City of Bloomington
Common Council

Legislative Packet –Addendum

Posted on Wednesday, 31 July 2024

Wednesday, 31 July 2024

Regular Session at 6:30 pm

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Climate Action Plan Implementation Update

City of Bloomington

Economic and Sustainable Development Department

Shawn Miya, MPH
Assistant Director of Sustainability

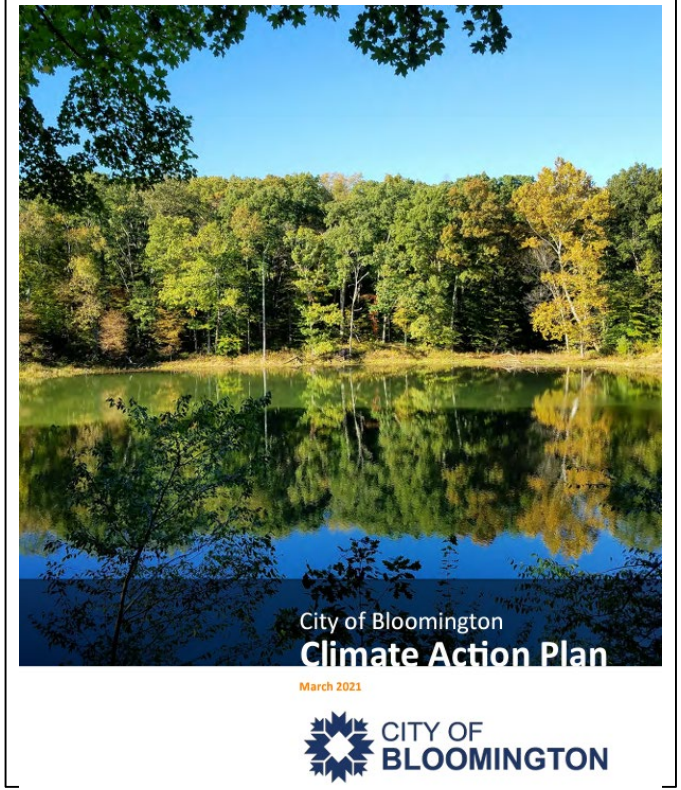
July 2024

CITY OF BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

citybloomington

2021 Climate Action Plan

Goals are to reduce Bloomington community greenhouse gas emissions 25% below 2018 emission levels by 2030 and **achieve carbon neutrality by 2050**

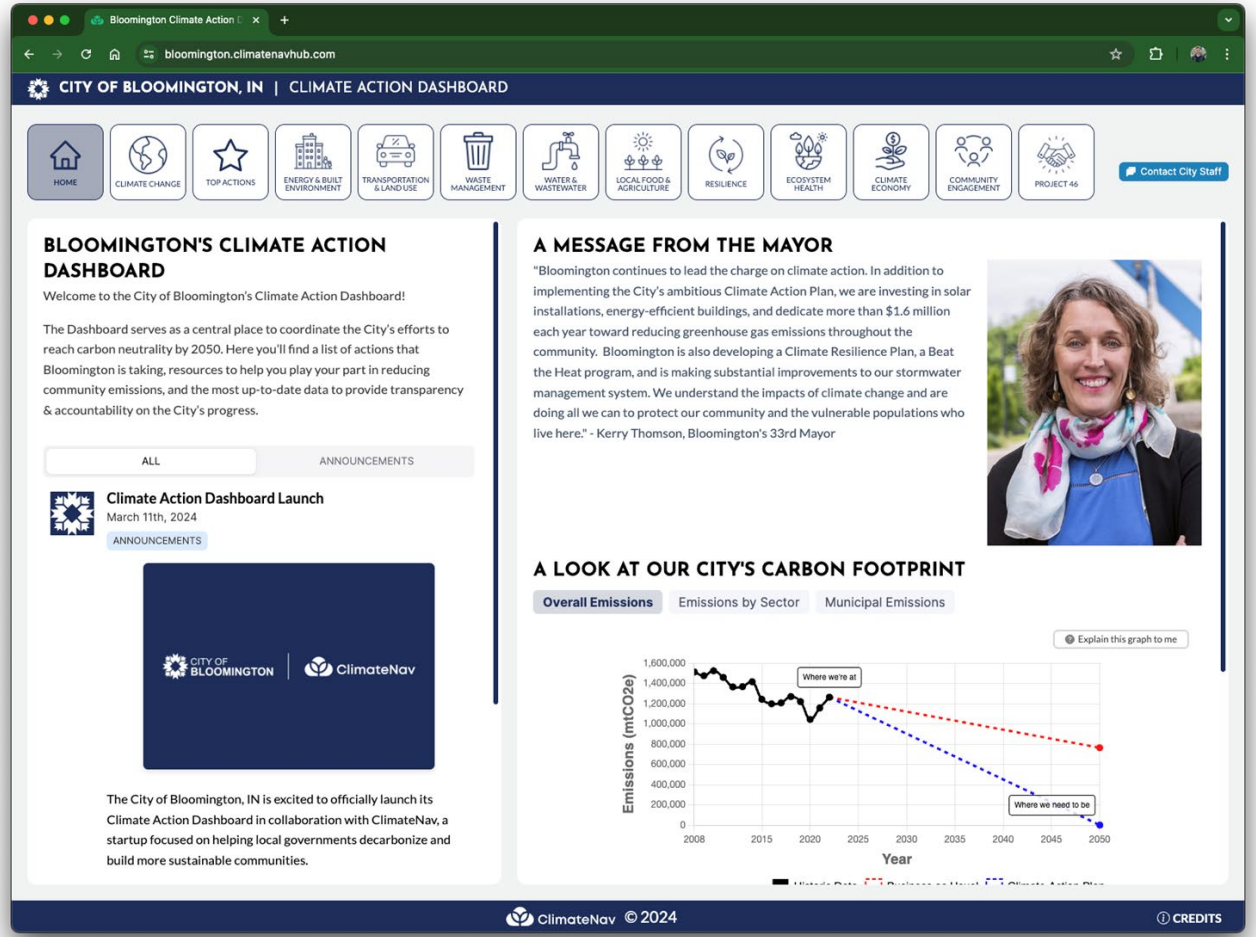


Climate Action Plan Dashboard

- ★ Launched April 2024
- ★ Designed in collaboration between the City of Bloomington and ClimateNav
- ★ Wes De Silvestro, Founder and CEO

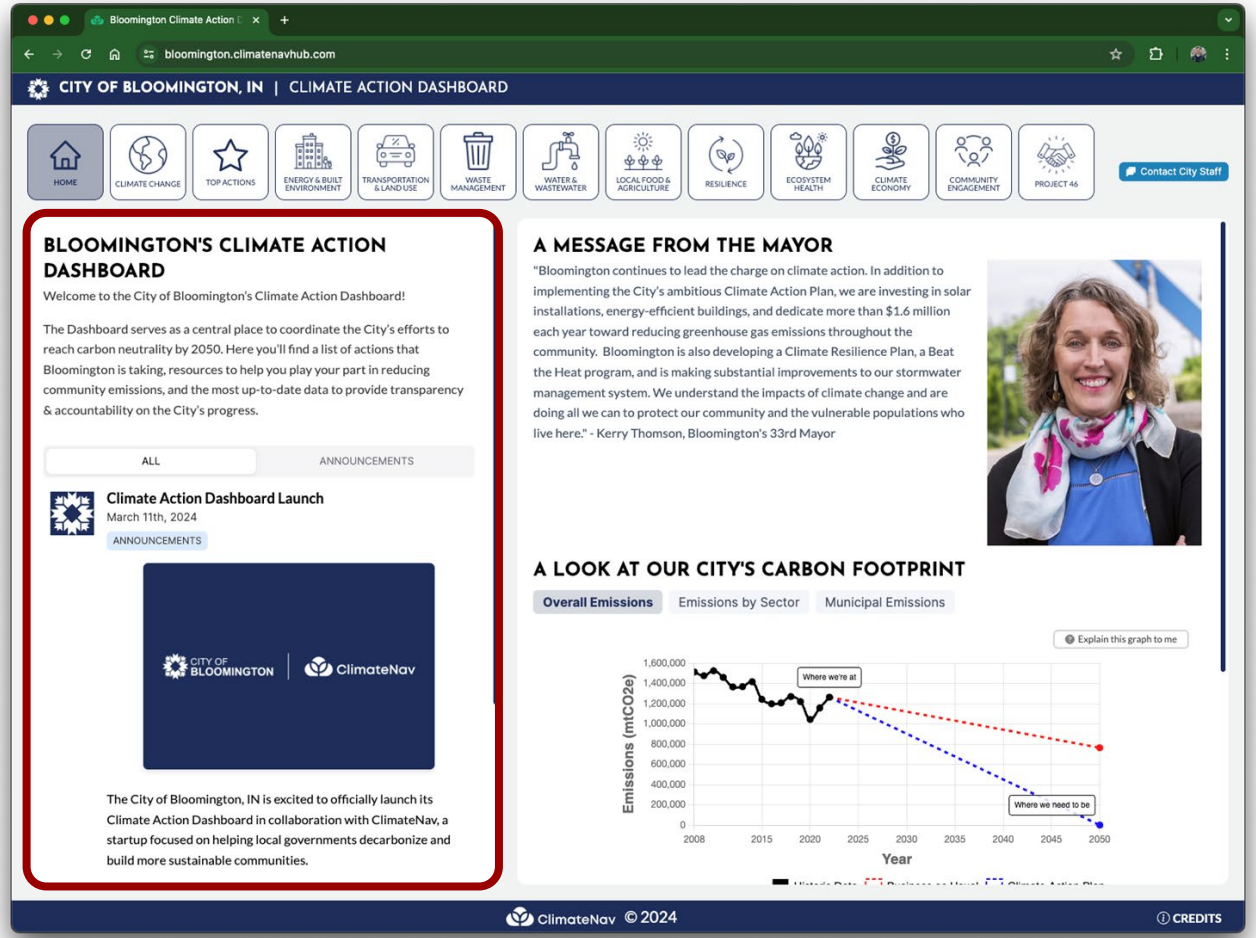
bloomington.climatenavhub.com

A central hub for:



A central hub for:

- Constituent education and outreach related to ESD's work



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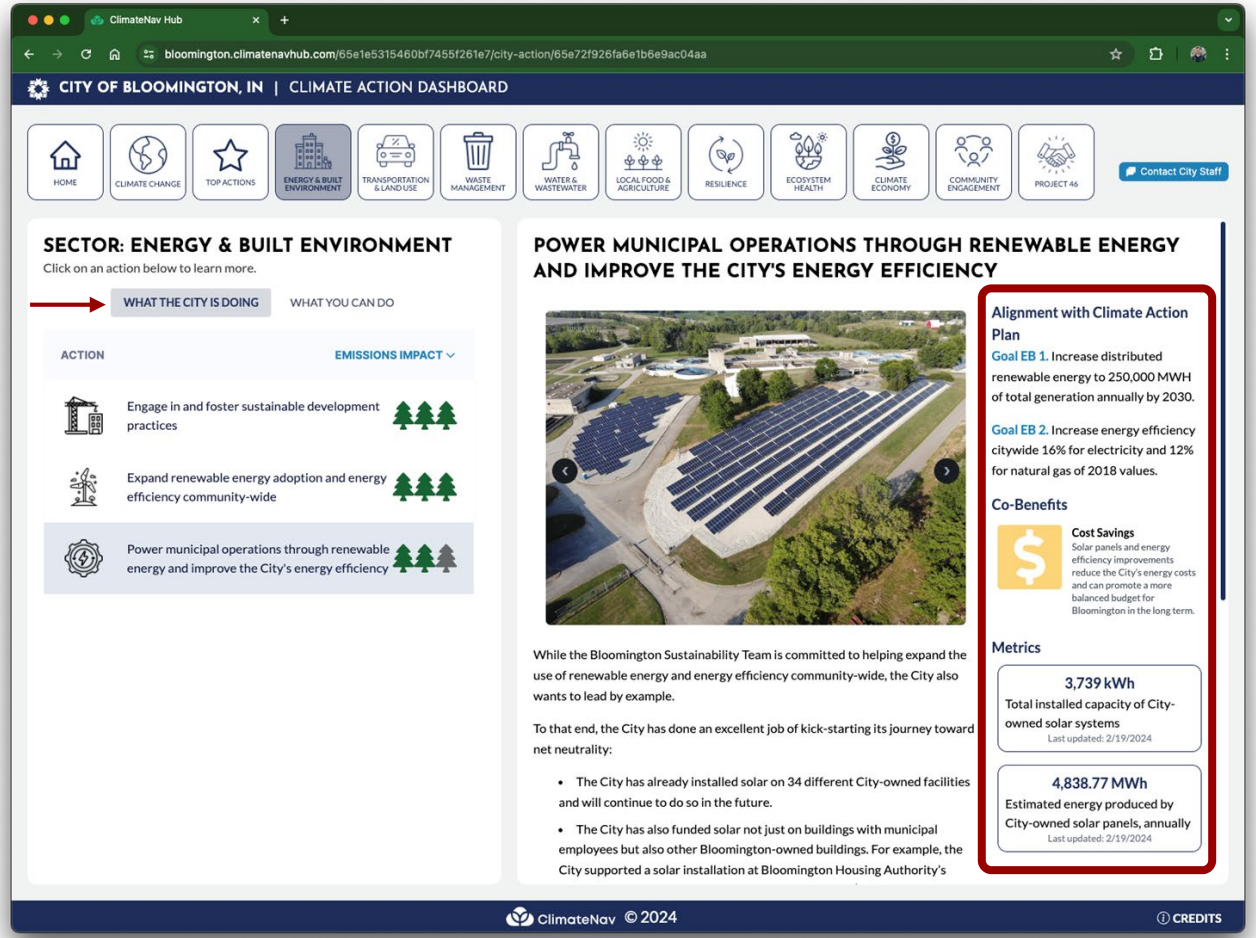
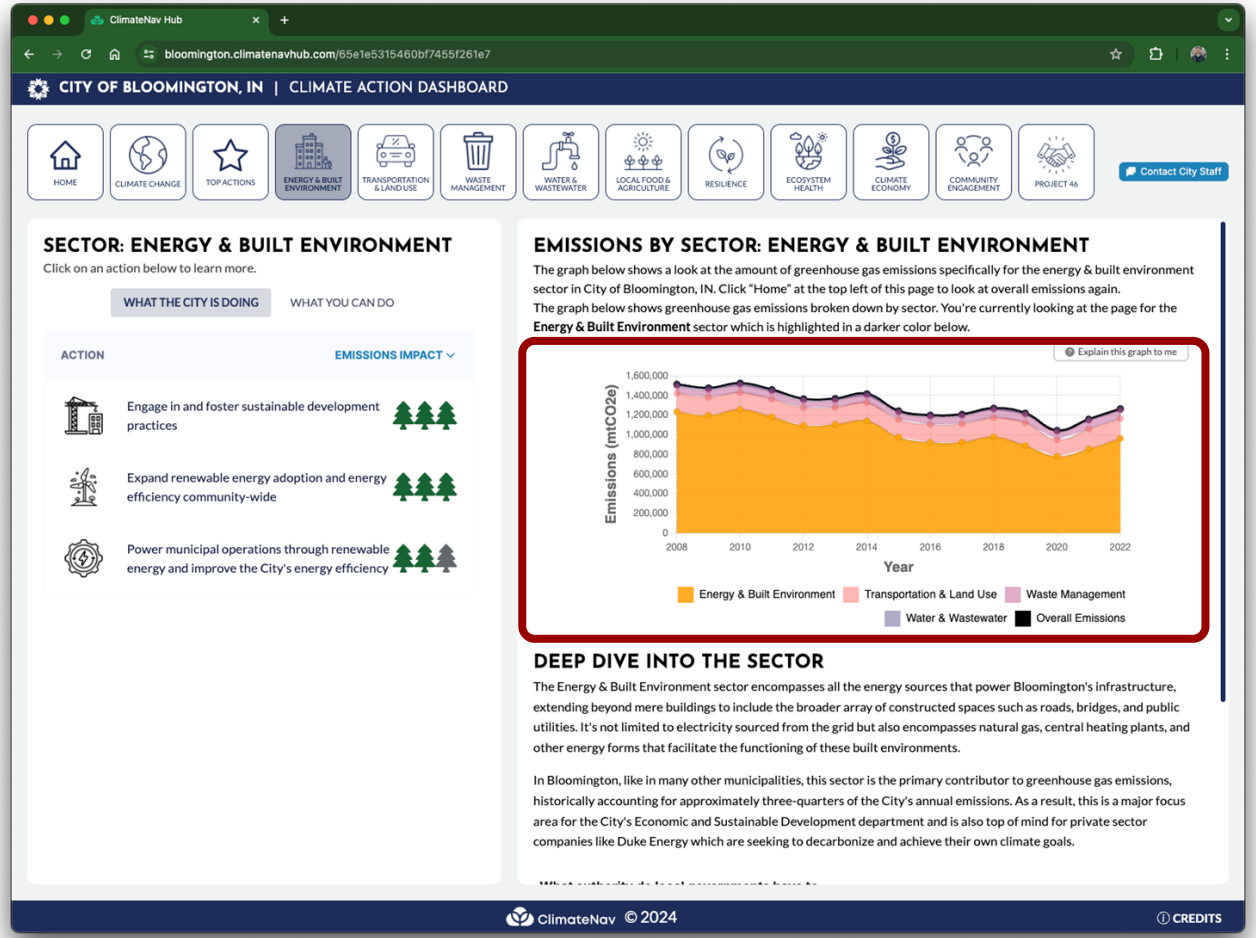
- Constituent education and outreach related to ESD's work



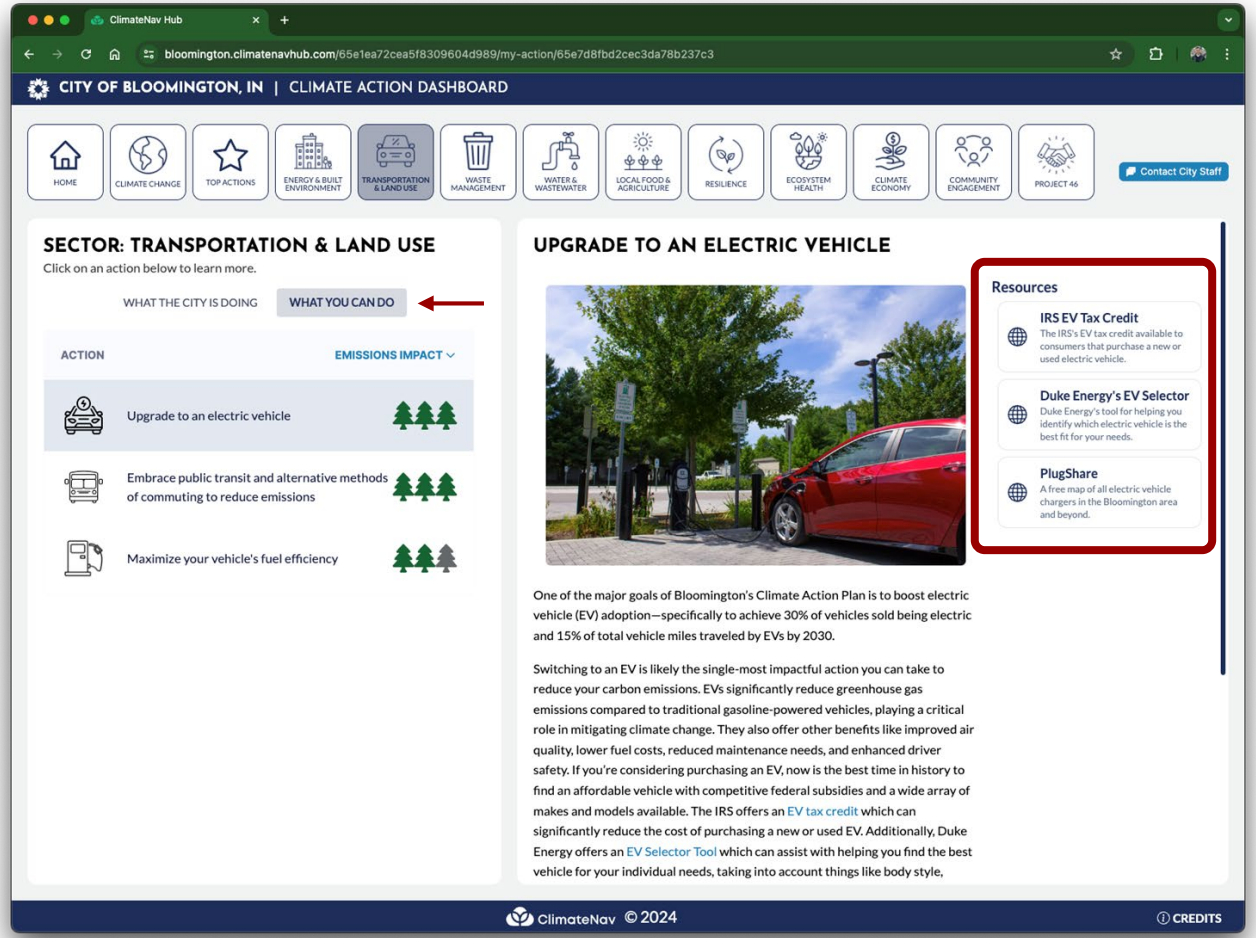
A central hub for:

- Constituent education and outreach related to ESD's work
- Transparency and accountability with the City's progress on its climate goals



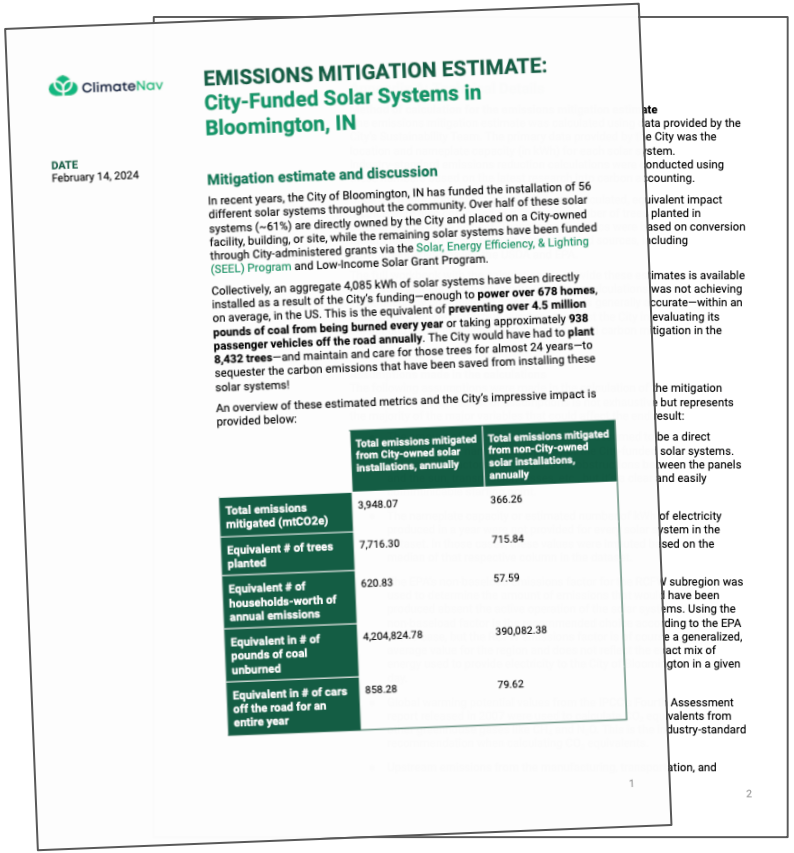
A central hub for:

- Constituent education and outreach related to ESD's work
- Transparency and accountability with the City's progress on its climate goals
- Localized resources to help constituents and small businesses to live and work more sustainably



A toolbox for staff to make data-driven decisions:

- Staff dashboard for editing the public dashboard 24/7
- Annually-updated GHG inventories at the municipal and community-wide level
- Quantified GHG Emissions Reports
- Regulatory/Disclosure Reporting Support (CDP, GCoM, etc.)



ClimateNav

EMISSIONS MITIGATION ESTIMATE: City-Funded Solar Systems in Bloomington, IN

DATE
February 14, 2024

Mitigation estimate and discussion

In recent years, the City of Bloomington, IN has funded the installation of 56 different solar systems throughout the community. Over half of these solar systems (~61%) are directly owned by the City and placed on a City-owned facility, building, or site, while the remaining solar systems have been funded through City-administered grants via the Solar, Energy Efficiency, & Lighting (SEEL) Program and Low-Income Solar Grant Program.

Collectively, an aggregate 4,085 kWh of solar systems have been directly installed as a result of the City's funding—enough to **power over 678 homes**, on average, in the US. This is the equivalent of **preventing over 4.5 million pounds of coal from being burned every year** or taking approximately **938 passenger vehicles off the road annually**. The City would have had to **plant 8,432 trees**—and maintain and care for those trees for almost 24 years—to sequester the carbon emissions that have been saved from installing these solar systems!

An overview of these estimated metrics and the City's impressive impact is provided below:

	Total emissions mitigated from City-owned solar installations, annually	Total emissions mitigated from non-City-owned solar installations, annually
Total emissions mitigated (mtCO2e)	3,948.07	366.26
Equivalent # of trees planted	7,716.30	715.84
Equivalent # of households-worth of annual emissions	620.83	57.59
Equivalent in # of pounds of coal unburned	4,204,824.78	390,082.38
Equivalent in # of cars off the road for an entire year	858.28	79.62

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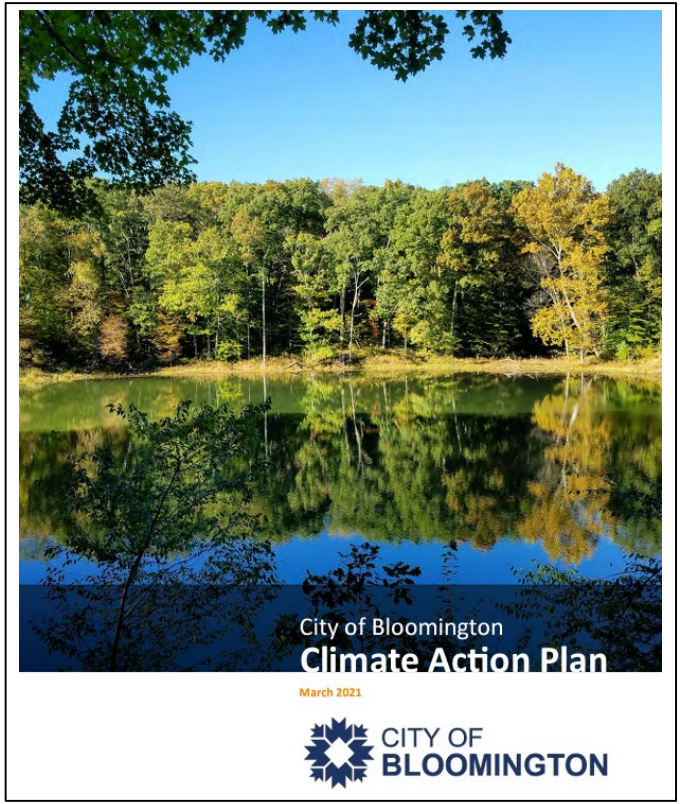
A word of thanks from the ClimateNav Team:

- Lauren Clemens
- Shawn Miya & McKaylyn Lynch
- Bloomington Common Council
    - Special thanks to Councilmembers Piedmont-Smith and Flaherty
- Broader ESD & CoB Staff

2021 Climate Action Plan

Climate action goals are divided into 8 Sectors:

- Transportation & Land Use
- Energy & Built Environment
- Waste Management
- Water & Wastewater
- Local Food & Agriculture
- Health and Safety
- Greenspace and Ecosystem
- Climate Economy



Renewable Energy

Energy & the Built Environment

Strategy EB 1-A:

Increase solar on City facilities 20% by 2030.

34 Municipal Solar Power System Installations

- ★ 3.9 MW
- ★ 2023 hired Veregy for solar Operation & Maintenance (O&M) for 3 years
- ★ Monitors solar production with online dashboard called PowerTrack
- ★ Paid $37,328.28 for Time and Materials for inverter and solar panel replacements and electrical panel repairs to date

Energy & the Built Environment

Strategy EB 1-A: Increase solar on City facilities 20% by 2030.

2024 Parks and Recreation Solar Installations

Cascades Golf Clubhouse

Switchyard Park Maintenance Building

Energy & the Built Environment

Goal EB 1: Increase distributed renewable energy to 250,000 MWH of total generation annually by 2030.

Solar, Energy Efficiency and Lighting Program

- ★ Grants for small businesses and nonprofits
- ★ 8kW solar power system worth $25,000
- ★ Contract with MPI Solar

2023

- ★ Installed 19 solar power systems (10 nonprofits and 9 small businesses)

Community Kitchen

41.82 kW

Energy & the Built Environment

Goal EB 1: Increase distributed renewable energy to 250,000 MWH of total generation annually by 2030.

Solar, Energy Efficiency and Lighting Program

2024

- ★ Completed 9 installations (6 small businesses and 3 nonprofits) to date
- ★ Goal is to install **20** solar power systems by end of year

Energy & the Built Environment

Goal EB 1: Increase distributed renewable energy to 250,000 MWH of total generation annually by 2030.

Low Income Solar Grants

2023

- ★ BHA Walnut Woods grant to install 102.96 kW worth of solar arrays: $100,000 (additional funding provided by BHA)
- ★ Habitat for Humanity grant to install 8 kW solar power system on 10 houses: $250,000

2024

- ★ BHA Cresmont grant to install 41.31 kW solar power system: $100,000
- ★ BHA/Summit Hill Community Land Trust grant to install 8 kW solar power systems on low-income houses at Arlington Park: $100,000

Energy Efficiency

Energy & the Built Environment

Goal EB 2 Increase energy efficiency citywide 16% for electricity and 12% for natural gas of 2018 values.

Donovan Energy: Municipal Energy Efficiency & Decarbonization Services

- ★ 2023 issued RFP and encumbered $215,000 for 18 month service agreement with Donovan Energy
- ★ 5 Phase Contract:
    1. Data Organization - organize and upload Duke Energy and Centerpoint bills and building square footage to an online energy monitoring dashboard called Brightly.

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Energy & the Built Environment

Goal EB 2 Increase energy efficiency citywide 16% for electricity and 12% for natural gas of 2018 values.

Donovan Energy: Municipal Energy Efficiency & Decarbonization Services

2. Desktop Audit - assess and stack rank city-owned real estate assets. This ranking will focus on identifying those assets that present the most significant opportunities for energy efficiency and decarbonization. Includes stakeholder meetings and review of capital improvement plans.

3. Building Audits - Conduct in-depth energy audits of prioritized city assets.

Energy & the Built Environment

Goal EB 2 Increase energy efficiency citywide 16% for electricity and 12% for natural gas of 2018 values.

Donovan Energy: Municipal Energy Efficiency & Decarbonization Services

4. Energy Conservation Measure (ECM) Evaluation and Design - Evaluate and select ECMs for implementation utilizing the results of the energy audits. Engineer designs for the selected ECMs for each project complete with detailed financial and operational impact analysis.

   Example ECM's include geothermal and solar installations, HVAC and lighting upgrades, and weatherization projects.

5. Successful implementation of ECMs, leading to improved energy efficiency, reduced operational costs and reduced greenhouse gas emissions.

Energy & the Built Environment

Goal EB 2 Increase energy efficiency citywide 16% for electricity and 12% for natural gas of 2018 values.

Donovan Energy: Municipal Energy Efficiency & Decarbonization Services

US Dept. of Energy's Energy Efficiency and Conservation Block Grant (EECBG)

- ★ $141,000 voucher awarded
- ★ Approved City Hall LED lighting retrofit project
- ★ Public Works will issue RFP and complete project by end of 2024

Energy & the Built Environment

Goal EB 2 Increase energy efficiency citywide 16% for electricity and 12% for natural gas of 2018 values.

Donovan Energy: Municipal Energy Efficiency & Decarbonization Services

Indiana Office of Energy Development: Empowering Energy Partnerships in Indiana Communities (EPIC) Grant

- ★ Submitted application 6/30/24
- ★ Energy efficiency and decarbonization projects at the Buskirk Chumley Theater worth $735,946
- ★ 20% match requirement = $144,276.80
- ★ Direct Pay Reimbursement = $86,300
- ★ Total cost = $57,976.80

Energy & the Built Environment

Goal EB 2: Increase energy efficiency citywide 16% for electricity and 12% for natural gas of 2018 values.

Solar, **Energy Efficiency, and Lighting Program**

Nonprofits and small businesses can receive a free energy audit and $10,000 grant for energy efficiency projects or lighting upgrades

2022

- ★ IFF hired for SEEL energy efficiency audits

2023

- ★ Completed 4 nonprofit projects

2024

- ★ 2 nonprofit projects approved
- ★ 2 nonprofit applications in review

Energy & the Built Environment

Goal EB 5: Increase financing options for Energy Efficiency and Renewable Energy projects citywide.

Bloomington Green Home Improvement Program

- ★ Financing available at a reduced 0.5% interest rate at Clean Energy Credit Union and Hoosier Hills Credit Union
- ★ $1,000 rebate if loan obtained to complete energy efficiency project, solar installation, or purchase high efficiency appliances
- ★ 2023: 5 rebates x $1,000 = $5,000

Energy & the Built Environment

Goal EB 5 Increase financing options for Energy Efficiency and Renewable Energy projects citywide.

2024 Bloomington Green Home Improvement Program (Revised)

- ★ No loan requirement, but still available
- ★ Increased City rebate amounts especially for low-income residents
- ★ (Optional) Duke Smart Saver Program - Duke rebates are available if project is completed with Duke pre-approved contractors
- ★ IRA Tax Credits

Climate Resilience

Photo by Jeremy Hogan

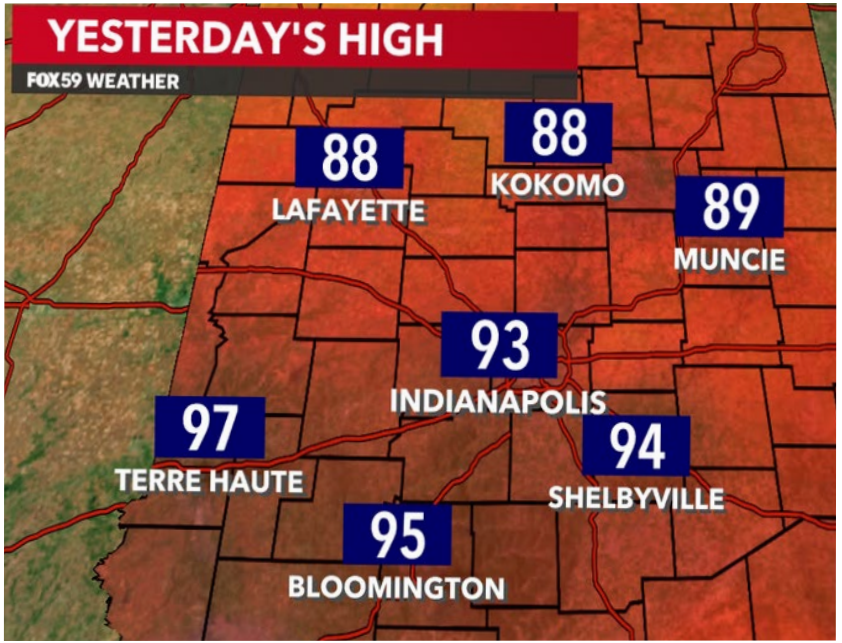
Photo by Rich Janzaruk

Extreme Heat

More people die from extreme heat in the US every year than **any other weather related** event including tornadoes, hurricanes, and floods.

By 2100, Bloomington can expect:

- ★ Increase in annual average temperature: 8 -11°F
- ★ Increase in days above 95°F: +70



Health & Safety

Goal HS 1 Educate, engage, and empower the public for climate health and safety.

Goal HS 2 Prepare Bloomington for climate risks and impacts.

Goal HS 3 Respond to climate risks and impacts.

2024 NOAA HeatWatch Campaign

- ★ Citizen science project
- ★ Collect temperature data to map urban heat island
- ★ Understand and address heat distribution across city
- ★ Collect particulate matter (PM 2.5) data collection
- ★ One hot, cloudless day
- ★ Air monitoring will continue at stationary sites for 3 weeks in collaboration with the Bloomington Environmental Commission

Health & Safety

Goal HS 1 Educate, engage, and empower the public for climate health and safety.

Goal HS 2 Prepare Bloomington for climate risks and impacts.

Stay Cool Bloomington!

- ★ Stay Cool Bloomington Days at City Pools
- ★ Stay Cool Bloomington Days at Wonderlab
- ★ AC Distribution Program in collaboration with Township Trustee Offices
- ★ Community Heat Survey: 3,186 responses!

Health & Safety

Goal HS 1 Educate, engage, and empower the public for climate health and safety.

Goal HS 2 Prepare Bloomington for climate risks and impacts.

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2024 Stay Cool Bloomington

- ★ IU School of Informatics: $15,900 service contract
- ★ Co-hosted 2 Extreme Heat Workshops
- ★ Stay Cool Bloomington Implementation Team: City departments, Monroe Co. Health Dept., Monroe County Emergency Management, nonprofits, MCCSC, BT, Duke Energy
- ★ Extreme Heat Action Plan - specific actions for city/county/NGOs/businesses to take before and during summer months and during a heat wave

Health & Safety

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Goal HS 2 Prepare Bloomington for climate risks and impacts.

Goal HS 3 Respond to climate risks and impacts.

Climate Resilience Plan

- ★ 2023 IU Environmental Resilience Institute Climate Resilience Cohort
- ★ Climate Resilience Task Force
- ★ 2023 Hosted 2 Full Day Community Climate Resilience Workshops
- ★ Prioritized climate risks and vulnerabilities and the adaptation strategies to address them
- ★ Climate Resilience Map - ITS & ESD
- ★ 2024 Publish Draft Climate Resilience Plan

Project 46

Regional climate alliance between Bloomington, Nashville, and Columbus

September 2023

- ★ Steering Committee formed
- ★ Quarterly meetings begin

December 2023

- ★ Signed Memorandum of Understanding
- ★ Each city provides $0.50/capita
- ★ Bloomington= $40,000/yr
- ★ Signed funding agreement with fiscal sponsor: Heritage Fund of Bartholomew County

Project 46

Regional climate alliance between Bloomington, Nashville, and Columbus

March 2024

- ★ Received $27,360 donation from Cummins. Inc.
- ★ Issued RFQ
- ★ Hired Farallon Strategies for 18 months: $134,000
- ★ Formalize Project 46
- ★ Interim/long term governance documents
- ★ Regional greenhouse gas inventory

Special Thanks To:

1. McKalyn Lynch, former Sustainability Program Coordinator
2. Parks and Rec & Public Work Department Directors and Staff
3. IU Environmental Resilience Institute & McKinney Climate Fellows
4. City of Columbus and Town of Nashville
5. Monroe County Emergency Management & Monroe County Health Department
6. Stay Cool Bloomington Implementation Team
7. Dr. Dana Habeeb & IU Healthy Cities Lab
8. Climate Resilience Task Force
9. Vendors: ClimateNav, Veregy, Donovan Energy, Farallon Strategies

THANK YOU.

Questions?

CITY OF BLOOMINGTON
ECONOMIC AND SUSTAINABLE DEVELOPMENT

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