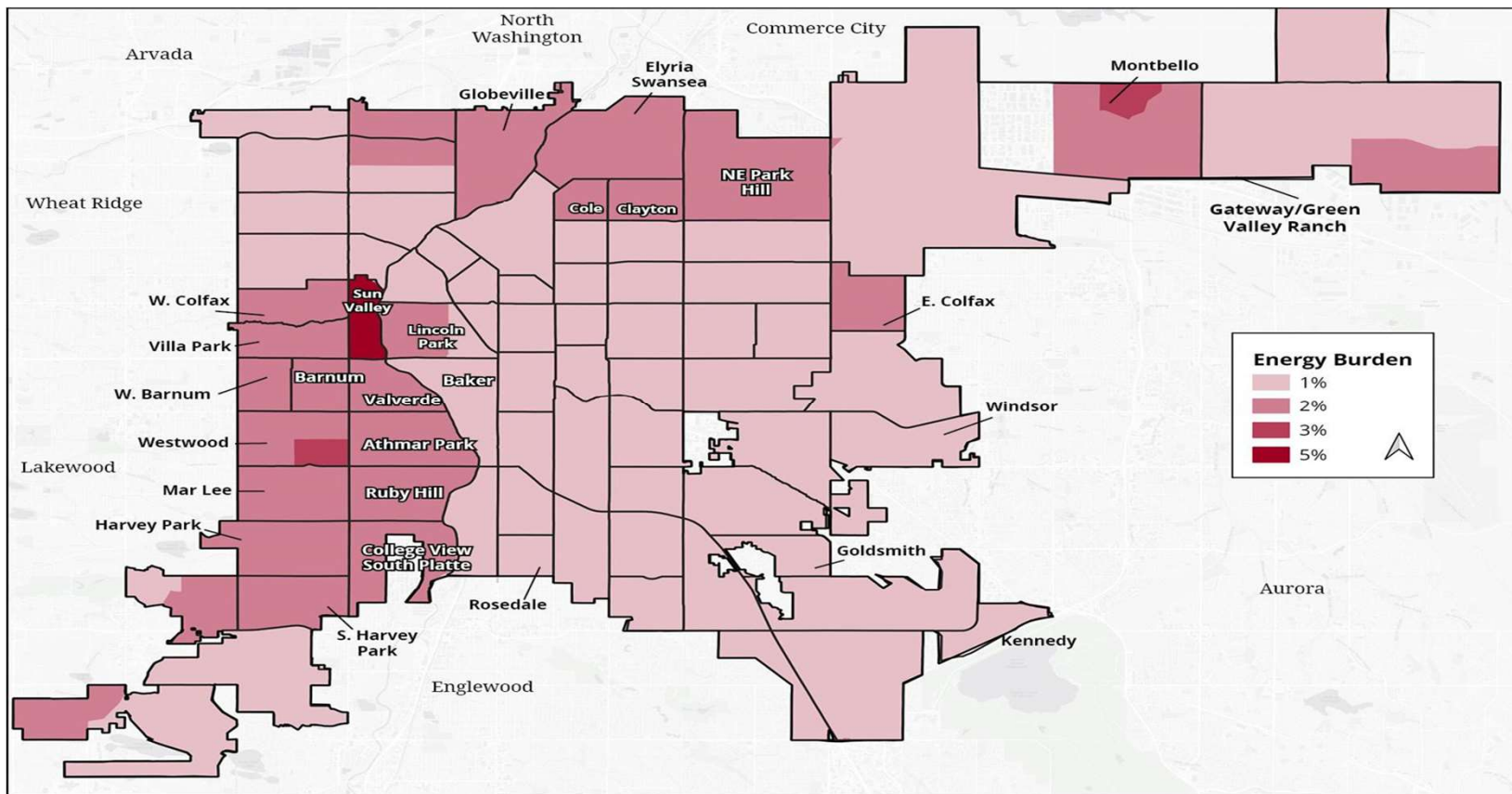




# Why Sustainability?

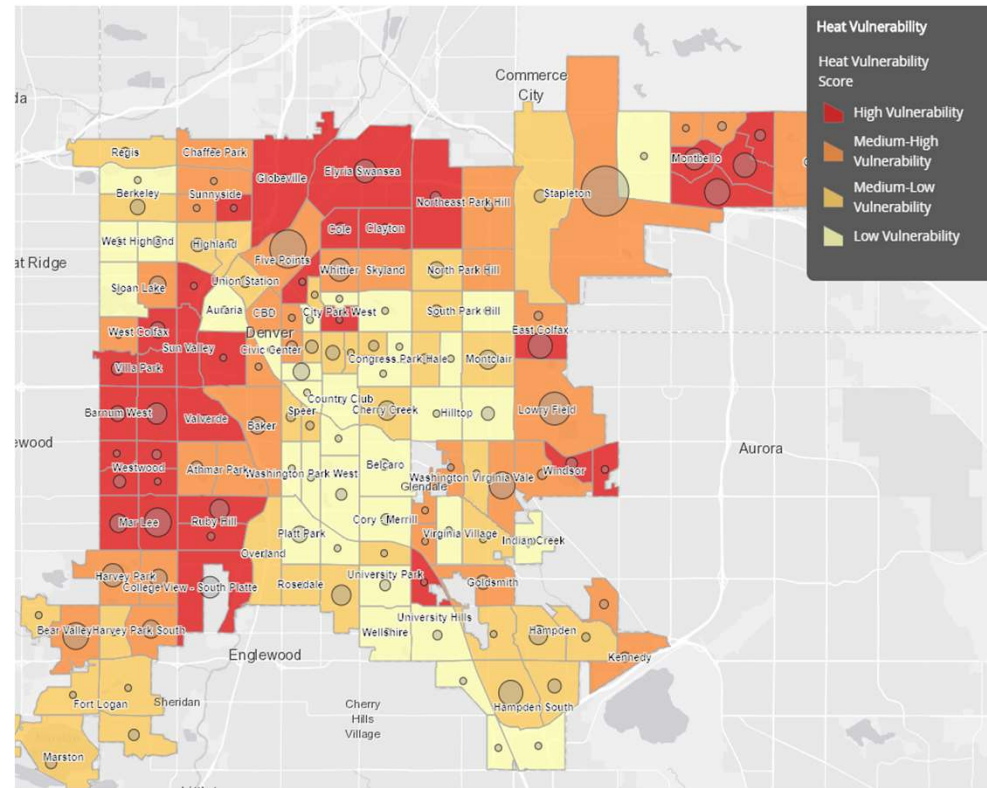
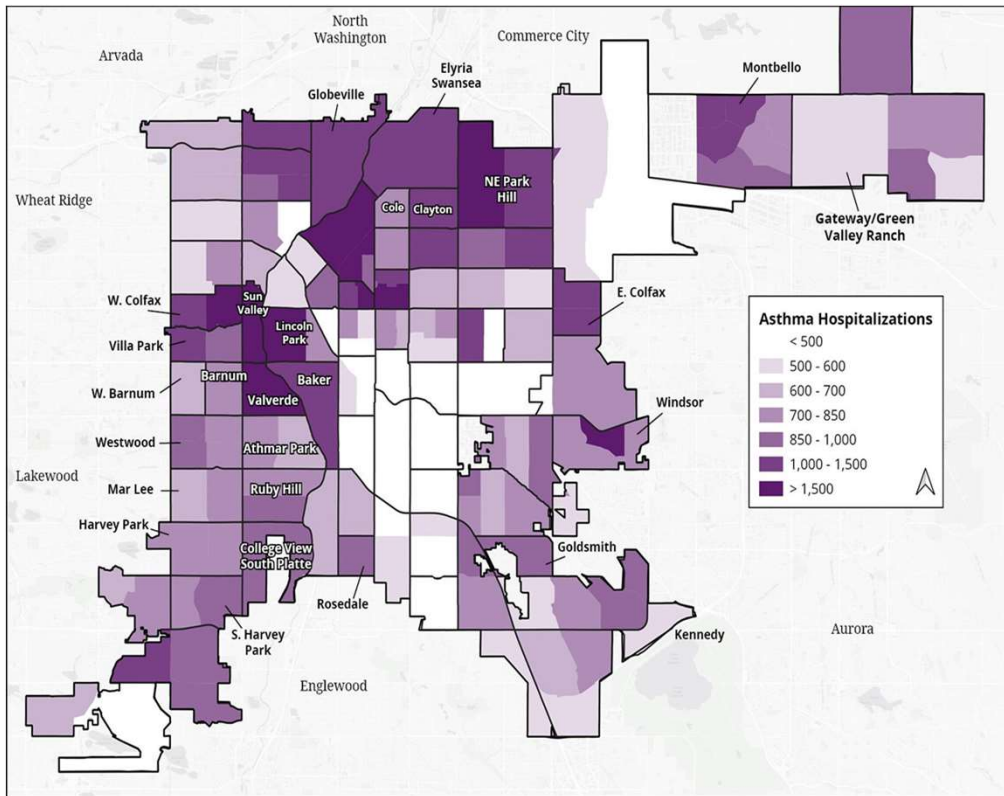
*Community Health & Safety*

Figure 3: Energy burden in Denver



# Why Sustainability?

## Community Health & Safety



# Why Sustainability?

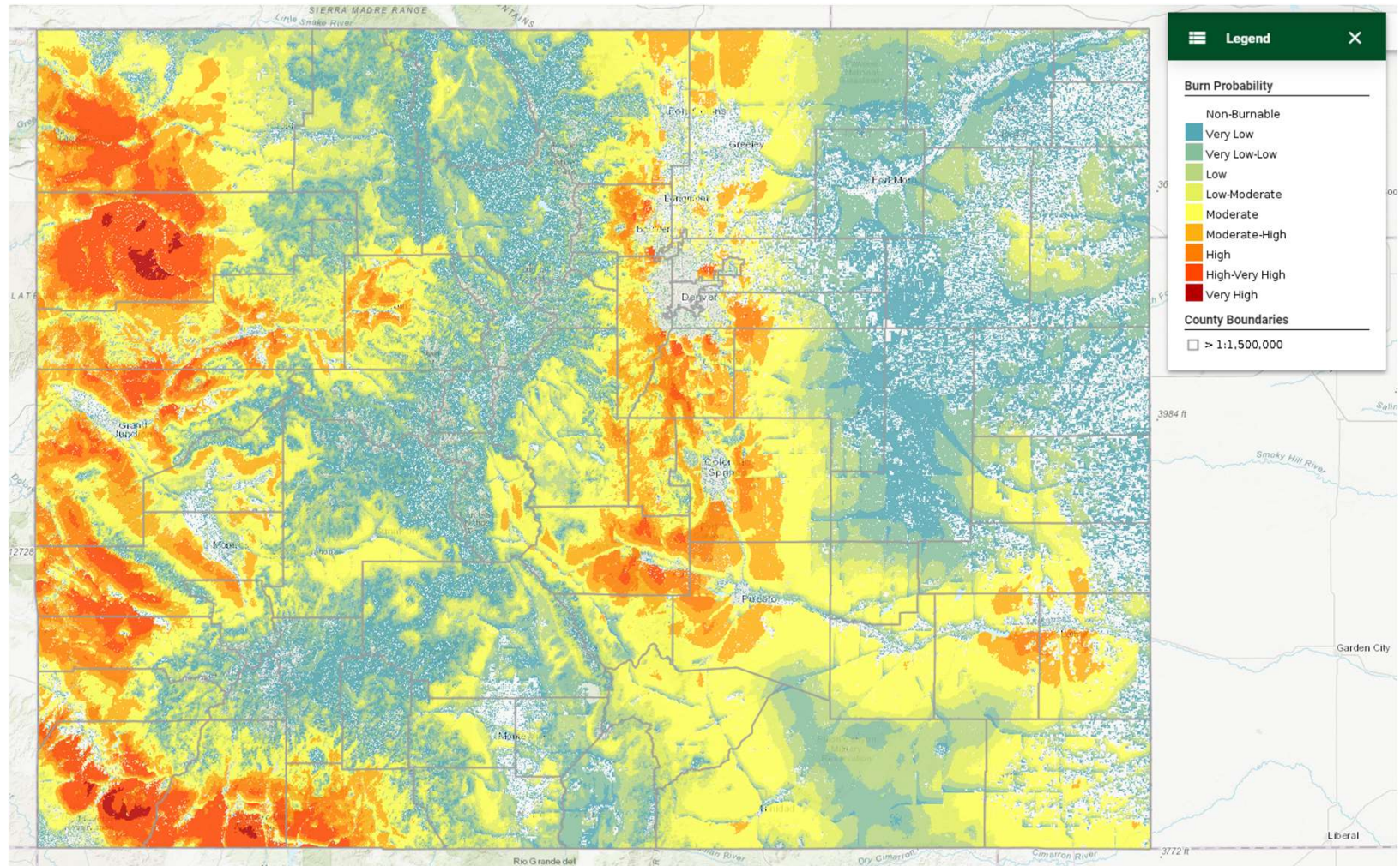
## *Financial Stability & Diminishing Natural Resources*

- Rising Utility Rates
- Deferred Maintenance
- Unfunded Capital Improvements
- Forced Infrastructure Upgrades (W/WWTP)
- Opportunities for New Revenue Streams
- Water
- Wildfires
- Power Grid Resiliency
- Fossil Fuels & EV Conversion



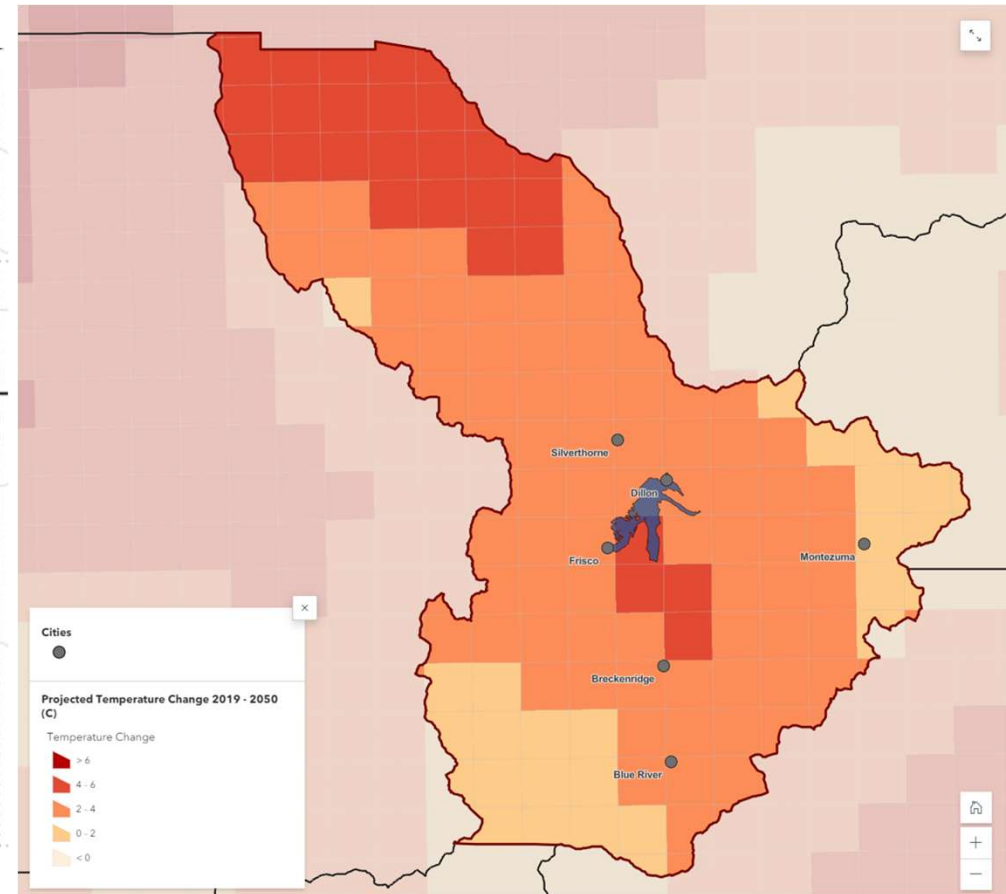
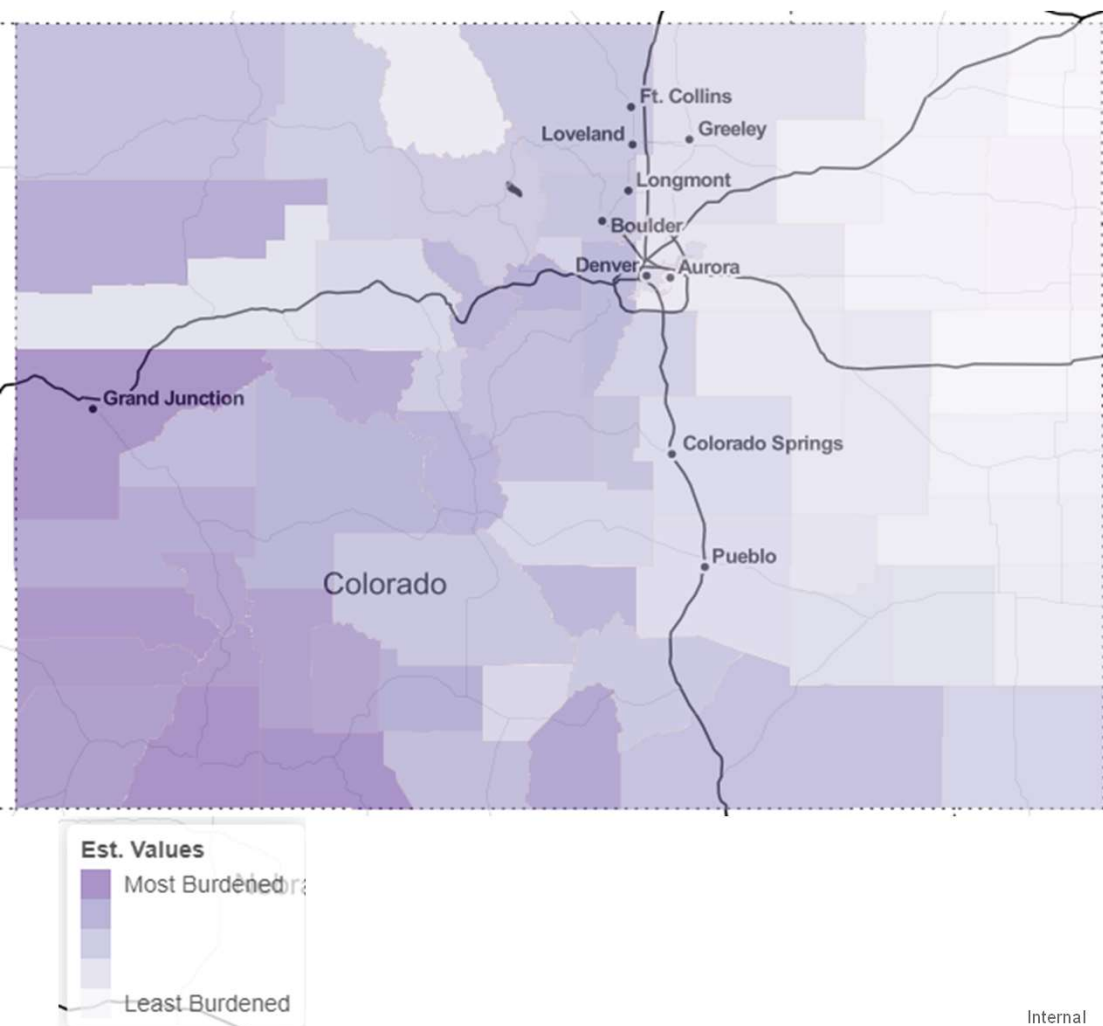


# Why Sustainability?



Internal

# Why Sustainability?

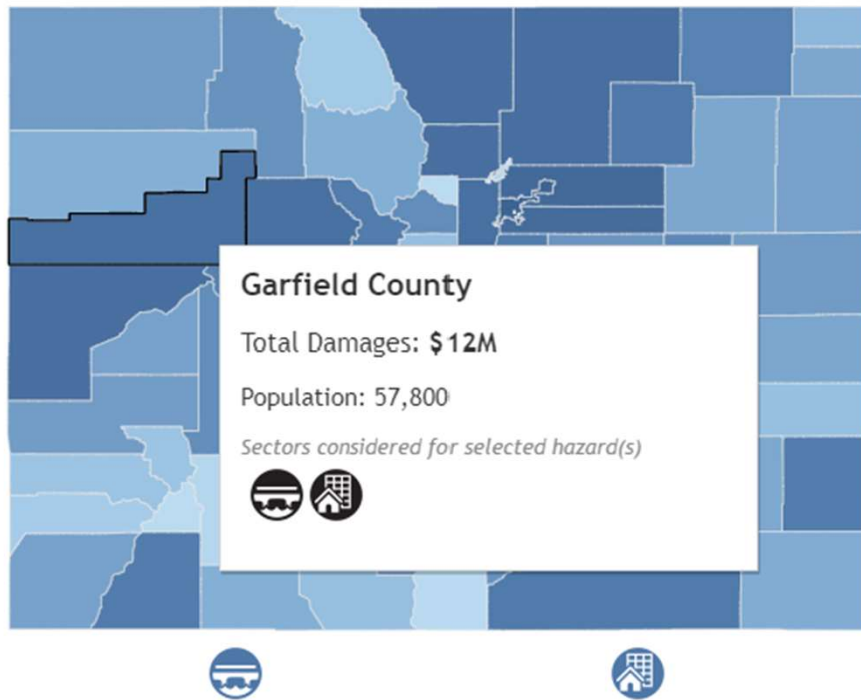


Internal

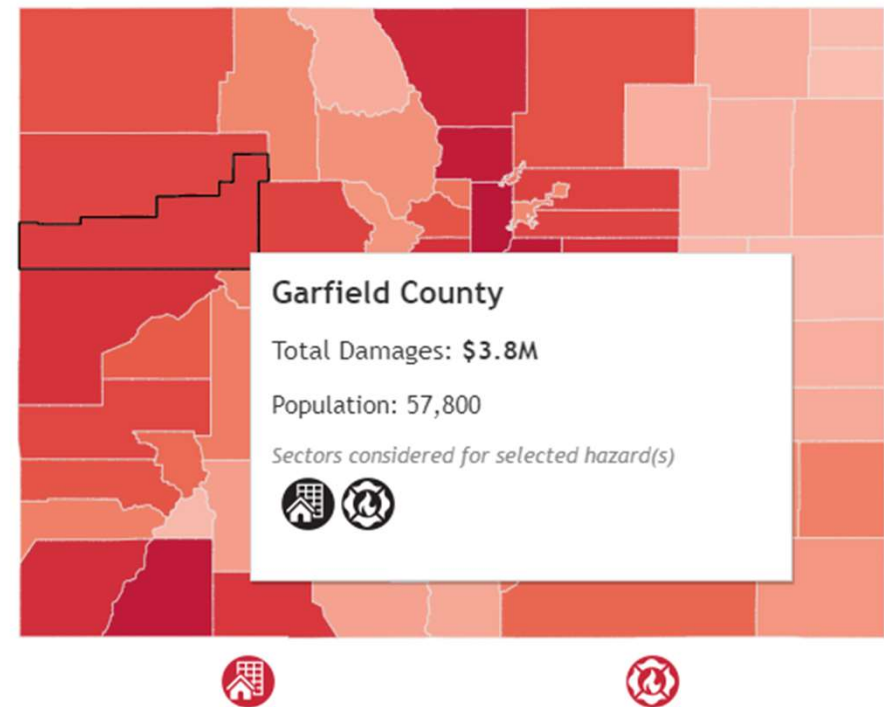
# Why Sustainability?

## Financial Stability

Current Effect of Flooding



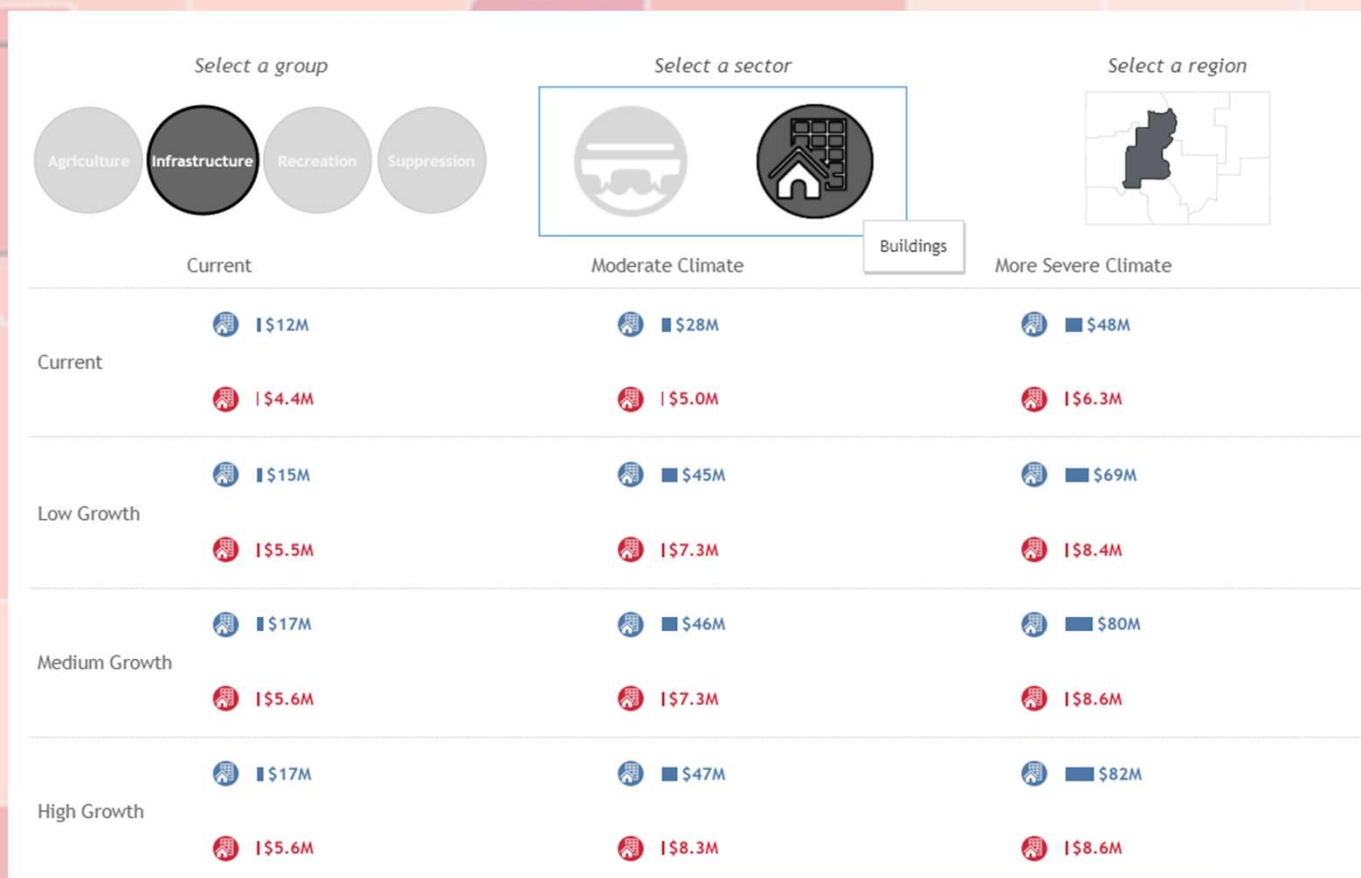
Current Effect of Wildfires





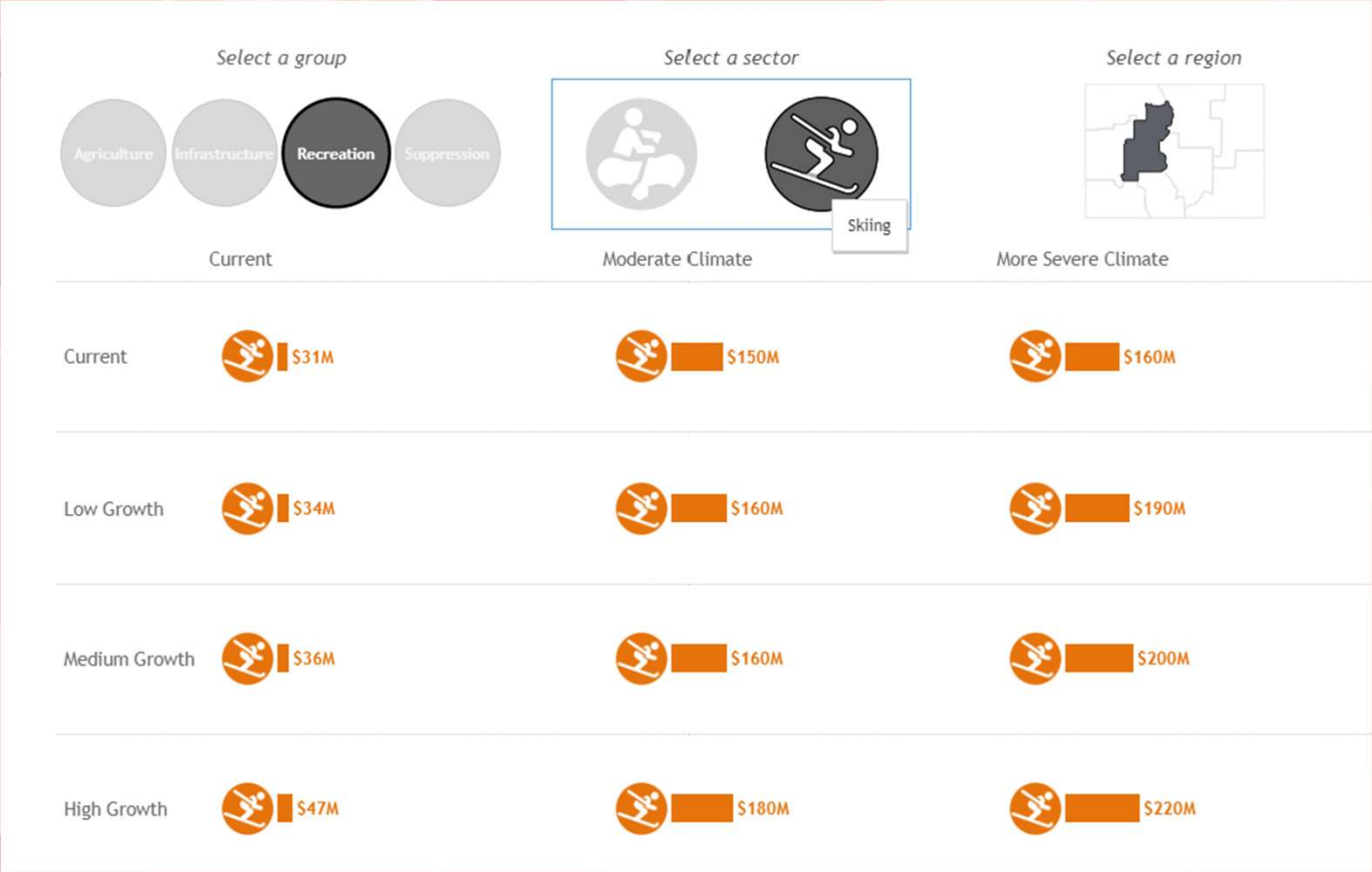
# Why Sustainability?

## Identifying Risks



# Why Sustainability?

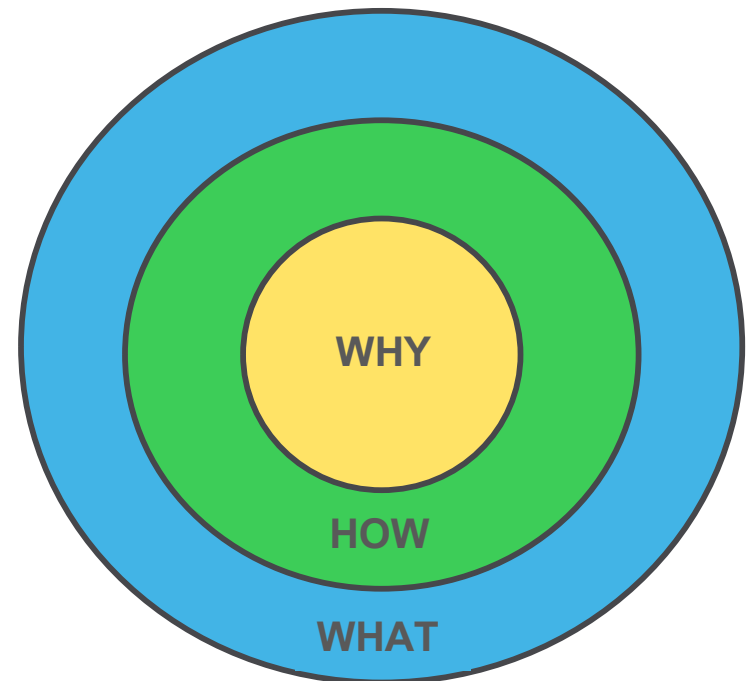
## Identifying Risks



# Why now?

- Disaster Preparedness
- Deferred Maintenance and Aging Infrastructure
- Rising Utility Costs & Inflation
- Imminent Building Code and Benchmarking Updates

## The Golden Circle





# Why now?

*It's more expensive later*



## Disaster Preparedness

- Prevention is cheaper than cleanup
- Insurance premiums will increase



## Aging Infrastructure

- Deferred maintenance costs 15-35% more over time
- IIJA and IRA won't be around forever



## Predictable Utility Spending

- Lock in rates
- Generate and store your own power

# Why now?

## *Building Codes & Benchmarking*



### FINANCIAL

- Contributes to innovative grid management
- Increases resiliency to climate change
- Proactively prepare for imminent changes
- Reduces cost of future retrofits



### EQUITY

- Increases access to cooling
- Adds high-road green jobs
- Reduces utility costs
- Increases resiliency to climate change
- Encourages developers to create accessibility



### COMMUNITY

- Lowers exposure to pollutants and improves public health
- Improves public safety
- Grid resiliency
- State funding for communities prioritizing sustainability



## VISION

- Prepare the community for **resilience in the face of disaster** through improved response efforts and facility capabilities
- Be a **cutting-edge leader** in climate energy and action

Life Is On

**Schneider**  
Electric

## SUCCESS STORY | Jersey City, NJ

### SOLUTIONS

- Developed first municipal microgrid in the nation to power EV sanitation fleet with 100% redundancy
- Self-Funded with an Energy Performance Contract
- Twenty-four city-owned facilities upgraded to include:
  - LED lighting, HVAC and building automation, building envelope improvements, solar/roofing upgrades

### IMPACTS

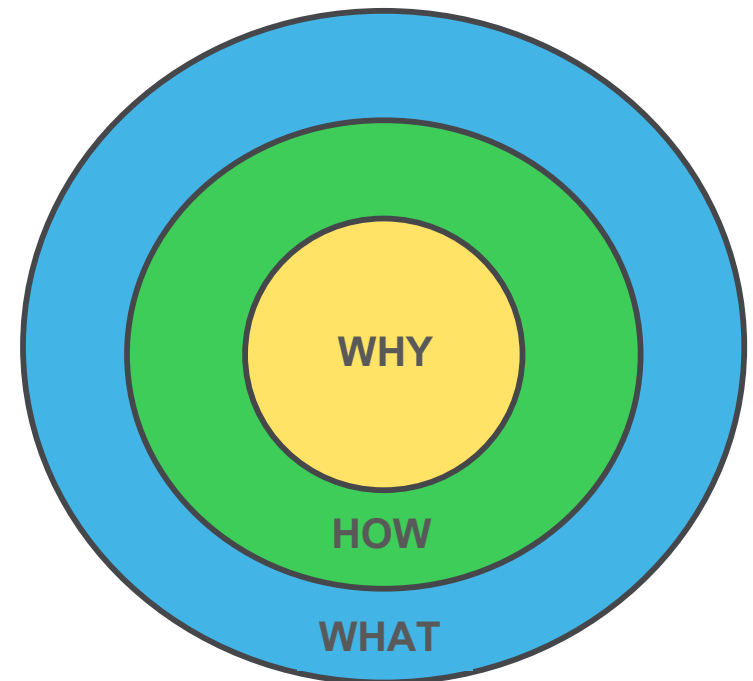
- \$21 million in taxpayer savings for energy and operational costs over 20 years
- \$448,000 in annual savings
- On or above target to reach the City's 2015 commitments of:
  - 50% renewable energy by 2025
  - 80% reduction in GHG emissions by 2050



# How?

- Grants & Stimulus
- Sustainability in your Master Plan
- Create New Revenue Streams
- Energy Performance Contracting

## The Golden Circle



# How?

## Grants and Stimulus

### IIJA/IRA

- Investment Tax Credit now open to public agencies; cuts install costs of renewables up to 60%
- EECBG: Formula Program
- EV Community & Corridor Charging Grant

### Colorado Energy Office

- Public Building Electrification Program
- Charge Ahead Colorado (EV)
- Clean Air Program (CAP)
- Microgrids for Community Resilience
- Strategic Electrification and Energy Decarbonization (SEED) Grant

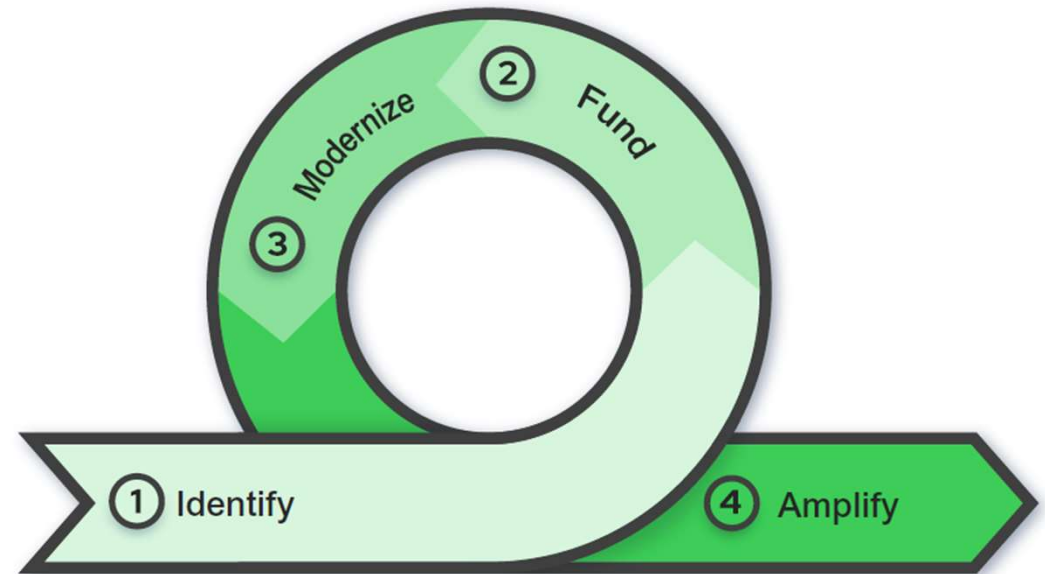
### Other Agencies

- BOR: WaterSMART
- DOE: Energy Improvement in Rural & Remote Areas
- DOT: Strengthening Mobility & Revolutionizing Transportation (SMART)
- USDA: Community Facilities Direct Loan & Grant Program

# How?

## *Building Sustainability into a Master Plan*

1. **Identify** infrastructure projects that boost economic development including things like downtown revitalization, athletic facilities, and technology zones.
2. **Fund** your project by capturing energy and operations savings and identifying applicable federal/state/local grant funding.
3. **Modernize** your infrastructure with updates focused on:
  - Deferred maintenance
  - Critical infrastructure improvements
  - Sustainability
  - Resiliency
4. **Amplify** infrastructure investments that generate additional revenue by reinvesting it back into public services





# How?

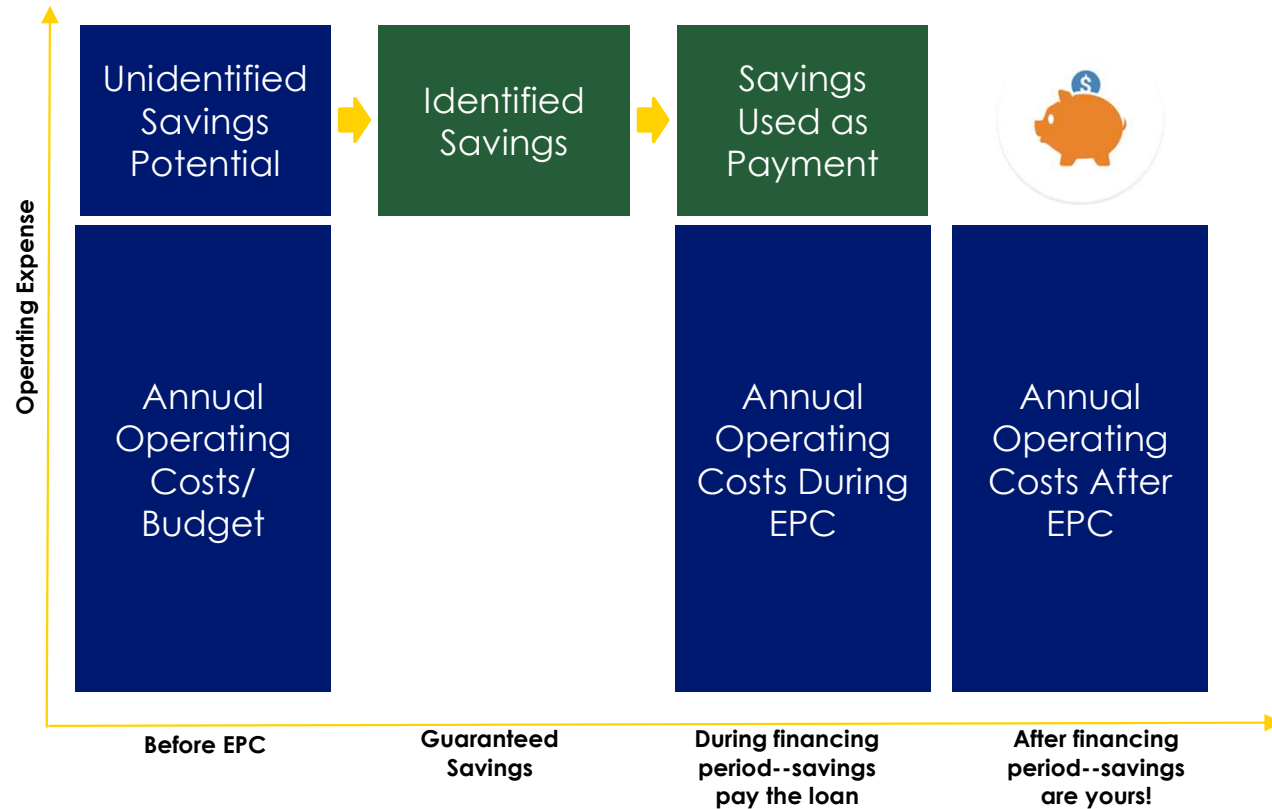
*Create new revenue streams*

- EV charging
- Upgraded water meters
- Athletic and recreation facility improvements
- Opening new community buildings
- Solar and other renewables
- Energy Performance Contracting program

# How?

## Energy Performance Contracting

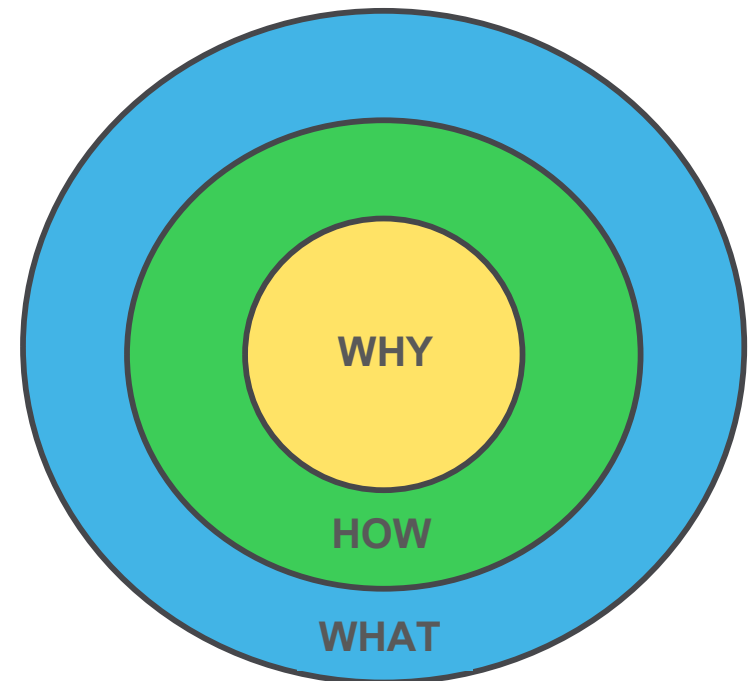
- CO Statute: must be self-funding
- CEO procurement support
- Standard contracts & RFP
- Guaranteed savings
- Design, construction, M&V support from ESCO
- Bundle deferred maintenance & capital projects
- Create positive cash flow



# What is the result?

- Economic development opportunities
- Resilient infrastructure
- Community pride and engagement
- Modern, beautiful communities
- Reduction of energy use

## The Golden Circle





# Sierra Vista, Arizona

 Population: 40,000

## Sustainability Project Highlights



- Sports tourism, infrastructure modernization, & community engagement



- EV infrastructure & solar covered parking



- Electrical, HVAC, streetlight, irrigation, and WWTP upgrades



- 5 artificial turf fields, sports lighting at 17 fields and courts, new wave machine at aquatic center



- **Projected economic impact:** \$2.2M annual, \$138M+ total lifecycle





# Takeaways

- Sustainability is more affordable than ever
- Investing in sustainability creates healthier, more attractive, more resilient communities
- Consider long term impact, not just up-front challenges
- Leverage sustainability to your economic advantage



# Q&A

**Kate Sipla:** [kate.sipla@se.com](mailto:kate.sipla@se.com)

**Hillary Dobos:** [hillary@lotussustainability.com](mailto:hillary@lotussustainability.com)