

Louisville Metro Government
Mayor's Office of Sustainability

**Float Like a Butterfly,
Reflect Like a Roof (Should):**

**Incentivizing Resilience in
Louisville, KY**



OFFICE OF
SUSTAINABILITY

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Executive Director

Agenda



Louisville's own & symbol of resilience,
Muhammad Ali

image source [Time Magazine](#)

- 1 Background: Urban Heat & Climate Pollution
- 2 Cool Roof Incentive: Program Impacts & “Abundance” Process
- 3 Questions and discussion

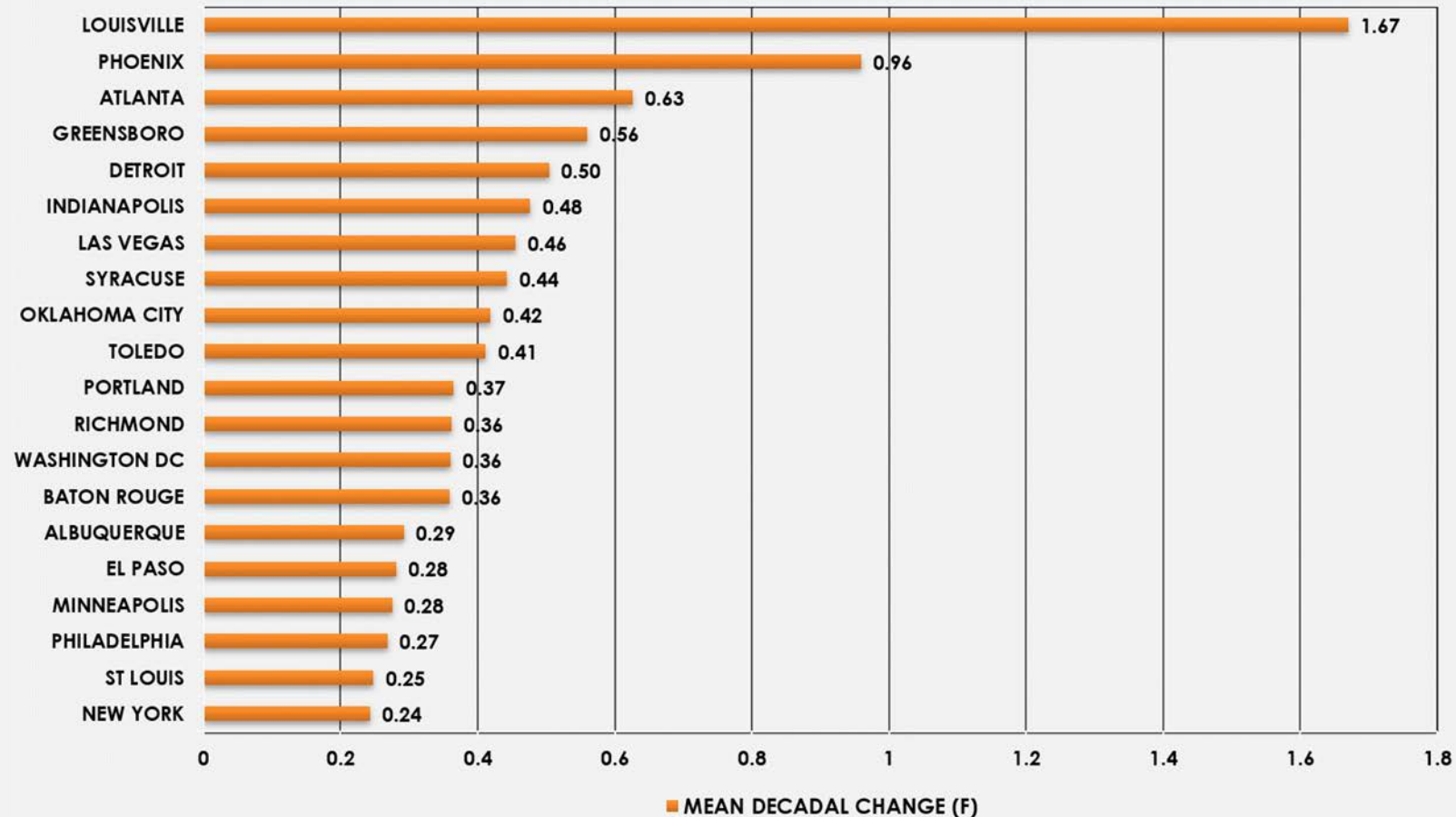
TLDR: Cool Roofs = Many Benefits

1. Reduced HVAC costs (15% avg. reduction summer months) *Environmental & Energy Study Institute - EESI*
2. Better indoor air quality
3. Greater occupant health and comfort
4. High-quality, high-performance buildings
5. Increases property value
6. Contributes to environmental goals

Background: Our Why

Louisville is Facing Environmental Challenges

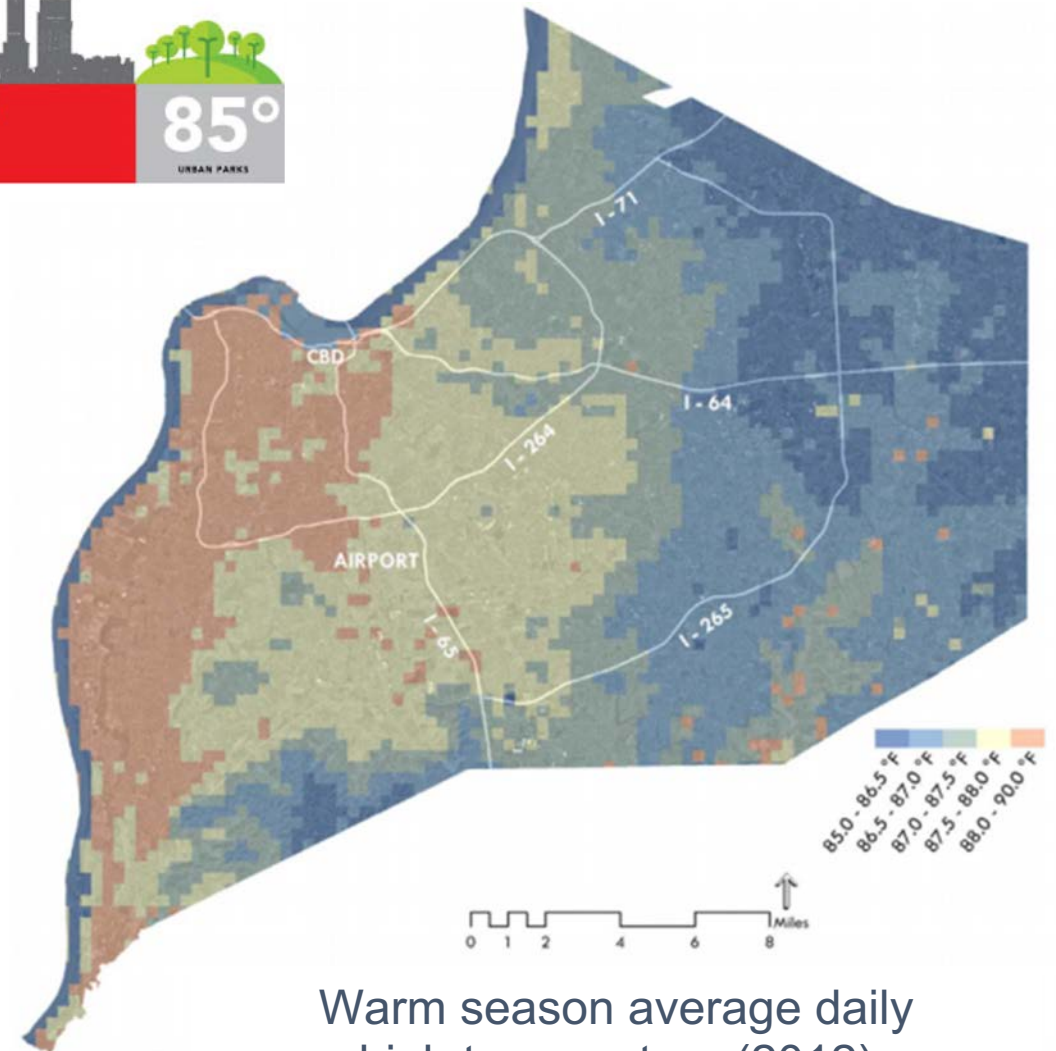
Top 20 Cities: Most Rapidly Warming Urban Heat Islands 1961-2010



SOURCE: URBAN CLIMATE LAB, GEORGIA INSTITUTE OF TECHNOLOGY

Environmental Crises Impact Our Wellbeing

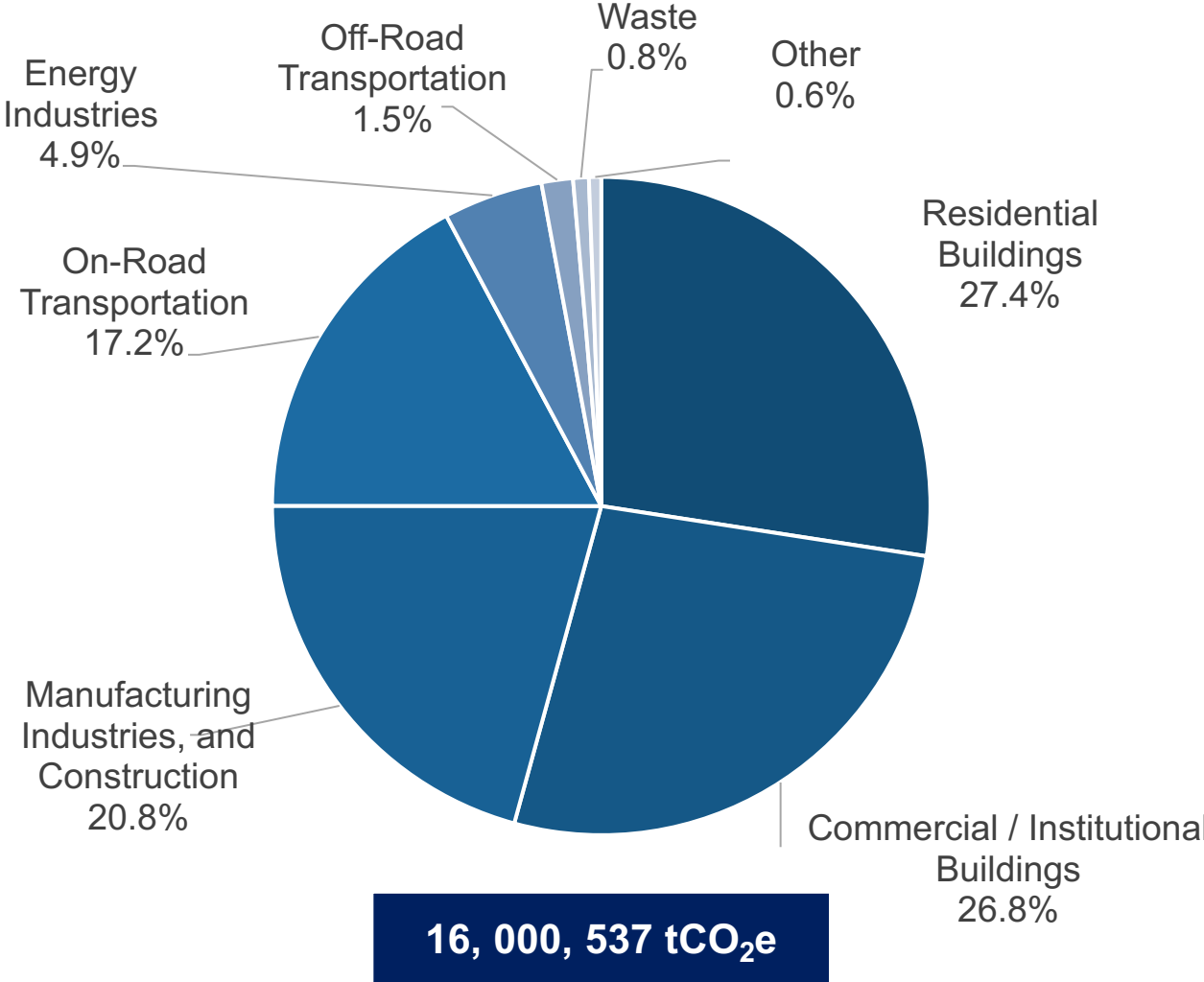
What the Urban Heat Island Effect means for Louisville



Warm season average daily
high temperature (2012)

Data tells us that the built environment is an important factor

2016 Louisville Greenhouse Gas Inventory (2026 coming...)



City	Per Capita GHG Emissions
Columbus, OH	13.2 tCO ₂ e
Austin, TX	15.5 tCO ₂ e
US National Average	16.5 tCO₂e
Nashville, TN	20.1 tCO ₂ e
Louisville, KY	20.9 tCO₂e
Knoxville, TN	21.7 tCO ₂ e
Memphis, TN	22.0 tCO ₂ e
St. Louis, MO	22.9 tCO ₂ e

What are **we** doing about it?

R-102-19: Resolution for 100% Clean Energy

- 100% clean electricity for LMG operations by 2030
- 100% clean energy for LMG operations by 2035
- **100% clean energy community-wide by 2040**

R-157-22: Resolution Establishing a Science-based Greenhouse Gas Emissions Reduction Target

- Reduce emissions by half by 2030
- **Net zero emissions by 2040**

**Can we get there? You must be a
little nutty to think this is possible.**

Yes and of course I am.

Louisville Green Bank's Cool Roof Program

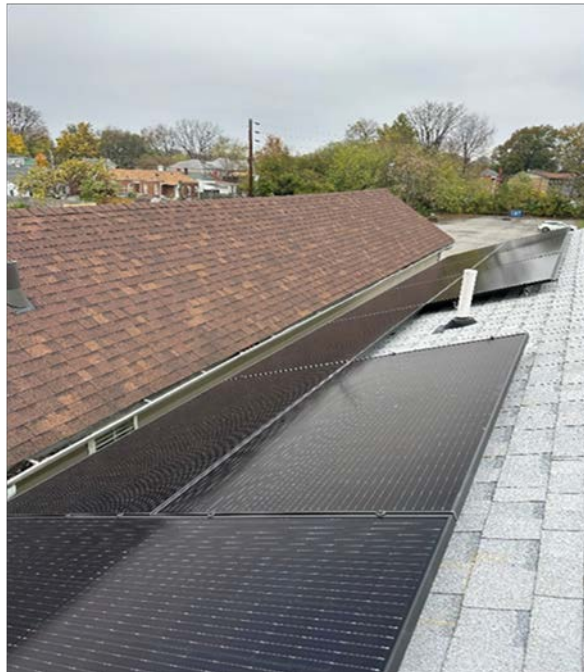
1. **Overview:** An incentive program providing \$1/SF (up to \$2K for residential, \$5–10K for commercial depending on slope) for installing Cool Roof Rating Council rated roofing to combat the city's heat island effect.
2. **What is it:** a rebate of \$1/SF of cool roof installed or applied
3. **Who is it for:** Residential and non-residential in Jefferson County (High Heat districts get priority)
4. **\$ Impact to date:** ~\$5.7 million: \$860K invested, >1.4 million SF covered, 15% avg. savings in summer months between residential (lower reflectivity) and commercial (high-end coatings)

Louisville Green Bank's Cool Roof Program

Environmental Impact to date:

- Per EESI, 1000 SF of Cool Roof = 10 Tons of CO₂/yr
- Louisville CR = 1.4M+ SF
- Lifetime impact of current stock = 14,000+ tons of CO₂ avoided, the equivalent of:
 - Planting 230,000 trees
 - Avoiding the use of 1.7 million gallons of gasoline

Louisville Green Bank's Cool Roof in action

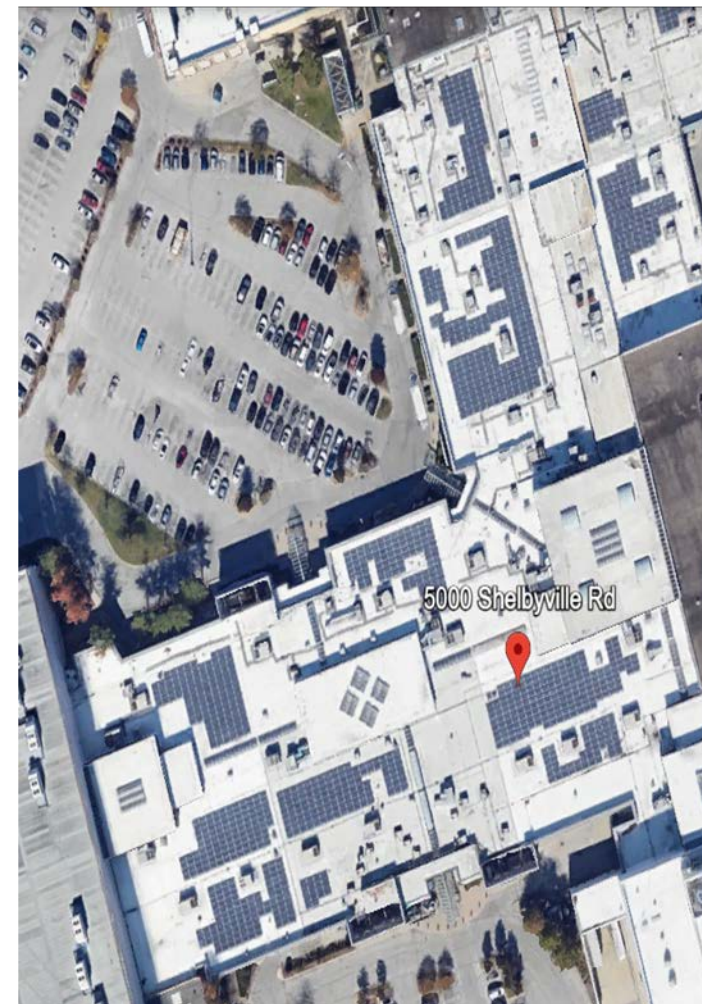


Louisville
Green Bank's
Cool Roof...
but make it
corporate

(or non-
residential)



Grab your Shady Rays!



Louisville Green Bank's Cool Roof Process...it's easy as one, two, three

^ Eligibility Requirements

- Roofing products must be certified by the [Cool Roof Rating Council's CRRC-1 Program](#) .
 - Low Slope roofs must have an initial solar reflectance of ≥ 0.65 . After 3 years, the solar reflectance must be ≥ 0.50 .
 - Effective April 2025, Steep Slope roofs must have an initial solar reflectance of ≥ 0.24 . Steep Slope roofs must have an initial solar reflectance of ≥ 0.24 . After 3 years, the solar reflectance must be ≥ 0.15 .
 - Note: Not all materials listed on the CRRC website have the solar reflectance we require for this incentive.
- Roof must be installed/applied by a contractor in good standing with the Secretary of State
- Roof must be located over an air-conditioned space
- Roof can be either a coating applied over an existing roof system or a new waterproofing membrane that meets the certified performance specifications (flat or low-sloped cool roofs only)
- Roof must have been installed no more than three (3) years before the application submission date
- Property owner must be the applicant for the rebate
- Property must be located in Jefferson County
- Business entities receiving funds must comply with requirements of the Louisville Metro Revenue Commission and be registered with the [Human Relations Commission](#)
- The subject property shall not be subject to Louisville Metro liens and shall be current in the payment of all [property taxes](#)

Resources

- Learn more about [the benefits of cool roofs](#) from the Department of Energy.

Louisville Green Bank's Cool Roof Process...it's easy as one, two, three

^ **Apply Today!**

Incentives will be distributed after roof installation and upon receipt of:

- [Cool Roof Incentive Application](#) signed by property owner & contractor
- [W-9 Form](#) filled out & signed by property owner
- Proof of Payment
 - Copy of purchase receipt showing paid in full OR
 - Invoice & a canceled check copy, credit/debit card statement, or money/bank transfer confirmation for full amount
- Three (3) photos of completed installation

Roofs must have been installed no more than three (3) years before the application submission date. Documentation must be submitted within six months of application submission, or funds will be forfeited. To apply for incentives from the Office of Sustainability's Cool Roof Incentive Program, **email a completed application form** (with the accompanying documentation) to sustainability@louisvilleky.gov. The Office of Sustainability's cool roof incentive funds are available on a first-come first-served basis. Applications may be submitted before the project is completed, but funds will not be dispersed until project completion.

Louisville Green Bank's Cool Roof Program Compounds

1. **Conservative Modeling:** in Louisville, *every dollar invested yields \$1.10-1.40 in avoided energy costs* over a 20-year install, accounting for product degradation & then 2.5-3.25% annual electricity escalation
2. **To date:** More than \$875K has been invested, generating -\$443K in cumulative savings since 2017 due to staggered installs
3. **Rolling break-even:** With consistent investment and demand, total program lifetime savings stack and surpass total program investment in approximately 9 years (2035)

Louisville Green Bank's Impact to Date

1. **Core Programs + Metco + Brownfields:** catalyzed -\$77.7 million in Green Financing across Louisville-Jefferson County
2. **Multiplier Effect:** <\$1 million in taxpayer dollars has yielded \$15.3 million in green residential improvements
3. **Sectors impacted:**
 - Residential
 - Commercial
 - Manufacturing
 - Construction
4. **Savings & Emissions Reduction:** Housing programs alone have offset -1900 tons of CO₂/yr (equivalent to -445 homes)

Table E1. Summary of Louisville Metro's GHG Emissions and GHG Reduction Targets

2016 Baseline	2050 Business as Usual	2035 Interim Target	2050 80% Reduction Target
16,000,537 tCO ₂ e	18,766,066 tCO ₂ e	12,612,255 tCO ₂ e	3,383,063 tCO ₂ e

Getting to 100% Clean Energy and Net Zero Community- wide

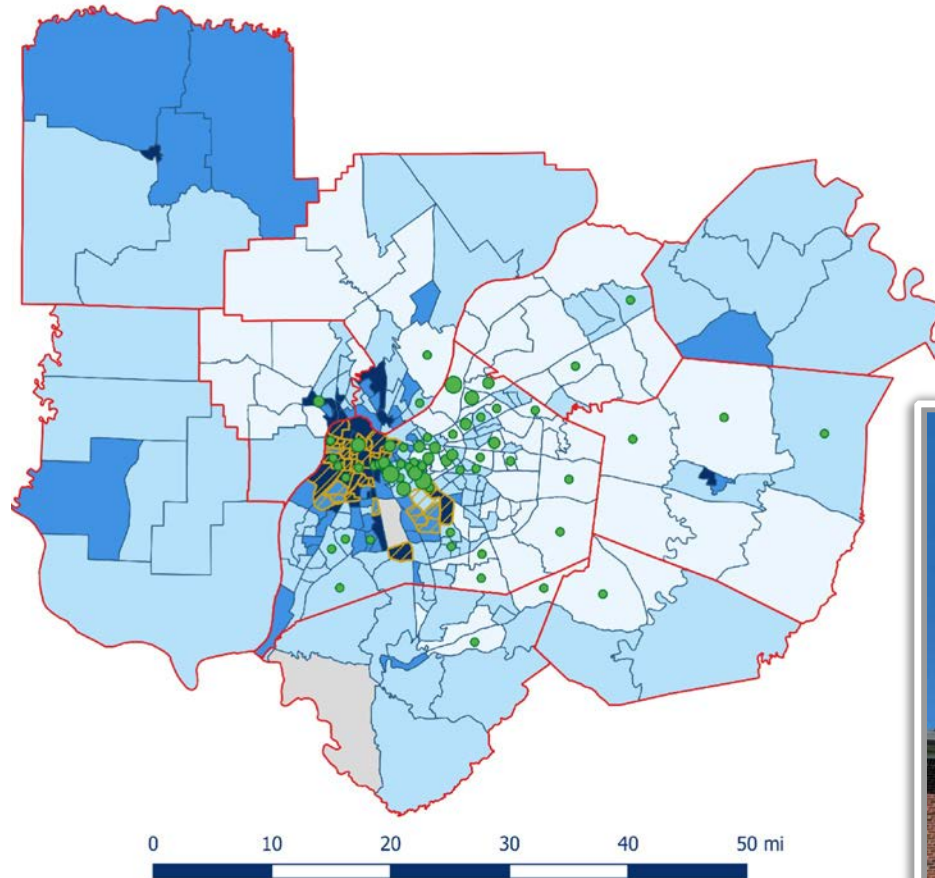


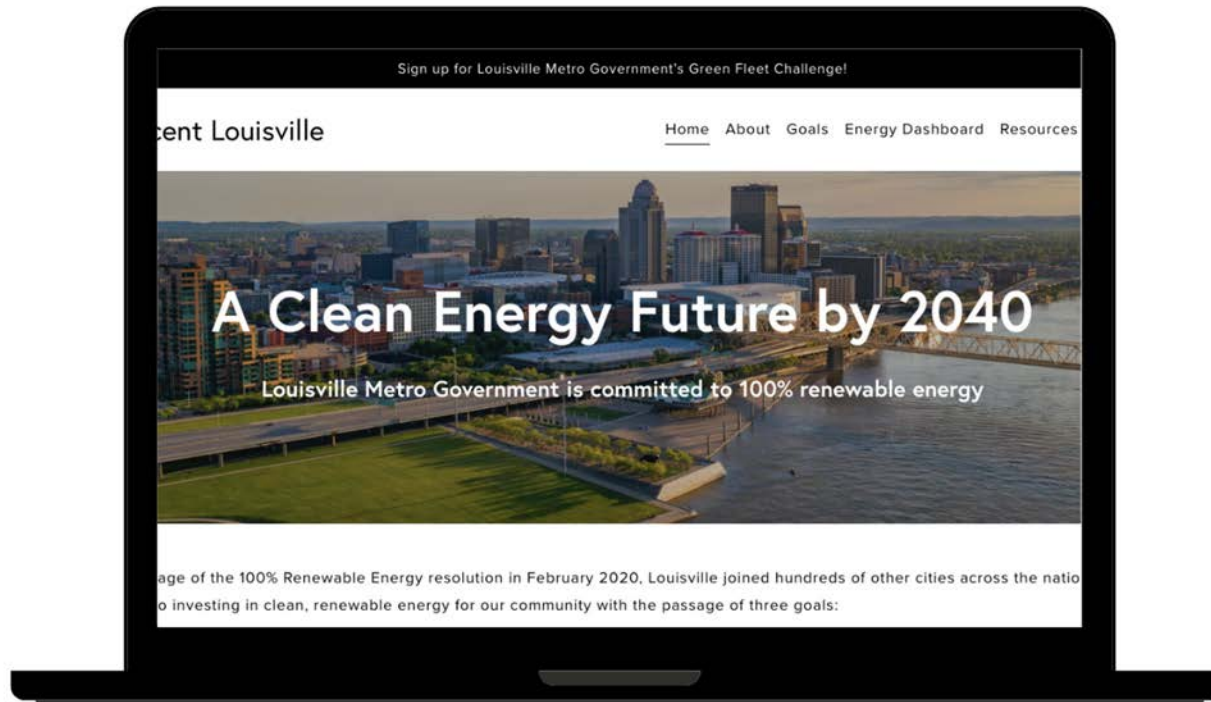
Image: 2022 Data
2026 Total: 313 contracts



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🔍 LouisvilleKY.gov/sustainability ✕

🔍 100PercentLou.com ✕



We are on the 'Gram:
[@SustainLouisville](https://twitter.com/SustainLouisville)



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